



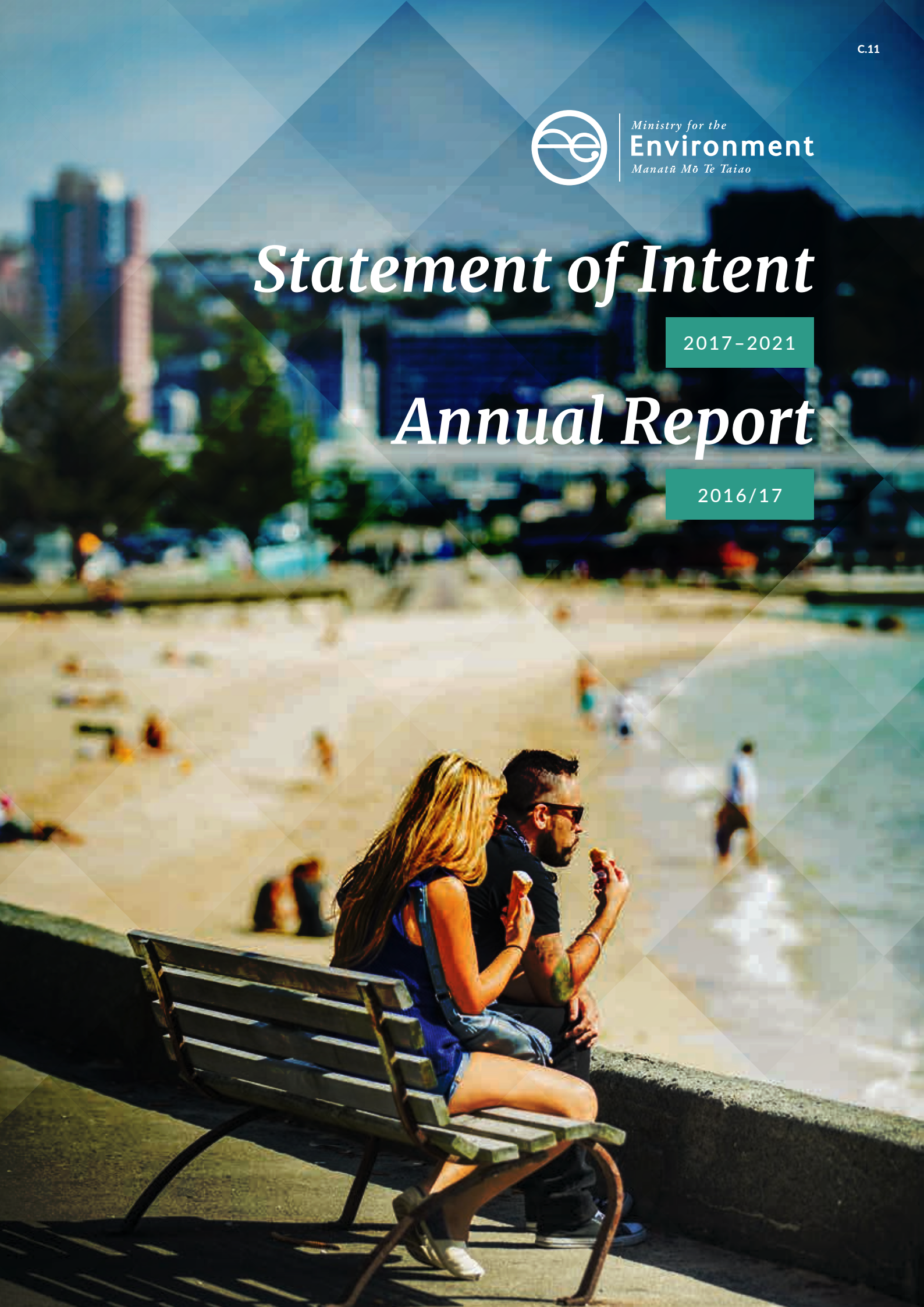
Ministry for the
Environment
Manatū Mō Te Taiao

Statement of Intent

2017-2021

Annual Report

2016/17



Published in October 2017 by
the Ministry for the Environment
Manatū Mō Te Taiao

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Ministry for the
Environment
Manatū Mō Te Taiao





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Chief Executive's introduction



The Ministry's purpose is to make Aotearoa New Zealand the most liveable place in the world: He whenua mana kura mō te tangata.

It's a purpose that puts every New Zealander at the heart of our work, and recognises the role that our natural and built environment plays in all aspects of our lives; it is at the centre of who we are as Kiwis, and underpins our economic prosperity, our health, and our physical and cultural well-being.

As the Ministry and Stats NZ's environmental reporting series shows, our environment faces serious challenges; biodiversity is under threat, we are reaching bio-physical limits, and our population is growing rapidly, particularly in urban areas. It is more important than ever before that the Ministry extends its reach and impact – that we work together with agencies, local government, business and community groups to ensure our grandchildren have the kind of opportunities and quality of life we have cherished for generations.

This document sets out our plan for working towards sustainable management of New Zealand's environmental and natural resources. Our aim is not only to halt the negative trends we see, but to start increasing the integrity and value of our environment. This will require a paradigm shift, from seeing the environment as an 'externality', to an asset that lies at the heart of our well-being and way of life, and is managed accordingly.

Refitting the waka

Driving this change requires an ongoing lift in the capability of the Ministry as an advisor to government and leader of New Zealand's environmental management system. We'll have to take our analysis and advice to another level, be more inclusive, and better at working with others. With this in mind, alongside our work on environmental policy, we are reshaping the way we approach our work, and the processes which help our organisation function effectively.

To sharpen our focus, we have developed a set of new impact measures that improve how we track our delivery against outcomes. We are also investing in our core policy frameworks, our ability to harness data from a range of sources, and our ability to practically apply concepts like natural capital and the circular economy. We will continue to draw on the expertise and resources of others through strong engagement, looking beyond regulation for different tools to solve problems, and underpinning our case with compelling evidence that inspires and focuses action.

At the same time, we'll make the most of our position at the centre of the environmental management system. We're uniquely placed to translate insights from resource users into improvements in the legislation underpinning New Zealand's environmental performance. We're well connected to the science system, and we see opportunities to link our environmental data with datasets held by others to identify the areas of greatest need and opportunity.

We recognise the increased urgency to partner more directly with the people best placed to affect change, like communities and businesses. Our work is increasingly based on collaboration. Our relationships with iwi and Māori organisations provide a platform for the Crown to work with Māori to offer new solutions to issues that matter to all New Zealanders. To support a stronger focus in this area, in the coming year we will establish a new executive role dedicated to partnerships.

Building forward momentum

During 2016/17, fresh water issues have been high profile. This year the Government launched its Clean Water Package, we released *Our fresh water 2017*, and the Whanganui River

historically gained its own legal identity with all the corresponding rights, duties and liabilities of a legal person. Strong public engagement on water shows how much New Zealanders care and how much we need to get it right for future generations.

This year also saw the passing of the Resource Legislation Amendment Act 2017, which aims to support more effective environmental management and drive capacity for housing and business development. The National Policy Statement on Urban Development Capacity has been completed and the National Monitoring System is now in place to enable more systematic and comprehensive monitoring of council implementation.

Climate change is the global environmental issue of our time. This year New Zealand has ratified the Paris Agreement and signed the Montreal Protocol amendment to support climate change mitigation by phasing out hydrofluorocarbons. We are also in the second phase of the Emissions Trading Scheme review. Stakeholder working groups are investigating what further can be done to reduce emissions in the agriculture and forestry sectors, and on adaptation.

This year the investment funds we administer made a material difference to many New Zealand sites and most recently the Government announced distribution of \$44 million from the Freshwater Improvement Fund. The Ministry used an investment approach to help target this funding effectively, using environmental, ecological and economic data and well-defined investment criteria to identify which projects will make the biggest difference.

Pleasingly, work on two of the most contaminated sites, the Alexander and Prohibition mines, was completed

and they came off our top 10 list. And a major initiative to address the issue of waste tyre piles was announced.

The Ministry's response to the devastating Kaikoura earthquake included the immediate mobilisation of resource to support disaster recovery efforts, which we continue today. We undertook these tasks while simultaneously being forced out of our own building by the earthquake.

I want to acknowledge both the high volume and quality of work done by all our people over what has been a very busy period. I know we have the right people to achieve on our purpose and thank them for the skills and passion they bring to work each day.

There is no scope to slow down the pace of our efforts or lessen our resolve to address the challenges facing our country and our environment. We need to be innovative and mobilise New Zealanders to achieve a shift in natural and built environmental outcomes and achieve our own goals. I am confident that we are well placed to do this.

In signing this information, I acknowledge that I am responsible for the information on strategic intentions for the Ministry. This information has been prepared in accordance with section 38 and section 40 of the Public Finance Act 1989.



Vicky Robertson
Chief Executive and Secretary
for the Environment

29 September 2017

Welcome

Welcome to the Ministry for the Environment's annual report for the year ending 30 June 2017 and Statement of Intent 2017-2021. In this report you'll find information about how we've performed during 2016/17 and our plans for the next four years.

Statement of intent

Our statement of intent, gives an indication of our plans for the next four years.

Annual report

We have grouped our annual report into three parts.

Part one: About us

Part one provides an overview of our organisation – what we do, our funding, and the people who work at the Ministry.

Part two: Our performance

Part two provides information about how we performed during 2016/17. It shows achievements against our outcomes and details our performance.

Part three: Our finances

Part three reports on the financial resources we have used to deliver our services. This part also includes an independent audit report on our annual report.

Tell us what you think

We welcome your feedback. You can get in touch with us by:

Freephone: 0800 499 700
Phone: +64 4 439 7400
Email: info@mfe.govt.nz

Statement of Intent

2017-2021

Presented to the House of Representatives
pursuant to section 39 of the Public Finance Act 1989

Statement of responsibility

Responsible Minister's statement:

I am satisfied that the information on strategic intentions prepared by Ministry for the Environment is consistent with the policies and performance expectations of the Government.

A handwritten signature in black ink, appearing to read 'Nick Smith', written in a cursive style.

Hon Dr Nick Smith
Minister for the Environment

21 August 2017

Our role

Our long-term goals

The Ministry's purpose is to make New Zealand the most liveable place in the world for our children, their children, and their mokopuna.

In 2015, we set out our plan to 2045 to create a more prosperous economy and society by improving the way we manage the natural and built environment. Our long-term goals remain unchanged.

We will continue to focus on:

- enabling people to act in a way that benefits society and the environment
- optimising how we use the environment and natural and built resources now and in the future

- managing risks to people and the environment
- safeguarding the environment's capacity to sustain itself.

The environment operates as a system, and therefore, we are increasingly looking at interventions that have benefits across the six environmental domains of air, atmosphere and climate, fresh water, land, marine, and urban.



Our strategic priorities

The Ministry is working towards our aspiration for sustainable management of New Zealand's environmental and natural resources (to improve environmental, social and cultural prosperity), and increase the economic returns from activities they support.

Our vision is for:

- A low pollution, low emission nation where cleaner air, water and marine environments enable people to lead healthy and productive lives.
- To be able to withstand and effectively adapt to the impacts and 'shocks' of climate change through careful and thoughtful planning, which will lead to effective responses.
- To have strong and resilient relationships between the Crown and iwi, with iwi having successfully developed their natural resources in ways that will make significant contributions to Māori communities as well as national growth, consistent with Mātauranga Māori values. Our work is underpinned by te mana o te taiao (the mana of the environment).
- To have government and non-government groups working seamlessly together to deliver environmental outcomes.

To move us towards our aspiration we will use **data and information to enable better decision-making across the natural and built resources system**, and use **engagement to influence and broker action and to inspire** all New Zealanders to value our natural assets.

We have identified three priority policy areas for the immediate future:

1. Supporting resilient communities through climate change adaptation. Climate change will increasingly become a critical driver in all human and environmental systems and extreme climatic events. This is a complex challenge that requires systemic solutions.
2. Developing options for a freshwater allocation system that increases the sustainable economic and social benefits to New Zealand from fresh water, within our environmental limits. There is increasing demand for water and increasing discharges to water resulting from population growth and more intensified land use. This increased pressure has led to more and more catchments reaching full allocation of water resources and some being over-allocated.
3. Developing fit-for-purpose systems and incentives to ensure liveable cities for the future. Cities are complex and interrelated systems that are constantly changing. To cope with the scale and pace of change, we need effective planning and decision-making frameworks so people and communities can make informed choices to achieve the right balance of outcomes across the urban system. For example, we will look at ways to ensure waste is managed efficiently in our cities. We will focus on the planning and resource management system in particular, to help us achieve more liveable, sustainable cities for New Zealanders.

Taking a system view

Complex social and economic drivers determine how people value, use and manage built and natural resources. Decisions on water, land management, and climate change do not stand in isolation – they are interrelated and interdependent. Internationally, these connections are recognised through the Sustainable Development Goals to which New Zealand and other countries are signatories.

During the last year, the Organisation for Economic Cooperation and Development (OECD) released its 2015/16 review of New Zealand's environmental performance. We were the lead agency working with the OECD on the review. The review identified that:

- easy access to pristine wilderness and good air quality heighten quality of life for New Zealanders
- our spectacular scenery attracts millions of visitors every year
- the natural environment provides the basis for the country's large exports of primary produce, as well as the economic benefits of tourism.

However, the review also identified that New Zealand's growth model is approaching its environmental limits: greenhouse gas emissions are increasing; pollution of fresh water is spreading over a wider area; and the country's biodiversity is under threat.

We are stewards with a key leadership role across the entire environmental system, working with the public sector, business, Māori/iwi, not for profits, and communities who can affect positive change and outcomes. We also lead

the Natural Resources Sector, a group of eight government agencies with the shared goal of 'investing in our natural and built resource base for our society's well-being and as a source of a global competitive advantage'. We work together to lead the natural resources system to achieve specific outcomes in five areas: climate, land, fresh water, oceans and biodiversity.

Policy areas where there are opportunities to take a system view include:

- continuous improvement of the resource management and planning system, including fundamental reform as well as ongoing adjustments
- transition to a low emission economy
- resource allocation for our marine and freshwater environments.

Our environmental reporting programme also publishes a 'synthesis' report every three years, which takes a whole-of-ecosystem approach to the pressures, state and impacts reported.

Better decision-making and outcomes informed by good data and information

The way people access and use data and information is changing rapidly and the focus is shifting from information to intelligence. We want to engage everyday New Zealanders, and support a more informed public debate around environmental issues. To do this we need to build better, more complete data sets and make them more accessible to decision-makers. We also need to bring in varied data sets from a range of sources, including citizen science, to build a richer picture.

The environmental reporting programme and our natural capital work are core priorities for the Ministry in this area.

Natural capital

Our systems stewardship and policy work will be strengthened by a natural capital approach that explicitly puts a value on our natural resources so the true costs of resource use can be factored into decision-making. These foundations ensure our interventions are holistic, enduring and cost-effective.

Natural capital is the world's stock of natural resources, which includes geology, soils, air, water and all living organisms. Natural capital assets provide people with flows of goods and services, often called ecosystem services (like the water we drink, but also less visible ones like a hospitable climate), which underpin our economy and society and some of which even make human life possible. It is an extension of the economic notion of investment capital and the returns it generates, to natural ecosystems and the goods and services they provide.

We use the concepts of natural capital and ecosystem services to understand how the actions we take will affect, or be affected by, the functioning of our natural environment. When we fail to account for effects on the natural environment in our decisions, we risk undermining the environment and natural resources and our future capability to use and benefit from them. When we take these effects and dependencies into account, we can better protect our future and our environment. The concept of natural capital can be applied to our urban, rural and wilderness areas.

In the next four years we will:

- better understand how our stocks of natural capital and flows of ecosystem services are changing, what is driving those changes, how decisions are being made by central and local government, businesses, iwi and others, and which initiatives have succeeded or failed and why
- generate ideas for future improvements to our information base and decision processes to help decision-makers better understand the effects of their decisions on our natural capital in a holistic way across regulatory regimes, funding sources, institutional boundaries, and environmental domains.

Stronger engagement to inspire all New Zealanders to value our natural environment, leading to action

Over the next four years we will continue to grow our special relationship with iwi/Māori as partners under the Treaty of Waitangi. This means continuing to build strong and resilient relationships with iwi, and being active partners with iwi/hapū to deliver kaitiakitanga. We want to support iwi to successfully develop their natural resources in a way that will make a significant contribution to Māori communities, and regional and national growth. We will keep learning from iwi about what works and apply it in other areas.

We need strong, productive relationships across the whole system if we want to see the biggest impact. We are strengthening our role in mobilising and leading others so we can navigate complex issues, develop well-designed policy, and influence effective implementation. This is particularly important in critical areas such as resource allocation for our marine and freshwater environments, our future resource management system, and transition to a low emissions economy.

Collaboration and partnering with others will remain central to our work. We are already working more closely to shine a light on the issues that matter for businesses and inspiring industry to act more sustainably to achieve better long-term social and economic outcomes.

Local government will continue to be a central stakeholder for us over the next four years. Councils will support us to administer the Resource Management Act and implement national directions. We will continue to fund communities and non-government organisations to promote action in areas like waste and freshwater improvement. We will also seek input and feedback from all stakeholders so we can provide good quality policy advice that increases value for New Zealanders.

Our people and resources

We are strengthening the capability of our people to be thought leaders, to respond to challenges, and seize new opportunities. We already have a strong policy capability within the Ministry. Through to 2021, we will build a more agile workforce able to move us towards cutting edge policy. We call this 'policy plus'. It takes into account our staff's ability to use all of the levers we can to achieve our outcomes.

Our workforce will be increasingly flexible so staff can move to areas where they can meet their own career aspirations and our wider business needs.

Over the next four years we will develop capability across six key areas:

1. capability to deliver 'policy plus'
2. 'partnering with purpose'
3. working with Māori and iwi and understanding Māori perspectives
4. science and data stewardship
5. new organisational behaviours
6. leadership.

'Policy plus' is about doing policy differently – getting beyond the go-to tools for solving policy challenges and looking for new and better ways to achieve outcomes. This means actively



Policy plus

We are at the cutting edge of how policy is made and the difference it can make to people. **This means:**

- We actively shape** the agenda

- We advise** with impact: using storytelling, insights from data, real life examples, and the views of end users

- We focus** on supporting the decisions Ministers need to make

- We problem solve** in many ways: non-regulatory interventions, visual tools and more

- We harness** our diverse perspectives and the skills of our workforce

- We see** the whole system and play a brokering role



Partnering with purpose

We bring our ideas together with others' to give the best advice and delivery. **This means:**

- We are clear** about what we and others bring to the table and the results we all seek

- We partner** with Māori and iwi to make Aotearoa New Zealand uniquely liveable

- We engage** early in our thinking and doing, and others bring us into theirs

- We work** with people to inspire them to action and to get results

shaping the environmental agenda through open and honest advice and high quality evidence. It means advising with impact so all New Zealanders have a clearer understanding of the environmental costs and benefits of decisions. It means drawing on the skills and experience of our diverse workforce and our partners to change the way New Zealanders think about and manage the environment. It means we connect others and help to broker solutions, and others seek us out for ideas on how to do it well.

Ultimately, 'policy plus' means that we can solve problems in many ways – by trying new things and achieving outcomes without resorting only to regulatory or legislative solutions.

We also want to partner with purpose. Partnering with purpose is about being deliberate with who we work with, when and how. It involves bringing our ideas and experience together with those of others to build the best solutions. It means we have to be clear about what we and others bring to the table and the results we seek, and that we engage others early in our thinking and that others bring us into theirs. It means that we are a trusted and credible partner for Māori and iwi and support iwi to develop their natural resources in a way that makes a significant contribution to Māori communities, regional and national growth.

By 'partnering with purpose', we will better understand what New Zealanders want and can make this happen through purposeful engagement and mutually beneficial partnerships.

We need to develop our internal capability and operating approach to meet our own expectations around 'policy plus' and 'partnering with purpose'. This includes:

- continuous refinement of our policy development processes
- trialling different policy approaches, frameworks and tools
- building skills across the areas of deeper sector/pan-sector knowledge, systems thinking capability, economics capability
- understanding how to achieve behaviour change without resorting to regulatory or legislative approaches.

Performance Improvement Framework review

During 2016/17 we conducted a self-review of our performance to prepare for a formal State Services Commission Performance Improvement Framework (PIF) review. Due to the long-term nature of our work, we looked beyond the standard four-year horizon typically used in PIF reviews.

The formal review was conducted over April and May 2017 when the lead reviewers spoke with a range of internal and external stakeholders to hear their views about what will make the Ministry successful in the future. We asked the reviewers to go beyond the normal four-year PIF horizon, to challenge our thinking about what the future might hold 10-15 years from now, and our strategy of pursuing results through 'policy plus' and 'partnering with purpose'.

The subsequent report, due for release later in 2017, endorses our strategy. It recommends we accelerate our shift to new ways of working, while recognising the importance of investing in foundational business systems to support and enable this change. It supports our thinking about the relationship between the economy and the environment, especially the recognition that our environment is the natural 'asset base' for the economy and prosperity of our communities and New Zealand. We will continue to take a 'whole-of-system' approach, working closely with partners across the natural system to deliver outcomes New Zealanders want.

We will include the reviewers' findings in our next annual report and use them to inform the development of our future organisational plans, including the next four year plan.

Diversity and inclusion

He rau mano, he rau Kotahi tangata – embracing our multiple talents.

Our shared way of working begins by first embracing our multiple talents, recognising diversity and inclusion as critical levers to success in creating a workplace that reflects New Zealand and our wider community. We see this action as essential to enabling ours and others' success.

At the Ministry for the Environment diversity includes diversity of thought and experience as much as it does gender, ethnicity, physical capability, sexual orientation, cultural background, and preferences, education and more. Inclusion is about recognising our experiences and perspectives and being authentic – leveraging our individual experiences to create high performing teams that in turn create value in achieving our goals and reflecting the diversity of the New Zealanders we work with.

We are committed to further building engagement, diversity and inclusiveness. We have made a start. For example, we:

- ran a diversity census in 2016 to understand and share the diverse range of experiences of our people
- embraced flexible working practices, with the majority of our employees working flexibly (locations and hours) so they can integrate their work and home lives optimally
- introduced Te Reo classes during 2016/17 for any interested employees and have an active waiata group.

We also:

- remain committed to reducing the gender pay gap; reducing from our June 2017 result of 7.7 per cent to zero per cent within five years; we will also look at pay equality across ethnicities and other lenses to ensure we are fair and operating without any unconscious bias
- have a programme of work underway to refresh our approach to health, safety and wellness

- are continuing our focus on increasing our ability to engage in a meaningful way with Māori in line with our strategic objective of moving from obligation to opportunity and incorporating a Māori world view in our work
- are developing a deeper understanding of Te Reo me ona Tikanga Māori culture, which is an important underpinning to our strategic objectives. Our Mana Taiao directorate works closely with Māori in the Treaty Settlement process to ensure development of enduring relationships and a platform for future engagement in the post settlement era
- have redesigned our induction and onboarding to 'Manaakitanga' – which is about creating a welcoming and inclusive employee experience from hire to retire (to be implemented in October 2017)
- remain committed to recruiting the right people based on merit from a diverse pool of talented candidates
- are revisiting our learning and development strategy to reflect the variety of ways our people prefer to learn, with the aim of building inclusive and supportive cohorts to embed and share learning
- will review the effectiveness of our recruitment strategy to ensure we continue to attract diverse candidates and will trial new approaches in late 2017
- will continue to support an active social club that promotes inclusive and diverse experiences in celebrating our passion for the environment and recognising the diversity of our people.

Equal employment opportunities

We provide equal opportunities for employment in our procedures for recruitment and selection, career development and progression, training, and conditions of employment.

We have a flexible working policy. This allows our staff to balance their obligations at work and outside of work.

Our strategic intentions

Our strategy

During 2016, we brought together onto one page, our new purpose, our outcomes, and the behaviours we need to achieve these. The aim was to

breathe life into our long-term purpose and vision. Our challenge now is to get strategy off the page and into action. Pivotal to this will be reshaping our

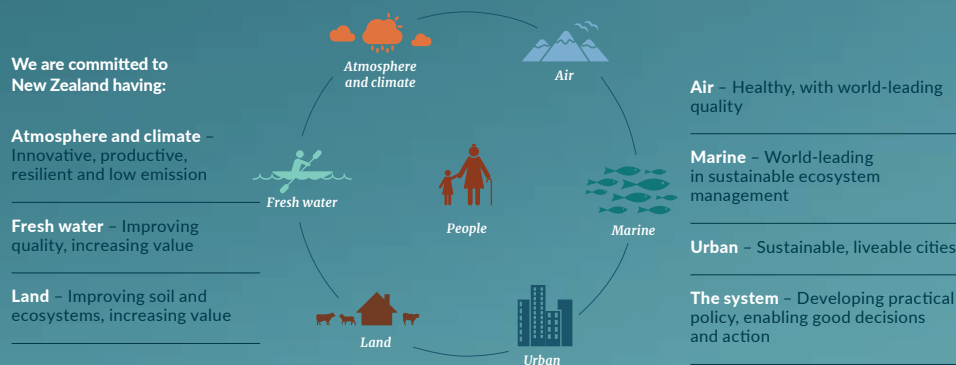
operating model to an ambidextrous system capable of multi-tasking horizontally and vertically.

Our purpose

Aotearoa New Zealand is the most liveable place in the world
Aotearoa – he whenua mana kura mō te tangata

We are stewards for the environment, so that we continue to have a prosperous Aotearoa New Zealand, now and in the future

Our liveable future



Our focus

Mana Taiao, Mana Tangata

Success means...

We **enable** people to act in a way that benefits society and the environment

We **optimise** how we use the environment and natural resources now and in the future

We **manage** risks to people and the environment

We **safeguard** the environment's capacity to sustain itself

Our edge

He rau mano, he rau kotahi tangata: we embrace our multiple talents

We are **curious**

We are **innovative**

We are **courageous**

We **take action**

We **lead**

We **help others succeed**



Impact performance targets and measures

To track our progress towards making New Zealand the most liveable place in the world, we have developed a set of 'headlight' performance measures across the environmental system, and put a stake in the ground on where we want to get to by 2030.

The measures are not designed to capture everything we do, but combined they serve as a powerful set of proxies that enable us to communicate the impact of our work in a tangible and meaningful way – you may think of them collectively as our 'liveability targets'.

This set of targets is not yet a liveability index, but ultimately that is where we want to take them in the future. By demonstrating our progress towards our long-term goals, we become more accountable to stakeholders and the public as an organisation.

OUR LIVEABILITY TARGETS – TRACKING OUR PROGRESS		
DOMAIN	LONG-TERM GOALS	TARGETS
Air – Āngi	New Zealand is a world leader in managing risks to human health and the environment that result from poor air quality.	By 2030: Health impacts from human-made sources of air pollution are reduced by 35% from 2012 levels.
Atmosphere and climate – Kōhauhau and āhua o ngā rangi	New Zealand has an innovative and productive economy, with fewer greenhouse gas emissions, and is resilient to the physical and economic impacts of climate change and adverse climatic events.	By 2030: New Zealand's greenhouse gas emissions intensity (per unit of GDP) is half of what it was in 1990.
Fresh water – Wai	New Zealand increases the value from, and improves the quality of, our fresh water.	By 2021: No native freshwater fish ¹ decline from 'Not Threatened' to 'At Risk', or from 'At Risk' to 'Threatened' from the 2013 assessment. By 2030: 80% of our rivers and lakes are swimmable; by 2040: 90% of rivers and lakes are swimmable.
Land – Whenua	New Zealand improves the quality of our soils and terrestrial ecosystems and increases the value from our land-based resources.	By 2030: Estimated annual erosion from managed grassland is reduced by 50% (42 million tonnes/year), from the 2012 baseline of 84 million tonnes/year.
Marine – Wai tai	New Zealand is a world leader in the sustainable management of marine ecosystems that support New Zealand's marine life, society and the economy.	By 2030: The resilience of marine ecosystems is improved because a representative 10% of ecosystems in each biogeographic region of New Zealand's territorial sea are marine protected areas.
Urban – Tāone	New Zealand is a leader of environmentally sustainable cities, leveraging the benefits that cities offer while reducing the costs and impacts that they impose.	By 2047: Housing supply in all high growth urban areas keeps pace with demand. Auckland issues building consents for at least 400,000 new dwellings (approximately 13,500 per year). Targets for other high growth areas will be established in December 2018.

¹ Fish includes taxonomically indeterminate and determinate taxa.

Air – Āngi

New Zealand is a world leader in managing risks to human health and the environment that result from poor air quality.

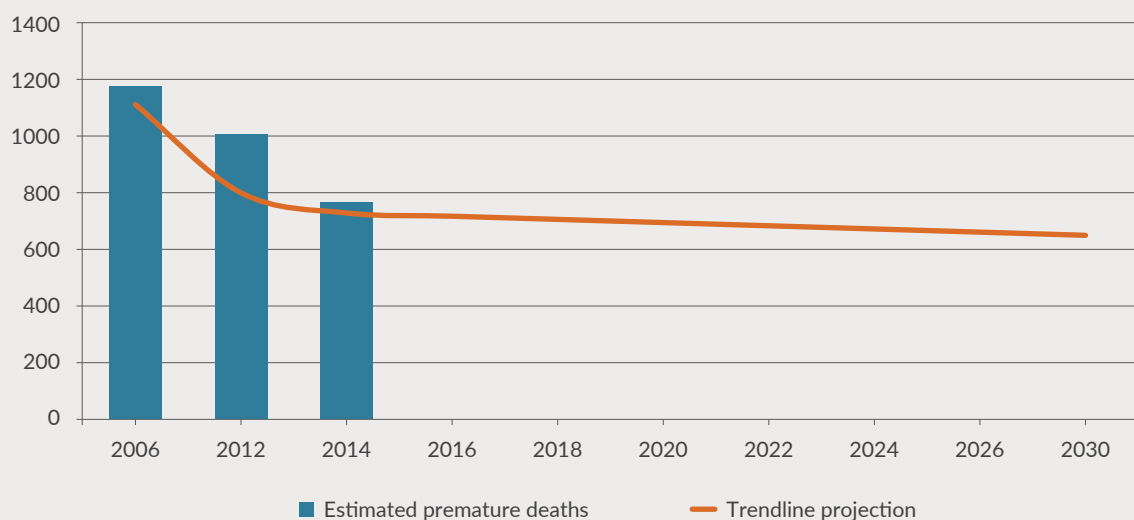
TARGET	BASELINE
By 2030: Health impacts from human-made sources of air pollution are reduced by 35% from 2012 levels.	Based on modelled data, in 2014 there were about 770 premature deaths ² in New Zealand associated with exposure to human-made particulate matter PM ₁₀ ³ , such as emissions from home heating, industry, and transport.

Good air quality is fundamental to our well-being. An average person inhales about 14,000 litres of air every day, and the presence of contaminants in this air can adversely affect people's health. Poor air quality can also cause damage to the natural and built environment.

Based on modelled data, in 2014 there were about 770 premature deaths⁴ in New Zealand associated with exposure to human-made particulate matter PM₁₀, such as emissions from home heating, industry, and transport. This equates to an estimated 23 per cent

decrease in premature deaths associated with exposure to human-made PM₁₀ between 2012 and 2014. This decrease is linked to a decrease in PM₁₀ over the same period. Figure 1 shows the estimated premature deaths from air pollution.

FIGURE 1: ESTIMATED PREMATURE DEATHS FROM AIR POLLUTION



2 NIWA. 2016. *PM_{2.5} in New Zealand; Modelling of current state*. Health impacts from exposure to air pollution are calculated using a statistical model. This figure represents the estimated mortality from the collective shortening of life experienced by the whole population from exposure to particulate matter pollution.

3 PM₁₀ are particles with a diameter of 10 microns or less.

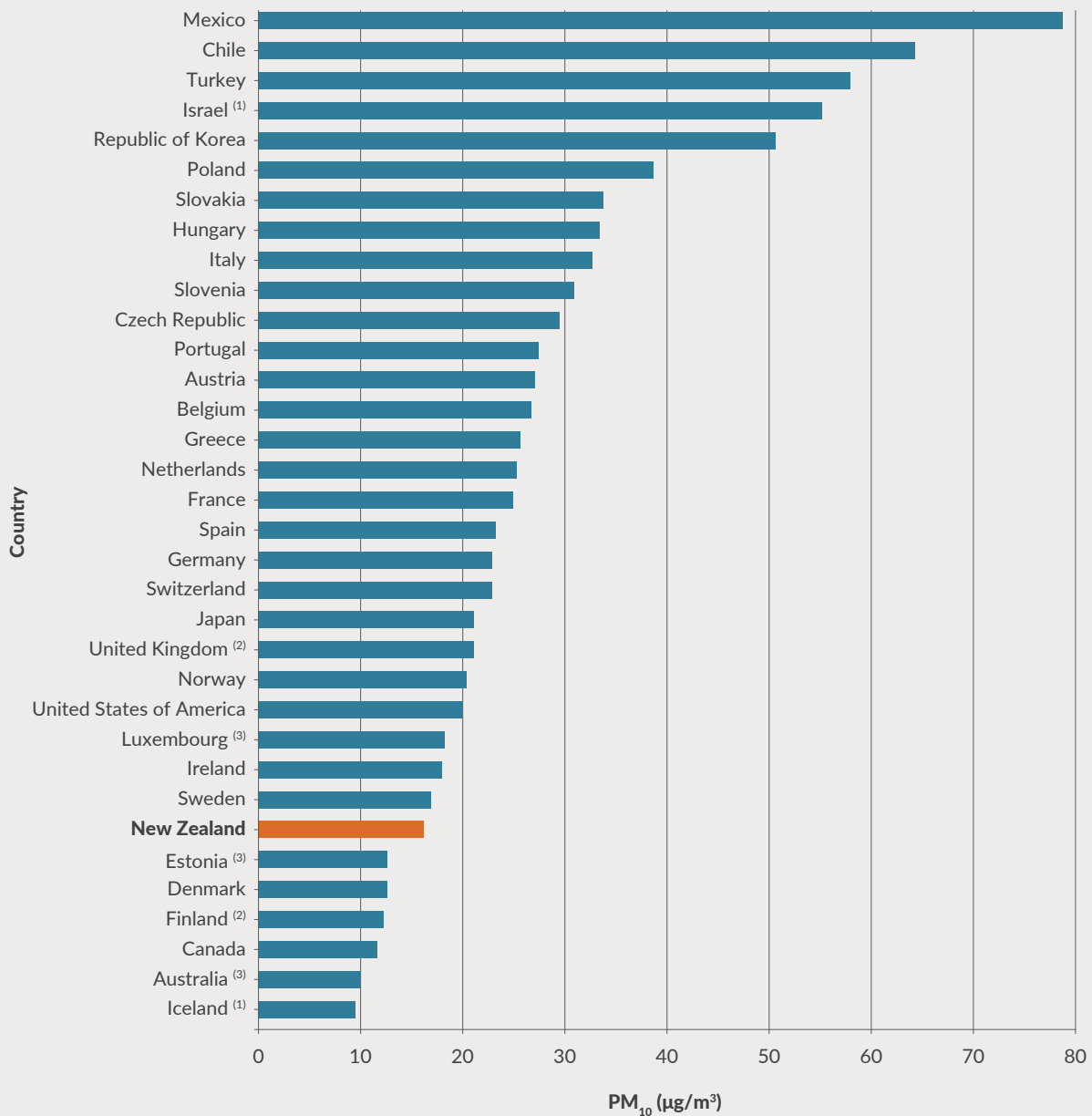
4 NIWA. 2016. *PM_{2.5} in New Zealand; Modelling of current state*. Health impacts from exposure to air pollution are calculated using a statistical model. This figure represents the estimated mortality from the collective shortening of life experienced by the whole population from exposure to particulate matter pollution.

Figure 2 presents a snapshot of annual average PM₁₀ concentrations in Organisation for Economic Co-operation and Development member

countries. New Zealand’s national PM₁₀ concentration is seventh lowest out of 34 countries. New Zealand’s annual concentration is low compared

with other countries. International comparisons are indicative only since countries can use different monitoring approaches.⁵

FIGURE 2: ANNUAL AVERAGE PM₁₀ CONCENTRATION IN URBAN AREAS IN OECD COUNTRIES, 2011



(1) Data is for 2008. (2) Data is for 2010. (3) Data is for 2012.

Note: PM₁₀ concentrations are given in micrograms per cubic metre of air, or µg/m³.

Source: World Health Organization

⁵ This international comparison covers only urban areas selected by the World Health Organization (WHO), unlike our estimate which covers all monitored urban areas in New Zealand. As a result, the WHO estimate and our own differ.

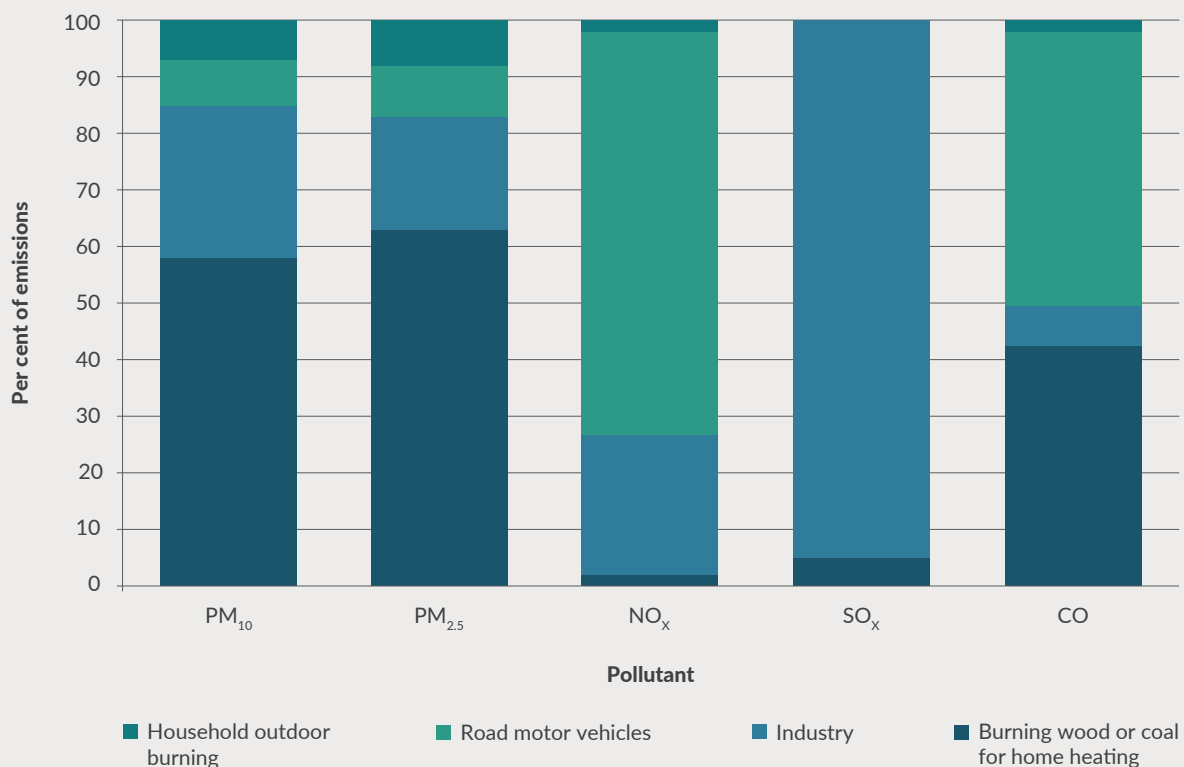
Why we've chosen this target

In New Zealand, particulate matter, including PM₁₀ and PM_{2.5}⁶, is the air pollutant of most concern. In New Zealand, particulate matter largely originates from the burning of solid fuels such as wood and coal for domestic heating. Other pollutants, including sulphur oxides, nitrogen oxides, and carbon monoxide, mainly come from industry activities and road vehicles emissions (figure 3).

There is limited information on the environmental effects of air pollution in New Zealand. Research in other countries suggests that in some instances air pollution can have impacts on ecosystems. For example, air pollution can cause eutrophication⁷ of water bodies and acid rain can damage certain plant tissues and enable the release of substances in the soil that are harmful to plants.

Managing air quality is part of the sustainable management of natural resources under the Resource Management Act (RMA), which requires us to take into account the principle of kaitiakitanga or guardianship. Some Māori worldviews have referred to kaitiakitanga as the responsibility of mana whenua to protect and maintain the mauri or life force of a resource, such as air.

FIGURE 3: RELATIVE CONTRIBUTION OF MAIN HUMAN-MADE EMISSION SOURCES - ESTIMATED ANNUAL EMISSIONS BY KEY POLLUTANT, 2013



Note: NO_x - nitrogen oxides; SO_x - sulphur oxides; CO - carbon monoxide. This graph does not include CO₂ emissions.

Source: Environet; Golder Associates

6 PM_{2.5} are airborne particles with a diameter of 2.5 microns or less. PM_{2.5} is a subset of PM₁₀.

7 Eutrophication is the enrichment of a water body with nutrients, which leads to the growth of plants and algae and due to the biomass load, may result in oxygen depletion of the water body.

Our role

We provide policy oversight of systems and direction for environmental management. Our responsibilities include the following:

- We are responsible for the National Environmental Standards for Air Quality (NES for Air Quality) under the RMA. The NES for Air Quality sets minimum requirements for councils to manage air pollution.
- The Environmental Reporting Act 2015 requires regular reports on New Zealand's environment, including the air domain. The Government Statistician and the Secretary for the Environment have joint responsibility for producing and publishing environmental reports independently from the government of the day.
- We help councils understand their responsibilities in meeting the NES for Air Quality.

Regional councils and unitary authorities monitor and manage air quality within their regions. Regional councils have developed regional plans to manage activities that discharge contaminants into the air. Territorial authorities observe and enforce the NES for Air Quality by ensuring that wood burners installed in urban properties comply with the wood burner design standards.

Other central government agencies also have roles and responsibilities for managing various sources of air pollutants in New Zealand. These roles include:

- The Ministry of Transport is responsible for government policy to manage air pollution from transport, which includes the Land Transport Rule: Vehicle Exhaust Emissions 2007 (Vehicle Emissions Rule). The New Zealand Transport Agency implements these policies, plans the state highway system, and undertakes land transport planning.
- The Ministry of Business, Innovation and Employment administers the Building Act 2004 and the Engine Fuel Specifications Regulations 2011 (Fuel Standards). The Building Act 2004 helps in air quality management by improving the energy efficiency of dwellings (eg, minimum requirement for insulation), which reduces the amount of heating required in the home. The Fuel Standards control the level of contaminants released through combustion by controlling the amount of contaminants found in different types of fuels.

What are we doing to achieve the target?

We have plans to undertake the following activities, to achieve the target:

- progress proposed amendments to the NES for Air Quality under the RMA with a focus on particulate matter-related regulations
- develop new indicators for other air contaminants. The next *Air Domain Report* will be released in 2018
- investigate opportunities for non-regulatory approaches to reduce particulate matter emissions from home heating, for example, public education on heating appliances and wood burner operating practices
- investigate the linkages between the management of outdoor and indoor air quality, and identify opportunities for coordination with other government agencies.

Atmosphere and climate – Kōhauhau and āhua o ngā rangi

New Zealand has an innovative and productive economy, with fewer greenhouse gas emissions, and is resilient to the physical and economic impacts of climate change and adverse climatic events.

TARGET	BASELINE
By 2030: New Zealand's greenhouse gas emissions intensity (per unit of GDP) is half of what it was in 1990.	To date, the emissions intensity of the economy has decreased by 36% since 1990.

Climate change is a complex, contentious and multi-generational issue. The climate is already changing, and as we prepare for future change, policies across all sectors must contribute to reducing emissions, help us adapt to inevitable environmental, economic and social impacts, and make the most of new opportunities.

In New Zealand, it is becoming evident that human and environmental systems (eg, existing infrastructure) may not cope with the rate of change or the frequency and intensity of extreme weather events. These events have the potential to cause costly damage, create fiscal burden such as higher insurance premiums, loss of taonga, lowered productivity, and impact our ability to trade.

We need long-term, effective and stable policy solutions supported by society and iwi/hapū to move to a resilient, low emissions economy. To meet these challenges we need climate change to be seen not only as an environmental issue, but as a broader societal one; where the economic and socio-cultural foundations that shaped the behaviours of the past need to be reshaped for the future.

Our role

We have an environmental stewardship role and are by statute the lead agency on domestic climate change policy.

It is important that we work closely with other government agencies and key stakeholders (local government) to ensure our approach to climate change policy is well led, well coordinated, and effective.

The Natural Resources Sector group of agencies provide opportunities to address climate change in a way that can support outcomes across multiple portfolios (including through their own measures and targets) – an all of economy approach is required to create enduring changes in behaviour and practices to lower our emissions and there are multiple levers and opportunities across these agencies and organisations.

Why we've chosen this target

Last year, New Zealand committed to reducing its emissions to 30 per cent below 2005 levels by 2030 under the Paris Agreement on climate change. This is an ambitious target that we will need to meet through a combination of domestic emissions reductions, removals of carbon dioxide by forests, and purchasing international emissions reductions that have high environmental integrity.

The structure of our economy and our greenhouse gas emissions profile make reducing our gross emissions⁸ at home difficult and will require innovation in

the short term, particularly to reduce our large proportion of biological methane emissions. However, we are committed to playing our part in responding to the global climate change challenge. This will also be a challenge for our urban areas and the ability of our towns and cities to grow and adapt to a lower emissions economy in future will be critical to New Zealand's performance overall.

Our impact measure, the gross emissions intensity of our economy per unit of GDP, helps us understand if we are trending in the right direction. What we want is for our economy to yield fewer emissions for each unit of GDP it produces. Our goal is for the emissions intensity to be half of what it was in 1990 by 2030.

This goal supports achieving our target under the Paris Agreement, and the impact measure captures progress on our work towards decoupling emissions from economic growth.

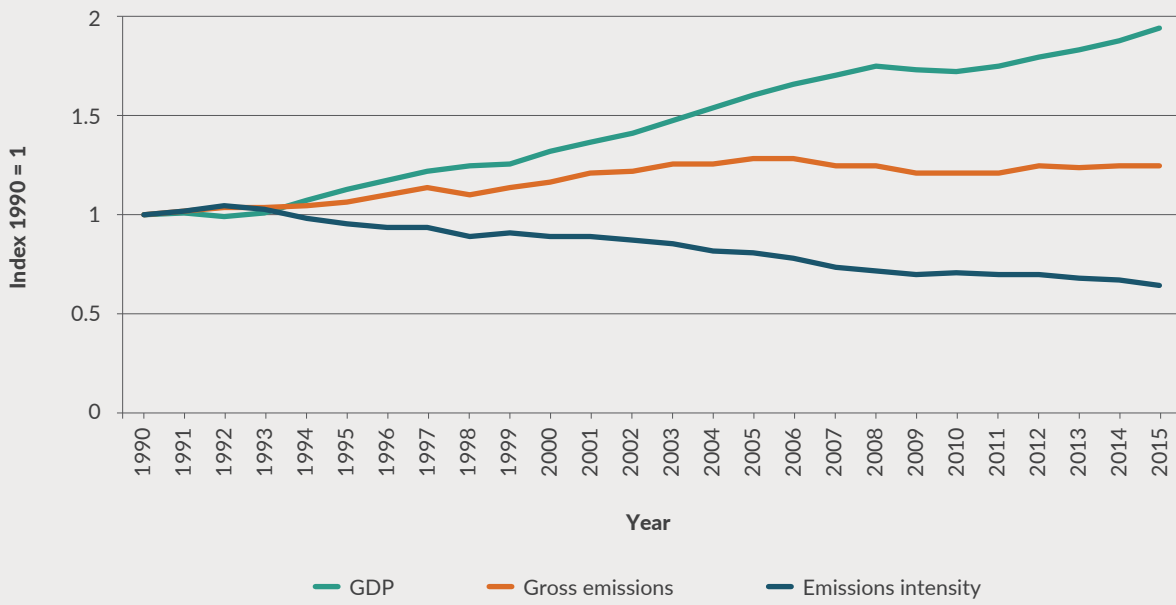
To date, the emissions intensity of the economy has decreased by 36 per cent since 1990. As shown in figure 4 though, the decrease has been driven by GDP increasing at a higher rate than our emissions have since 1990. The emissions intensity of our economy has improved, but our gross emissions have increased by nearly a quarter since 1990, a trend that we need to reverse.

⁸ Gross emissions exclude emissions and removals from forestry.

FIGURE 4: GROSS EMISSIONS PER UNIT OF GDP



FIGURE 5: GDP, GROSS EMISSIONS, AND EMISSIONS INTENSITY SINCE 1990



While our gross emissions have been stable for more than 10 years and GDP has continued to increase (see figure 5), we want our gross emissions to decrease, and our economy to keep growing. In other words, we want our emissions to further decouple from economic growth.

What are we doing to achieve this target?

We are reviewing the New Zealand Emissions Trading Scheme to ensure it helps us meet our climate change targets. The Government has also established three working groups (on agriculture, forestry and adaptation) to supplement cross-agency work already happening across sectors. We want to be in the best possible position to be able to assess the trade-offs and choices in moving to a lower emissions economy. The Productivity Commission will also report on its inquiry into transitioning the economy towards lower greenhouse gas emissions in 2018.

Our Climate Change Directorate is working across government agencies to develop a low emissions 'transition hub' to provide advice on how New Zealand can transition to a low emissions economy. The goal of this work is to support others to provide robust advice and evidence on how New Zealand can reduce emissions and encourage new innovation to support a thriving low emissions economy.

We also have a responsibility to collect evidence and information on greenhouse gas emissions and removals and report it internationally. This information is critical to ensure the policy recommendations we make are underpinned by a robust evidence-base that stands up to international scrutiny and review.

Finally, we recognise that information is power. Our atmosphere and climate report, due out in October as part of our environmental reporting series, provides a public interface of the pressures, state and impacts of the atmosphere and climate in a New Zealand context. It is our hope that this information will not only hold government to account but also encourage individuals, businesses, councils, communities and others to take action where it is within their power.

What else are we doing?

We have developed a long-term target that New Zealand is carbon neutral by 2050, contributing to global efforts to reduce emissions. To achieve this and to contribute to our vision of being innovative and resilient, we have set two intermediate targets:

- the vehicle fleet will comprise upwards of 250,000 (about 8 per cent) electric vehicles (including plug-in hybrids) by 2025
- net forest area has increased by 500,000 hectares from 2015 levels by 2040.

The target to increase forest area will also work towards reducing erosion and will help achieve the Ministry's land domain outcomes.

To prepare New Zealand for a low emissions and climate resilient future, we need to continue working on opportunities to lower New Zealand's greenhouse gas emissions alongside working to enhance our adaptive capacity, strengthen our resilience, and reduce our vulnerability to the impacts of climate change. For example, we are currently updating the technical guidance for local government on coastal hazards and climate change.

Additionally, the Adaptation Technical Working Group is producing a summary of the expected climate change impacts on New Zealand and a stocktake of existing work on adaptation, identifying gaps in knowledge and work programmes. This will form the basis for a report, which should identify options for how New Zealand can build resilience to the effects of climate change while growing our economy sustainably. The report will identify the benefits and limitations of New Zealand having an integrated economy-wide approach to adaptation. The report will also provide recommendations that are not policy prescriptive, but that provide options for consideration.

Future targets

As we continue to advance our adaptation and resilience work programme, we intend to develop an impact measure and target that captures the progress we are making in these areas.

Fresh water – Wai

New Zealand increases the value from, and improves the quality of, our fresh water.

TARGETS	BASELINES
By 2030: 80% of our rivers and lakes are swimmable. By 2040: 90% of rivers and lakes are swimmable.	71% of New Zealand’s lakes and rivers are currently swimmable.
By 2021: No native freshwater fish ⁹ decline from ‘Not Threatened’ to ‘At Risk’, or from ‘At Risk’ to ‘Threatened’ from the 2013 assessment.	In 2014, 57 native fish species were assessed. Twenty-one species were ‘Threatened’, and 19 were ‘At Risk’.

Our rivers and lakes are central to our natural environment, economy, our well-being, and way of life in New Zealand. Fresh water supports diverse communities of native flora and fauna. It underpins much of the New Zealand economy – it is used to irrigate crops and pastures, for industrial and manufacturing purposes, to produce hydro-electric energy, and it has tourism value in many regions.

For Māori, fresh water is a taonga. All iwi and hapū have strong connections with local lakes and rivers, reflected in their whakapapa and history. This relationship with water is recognised under the Treaty of Waitangi. Healthy fresh water also provides mahinga kai (customary food and resource gathering).

Ko te wai te ora ngā mea katoa – Water is the life giver of all things

New Zealand has plenty of fresh water – 145 million litres per person per year. However, more than 150 years of changing land uses and population growth have put pressure on our rivers and lakes. In some areas we do not always have enough fresh water where and when we need it. In others, freshwater quality is under pressure. This affects our native biodiversity and the extent water can provide for our needs, such as recreation, cultural well-being, tourism, and economic production.

Our role

The Ministry, together with the Ministry for Primary Industries is responsible for developing and overseeing the freshwater management system. We work closely with other Natural Resources Sector agencies because fresh water underpins the economy in many ways, including through agriculture.

We support the implementation of policy by regional councils and unitary authorities who are responsible for managing fresh water within their regions. We also provide funding to councils and communities for freshwater clean-up work. Outside of government, we work with many different groups including, the Land and Water Forum, iwi and industry groups, to broker solutions, and understand the range of different values that these groups represent.

Why we’ve chosen these targets

New Zealand’s waterways are under pressure and New Zealanders are clear we need to do more. Healthy rivers, lakes, wetlands and groundwater are important not just for swimming but for cultural, recreational, and economic reasons too.

Our targets, to improve swimmability and halt the threat to native fish species, will track the impact of our work with fresh water towards improving the liveability of New Zealand. Swimmability reflects the importance of water for recreation and the value of water socially and culturally and we are working towards restoring te mana o te wai to freshwater bodies by halting the threat to indigenous freshwater fish.

What we mean by ‘swimmable’

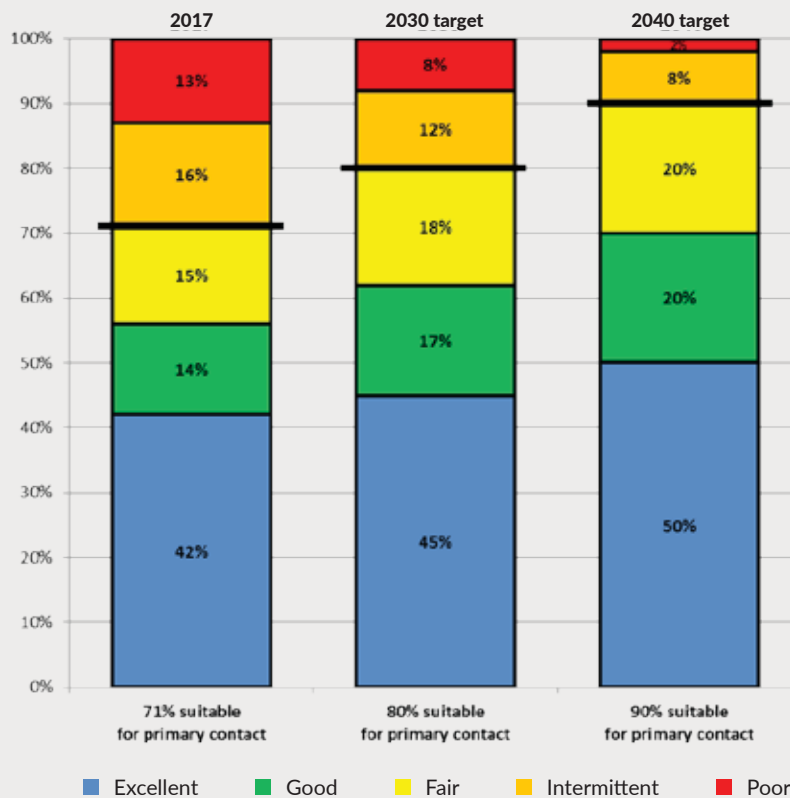
There is a series of tests to determine whether a river is safe for swimming. These tests measure *E. coli* levels in the water. *E. coli* is an indicator of the level of risk to human health. For a river to be swimmable under the new guidelines, the risk of getting sick from infection has to be less than 1 in 1000 more than half the time. The swimmable definition consists of the ‘excellent’ ‘good’ and ‘fair’ categories, as shown in figure 6.

To measure whether a lake is swimmable, we have used the volume of toxic algae (cyanobacteria).

Find out more in the [National targets for swimming water quality section](#) of our website.

⁹ Fish includes taxonomically indeterminate and determinate taxa.

FIGURE 6: NATIONAL TARGETS FOR SWIMMING WATER QUALITY



Indigenous fish biodiversity

We don't know how many native fish species we have in New Zealand – we haven't finished discovering them all. As a result, the measure is of 'assessed species' rather than 'total species'. New Zealand is vulnerable to biodiversity loss as many of our native species are found nowhere else in the world.

What are we doing to achieve these targets?

Having good information about our rivers and lakes: We want communities to have good information at their fingertips. New maps on the Ministry's website show where water is predicted to be okay for swimming and where improvements are needed.

This year we released *Our fresh water 2017* from the environmental reporting series, which provides an overall picture of New Zealand's fresh water. In addition to swimmability, the report shows there are other impacts of declining freshwater quality such as on freshwater fish and plants. Ongoing monitoring through our environmental reporting will help us track progress on improving the state of our rivers, lakes and streams.

Investing in improving rivers and lakes:

The Freshwater Improvement Fund will contribute \$100 million over 10 years towards improving waterways. This, along with another \$350 million already invested in water clean-ups, will make a significant contribution to improving water quality in the long term.

Keeping animals out of the water:

Proposed regulations on fencing off stock from waterways are an important part of the plan to improve water quality.

Developing options for a freshwater allocation system:

Increasing demand for water and increasing discharges to water have led to more catchments reaching full allocation of water resources and some being over-allocated. Work is underway to develop a better allocation system for fresh water that could lead to significant economic, social, cultural, and environmental gains.

Strengthening the National Policy Statement for Freshwater Management to support the new swimming targets:

Among other things, the updated policy clarifies how councils set nitrogen and phosphorous levels to tackle slime and algae (periphyton) in rivers and requires monitoring of aquatic animals (macroinvertebrates). It also changes the requirements for how councils maintain or improve water quality.

What else are we doing?

Future work includes reviewing the National Environmental Standard for Sources of Human Drinking Water to ensure it is delivering on its objectives. A Good Farming Practice Action Plan is being implemented to support farmers to improve water quality. Work is also underway on developing good management practices for urban areas and encouraging their use. Increased investment is being made in water research to provide better data and evidence to help deliver improved freshwater management.

Land – Whenua

New Zealand improves the quality of our soils and terrestrial ecosystems and increases the value from our land-based resources.

TARGET	BASELINE
By 2030: Estimated annual erosion from managed grassland is reduced by 50% (42 million tonnes/year), from the 2012 baseline of 84 million tonnes/year.	Total estimated soil erosion from managed grassland across New Zealand at 2012, is 84 million tonnes/year.

In New Zealand, our land is a complex weave of ownership, identity, and connection. Policies on almost every aspect of the economy and society connect to land and its use: housing, transport and energy networks, biosecurity, trade and investment, biodiversity, water storage and use, climate change adaptation and mitigation, health, and employment. Protecting and preserving our tūrangawaewae (place to stand) is one of our society’s most complex and important challenges. Our land is where most of our environmental issues converge and underpins the natural resources we rely on.

- The health and quality of our fresh water and coastal marine environment are driven by land use, through the impact of sediment and accumulation of contaminants and nutrients in water bodies.
- New Zealand’s unique biodiversity relies on our land. We know that we have lost a lot of indigenous environments and the remainders are not representative of original ecosystems. Additionally, many of our indigenous plants and animals are at risk of extinction, and for a large proportion of these, this risk of extinction is increasing.
- Our choices about how we use our land, such as forestry and pastoral agriculture, impact on how we mitigate climate change.

- The future capability of our land is impacted by current and legacy contamination (acute in terms of contaminated sites, and chronic in terms of fertiliser trace elements, such as cadmium).

New Zealand is heavily dependent on natural resources for economic prosperity and well-being. Land is a significant component of New Zealand’s natural capital asset base. To ensure ongoing prosperity, we will need to carefully manage resource use while maintaining and enhancing the resilience of our land-based ecosystems.

Our land, and what we do with it, is a legacy from our ancestors and our generation’s legacy to pass on to our descendants. The investments and decisions we make today will influence our children’s future. Once lost through erosion, soil takes millennia to be replaced; contamination of our land may persist decades after the original event; and competition for land in our fast growing urban areas is putting pressure on other resources such as fresh water and soil. A long-term and intergenerational approach to the use and management our land resource is fundamental.

Ka ora te whenua, ka ora te tangata – If the land is healthy, the people are healthy

Our role

The Ministry is responsible for several statutes governing our land. These statutes are supported by statutory instruments (regulations, national policy statements, and national environmental standards), non-statutory guidance, funding mechanisms, research programmes, collaborative bodies, and other initiatives. Our responsibilities for managing land are broad, including numerous aspects of resource management, hazardous substances, and waste.

The **Resource Management Act 1991 (RMA)** is New Zealand’s primary environmental management legislation. It is designed to manage competing demands for land and other natural resources.

Unitary, regional, and territorial councils have a major role in managing soil and land use through regional and district plans under the RMA, as well as non-regulatory measures (such as training with farmers or rates rebates for good practice). We set the framework for councils’ land management through the RMA and national direction made under the RMA, and provide targeted support for councils on land issues. We also work with industry and environmental non-governmental organisations to both build robust policy and support these groups to implement our policy.

Within the RMA framework, we are working on the following:

- Together with the Ministry for Primary Industries (MPI), we are working on the National Environmental Standard for Plantation Forestry, to increase certainty for foresters while minimising environmental effects to land and waterways (such as wilding pines, effects on spawning fish and erosion).
- We have established and are supporting an independent collaborative group for biodiversity policy (made up of environmental NGOs, industry sector groups, iwi, and others). The group is tasked with developing a National Policy Statement for Indigenous Biodiversity and supporting measures by late 2018. The main drivers of this work are to improve biodiversity outcomes on land and in freshwater and coastal areas, as managed by councils under the RMA. This work may also result in co-benefits for reducing the risk of erosion, improving soil health, and maintaining and increasing soil carbon.
- The National Policy Statement for Freshwater Management, requires councils to set limits by 2025 to maintain or improve water quality. This supports councils and communities to better manage land use to reach desired water outcomes (such as reducing nutrients and sediment in our waterways).
- The proposed National Environmental Standard for the Outdoor Storage of Tyres will protect the environment, human health, and local communities from the future risks of adverse effects associated with the outdoor storage of tyres. The NES would develop consistent minimum standards for local government, reducing the time and costs for local government to create individual plan changes.

The Ministry is also responsible for a rigorous **hazardous substances and waste regime**, which both prevents soil contamination and other incidences from occurring, and responds to issues as they arise.

- We are responsible for the Hazardous Substances and New Organisms Act 1996 (HSNO), which is the framework for managing risks to the New Zealand environment posed by the use of hazardous substances and introduction of new organisms. HSNO and the regulations made under it form a rigorous regime, controlling hazardous substances to prevent incidents and environmental contamination from occurring.
- The Waste Minimisation Act 2008 is designed to decrease waste disposal to protect the environment from harm and encourage waste minimisation by changing the current linear economic model to a circular economic model that provides environmental, social, economic, and cultural benefits. The future key areas of focus for waste-related work includes:
 - developing a national waste data collection and evaluation framework that targets key baseline information that will help us to prioritise waste issues, and measure effectiveness of the Waste Disposal Levy
 - investing funding into projects that are targeted, measurable, and provide the greatest returns. This includes strategic investment in regional infrastructure development which is one of the building blocks towards a circular economy in New Zealand.
- The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) is a regulation under the RMA implemented by councils to manage

the risks to human health on sites that are being redeveloped. The Ministry is currently amending the NESCS to ensure the NESCS is better targeted to reduce risks to human health.

- The Contaminated Sites Remediation Fund puts in place mechanisms to help regional councils address priority contaminated sites in their regions.

Most aspects of the Ministry's work also relate to soil, how we use land, and what results from land use. Our work on achieving our urban, water and marine outcomes all benefit or relate to land in some way. Additionally, the Emissions Trading Scheme puts a price on greenhouse gas emissions, which incentivises businesses to reduce emissions and plant forests to absorb carbon dioxide. This is likely to have co-benefits for land, such as reducing the risk of erosion.

Other government agencies also have a role in the land domain.

- MPI has work programmes that intersect with land outcomes, including maximising export opportunities from land-based activities, improving primary industry practice, and protecting New Zealand from biological risk. We frequently partner with MPI to deliver on both agencies' outcomes.
- The Department of Conservation administers public conservation land, which covers 30 per cent of New Zealand. The department is the lead agency for the Conservation Act and the Conservation General Policy and its biodiversity work extends onto private land. The Minister for Conservation is also responsible for the New Zealand Coastal Policy Statement, which can be a driver for improved land-use practices to manage land-use effects on the coast.

Why we’ve chosen this target

Protecting and managing land is one of New Zealand’s biggest challenges. What we do on, and with, land is an issue at the heart of most aspects of our society and environmental management. There are many factors to consider in the optimal use of land: soil type and availability, economic drivers, housing and social needs, and environmental impacts of human activities beyond the land.

It is challenging to have one overarching target for land and we lack national level data about land use and soil health to do so. We do, however, have some tools to monitor our progress in reducing erosion, which relates to the activities that cover our land, as well as the ecosystems and quality of our rivers, lakes and coastal water.

Our land report from the environmental reporting series is due in 2018 and will bring together the multifaceted aspects of the land domain to present a national picture of New Zealand’s land environment. Many of the activities we undertake on land also affect other parts of the environment and this is expected to be a key theme of the land report.

Erosion leads to a loss of valuable top soil for productive purposes and severely impacts on soil ecosystem health. Erosion also leads to fine sediment in rivers, streams, lakes, and the coastal environment, causing problems for water and coastal ecosystems (such as the seagrass meadows that provide nurseries for our snapper and other fin fisheries).

Erosion is caused by natural factors, and can be accelerated through human activities. Natural erosion often occurs on steep slopes in native bush and alpine areas during high rainfall, and we would be unlikely to intervene as

there are some ecosystems in these areas that rely on certain levels of sedimentation to function.

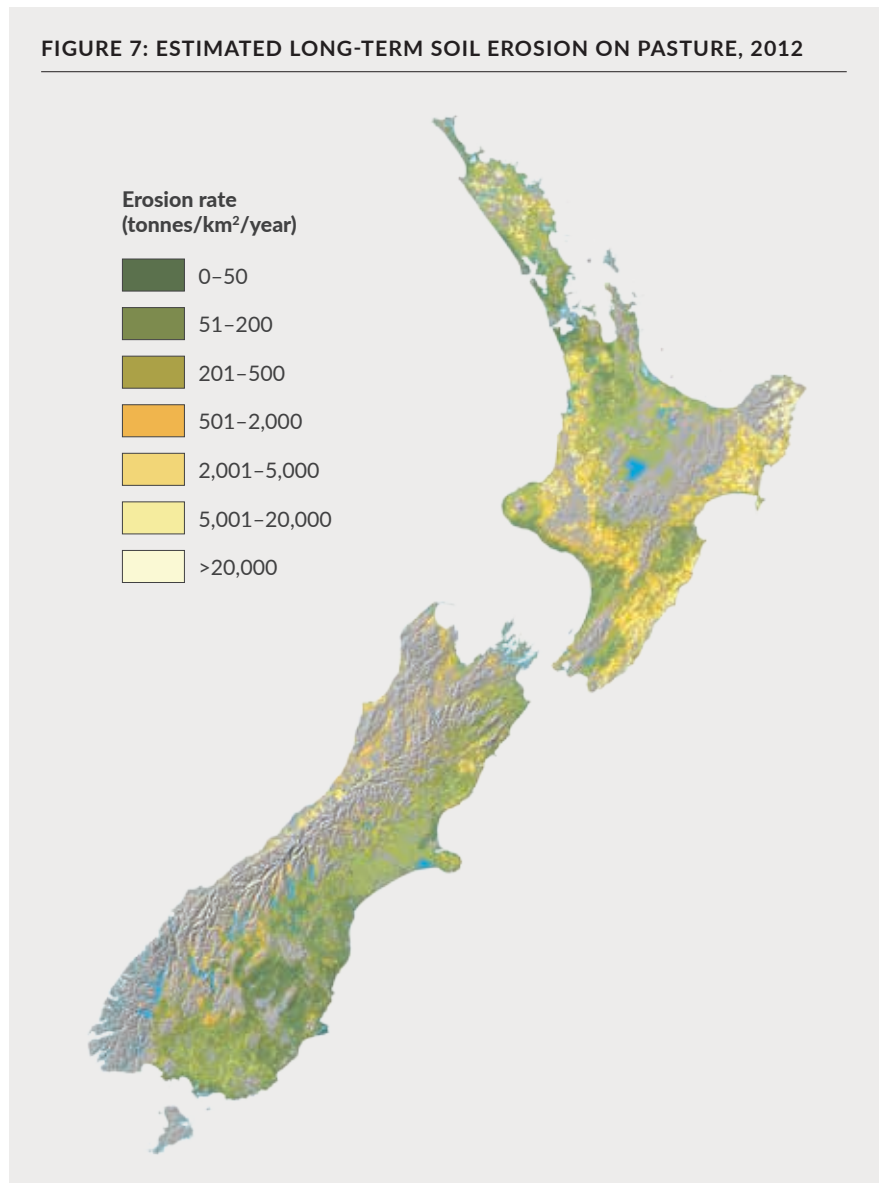
However, human activities can accelerate erosion beyond the capacity of the environment and ecosystems to cope. Such activities include changes in:

- land cover – harvesting plantation forestry, clearing of shrub land within a grazing context

- land use – forestry to pastoral farming, expansion of urban areas, cultivation for cropping
- land management within a land use – higher stocking rates, irrigation.

Estimated soil erosion rates around New Zealand are shown in figure 7, and the total estimated soil erosion from grassland in New Zealand (as at 2012) was 84 million tonnes per year. The risk of this erosion could be reduced through different land use and land management practices.

FIGURE 7: ESTIMATED LONG-TERM SOIL EROSION ON PASTURE, 2012



We have calculated estimated annual erosion levels using the New Zealand Empirical Erosion Model (NZEEM, administered by Landcare Research), and we have used the Land Cover Data Base (LCDB, also a Landcare Research product) to define the extent of grassland areas. Updates to the area of managed grassland will be made bi-annually.

We have focused this target on grasslands, knowing that reducing this erosion is a reasonable target through the use of better site management and farm plans. Our measure is seeking to track the progress of soil conservation planting and new plantation forestry in areas which are susceptible to erosion and currently grazed.

We have excluded the effects of plantation forest harvesting from this target. We recognise that a large amount of timber is due to be harvested in the coming 10 years due to a spike in planting in the early 1990s. While we are working on reducing the erosion associated with forest harvesting through the National Environmental Standard for Plantation Forestry, there is not enough data available to monitor changes in forestry practice through this measure.

Our new target on reducing estimated erosion on grassland has some limitations, given the data currently available:

- The LCDB maps land cover (such as vegetation or grassland), but not what the land is used for. This means that land management (such as stocking rate) is not tracked in this target.

- The LCDB maps areas of vegetation which are at least one hectare in size from satellite imagery. This means that small or new areas of planting may be missed. Work is being done to create vegetation maps which show a finer level of land cover detail.
- The NZEEM uses slope, vegetative cover, and rainfall data to model erosion risk. This data is based on long-term average annual rainfall data for the previous 10 years, and land cover as at 2012. It is currently the most comprehensive model of erosion that we have for gaining an understanding of erosion at a national level but it will not model the impact of recent localised storm events which can have a significant impact on erosion rates.

What are we doing to achieve this target?

Our role within the RMA framework to develop and support implementation of the National Policy Statement for Freshwater Management, the National Environmental Standard for Plantation Forestry, and the National Policy Statement for Indigenous Biodiversity, should all have an effect on erosion rates. We are developing a land domain work programme, focussing on three key aspects: soil erosion, soil functional capacity, and optimal land use.

Future targets

In addition to erosion, we intend to develop an indicator on soil health, once suitable data becomes available. Soil quality data that helps land users identify what can be grown on different types of soil is available. However, this does not take into account the broader aspects of soil health such as soil chemistry, structure, and the ecosystems that live in our soils and provide us with ecosystem services that support primary industries and life on land. An integrated soil health framework is being developed by Landcare Research, but this will take time.

We are also working towards developing an indicator that reports on the proportion of areas that meet national soil health targets for land use. This would enable us to track progress towards a target of maintaining or enhancing soil functioning capacity, or no further soil degradation.

Marine – Wai tai

New Zealand is a world leader in the sustainable management of marine ecosystems that support New Zealand’s marine life, society and the economy.

TARGET	BASELINE
By 2030: The resilience of marine ecosystems is improved because a representative 10% of ecosystems in each biogeographic region of New Zealand’s territorial sea are marine protected areas.	Proportions range from 0% in the Three Kings, Chatham and Snares Islands to 99% in the Sub-Antarctic Islands and 100% in the Kermadec Islands, averaging 12% of New Zealand’s total territorial sea, as at December 2016.

Our marine environment has a rich and unique array of animals, plants, and habitats. Scientists estimate that as much as 80 per cent of New Zealand’s indigenous biodiversity may be found in the sea. More than 15,000 marine species have been identified in our waters. Our isolation means many of these species are not found anywhere else in the world.

The ocean also supports our economy and most of us live near the coast and use the ocean for recreational activities. Given our reliance on the ocean, we need to ensure a system is in place to support its ongoing health and productivity.

Why we need marine protected areas

Effective area-based protection through marine protected areas (MPAs) helps maintain coastal and marine ecosystem health and productivity, while safeguarding social and economic development. MPAs are most effective when they form a representative and adaptable network.

MPA networks can improve the resilience of marine ecosystems by helping to stem the losses of marine resources, recover both marine life and entire ecosystems, magnify benefits of individual sites, protect large-scale processes, slow the loss of endangered marine species, and restore depleted fisheries. MPAs can also help maintain the full range of genetic variation, essential in securing viable populations of key species, sustaining evolutionary processes, and ensuring resilience in the face of natural disturbances and human use.

Why we’ve chosen this target

In 2005, New Zealand introduced the **Marine Protected Areas Policy**, which uses existing marine management tools with the objective to: *Protect marine biodiversity by establishing a network of MPAs that is comprehensive and representative of New Zealand’s marine habitats and ecosystems.* A target of protecting 10 per cent of New Zealand’s marine environment by 2010 was specified.

The Aichi Biodiversity targets are a set of global targets formulated in 2011 that New Zealand supports. Target 11 encourages states to conserve “...10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, ... through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures...”.

Domestically, a range of measures are recognised as marine protected areas under the 2005 policy, including marine reserves (Type 1 MPAs) and other tools (Type 2 MPAs). Within the territorial sea, New Zealand has 14 coastal marine biogeographic regions. Marine protected areas cover 22,116 sq km of the territorial sea of which marine reserves currently cover 17,430 sq km. However, almost all of this area lies within the marine areas of the Kermadec and Subantarctic offshore islands. Most of New Zealand’s coastal marine biogeographic regions remain significantly under-represented in marine protected areas.

BIOGEOGRAPHIC REGION	AREA OF BIOGEOGRAPHIC REGION (KM ²)	TOTAL AREA (KM ²) OF MARINE PROTECTED AREAS	PERCENTAGE OF BIOGEOGRAPHIC REGION IN MARINE PROTECTED AREAS
Chatham Islands	12,318	-	0.0
East Coast South Island	11,288	111	1.0
East Coast North Island	11,637	29	0.3
Fiordland	10,241	484	4.7
Kermadec Islands	7,179	7,480	100.0
North Cook Strait	13,671	271	2.0
North Eastern	38,073	987	2.6
Snares Islands	2,154	-	0.0
South Cook Strait	12,241	178	1.5
Southern South Island	20,986	100	0.5
Subantarctic Islands	11,936	11,848	99.3
Three Kings	2,226	-	0.0
West Coast South Island	13,158	270	2.1
West Coast North Island	14,589	358	2.5
Total	181,697	22,116	12.2

Source: Department of Conservation factsheets [Ecosystem representation & protection status - Marine](#) and [Marine Protected Areas: Tier 1 statistic 2016](#)

What are we doing to achieve this target?

We are responsible for leading legislative reform which is proposed to repeal the Marine Reserves Act 1971 and introduce new marine protected areas legislation. The reform aims to make New Zealand a world leader in the responsible use, management and conservation of our ocean environment by:

- widening the reasons for establishing marine protection from the current Marine Reserves Act purpose of creating marine reserves for scientific purposes
- creating new MPA categories: recreational fishing parks; seabed reserves; and species-specific sanctuaries that provide for flexibility and appropriate use
- strategically establishing and connecting marine protected areas to create an effective representative network.

We will be responsible for administering the new legislation. The Department of Conservation and the Ministry for Primary Industries will be responsible for the different types of marine protected areas created.

Other marine domain work includes:

- setting up a more robust decision-making process for establishing MPAs that involves iwi/Māori, local communities, and stakeholders
- recognising iwi marine legislative rights and interests
- managing the effects of activities undertaken in the EEZ including:
 - supporting the passage of special legislation to give effect to the proposed Kermadec Ocean Sanctuary
 - administering the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act). In 2017/18 this will include updating the Permitted Activity Regulations and developing regulations to implement changes to the EEZ Act that address decommissioning of offshore oil and gas installations
- considering a future marine management framework in our strategic Marine Futures project.

Future targets

We are exploring how we could report on other aspects of the marine domain. Our environmental report on the marine environment released in 2016 demonstrates the many gaps in our knowledge on the marine environment and we are working to prioritise and fill those gaps before our next marine report is released in 2019.

The report also shows there are multiple cumulative pressures facing our coastal areas.

We are currently considering focusing on estuaries and bathing beaches. Estuaries are vital to the marine environment, because, for example, they are often nursery habitats for fish. Many coastal communities have settled on estuaries and depend on estuaries for harvesting kaimoana, fishing, or recreation. We intend to include an index of the health of our estuaries alongside a measure on the quality of water at bathing beaches, once suitable nationally-consistent data becomes available.

Urban – Tāone

New Zealand is a leader of environmentally sustainable cities, leveraging the benefits that cities offer while reducing the costs and impacts that they impose.

TARGETS	BASELINES
<p>By 2047: Housing supply in all high growth urban areas keeps pace with demand.</p> <p>Auckland issues building consents for at least 400,000 new dwellings (approximately 13,500 per year).</p> <p>Targets for other high growth areas will be established in December 2018.</p>	<p>In the 12 months to 30 June 2017, Auckland issued consents for 10,364 new dwellings.</p>
<p>Future measure: Sustainable, Liveable Cities Index.</p>	<p>Targets to be established after measure is developed and baselines are known.</p>

By helping ensure our cities are great places to live, we can make a big difference to making Aotearoa New Zealand the most liveable country in the world, as the majority of us live in urban areas.

Improving the performance and productivity of our cities and towns will help ensure New Zealand has a resilient economy capable of responding to changing social and economic conditions, and to the physical and economic impacts of climate change and adverse climatic events.

The liveability of our cities affects our well-being, and the ways in which our cities are planned, designed, built, and regulated impacts New Zealand's economic performance and the diversity of our economy.

Our cities are facing significant challenges from population growth, such as increasing housing costs, congestion, and vehicle emissions, and declining biodiversity, as well as grappling with the need to respond to natural hazards and climate change. We must address these challenges to secure long-term liveability, resilience, and sustainability in our cities.

We know that the changing nature of our cities affords us with abundant opportunities to improve the quality of our built and natural environment. By recognising and leveraging these opportunities and working with our stakeholders, we can improve the performance of our cities across economic, social, cultural, and environmental outcomes.

Our role

We provide policy oversight of urban planning and environmental management, providing a system-wide perspective across all domains with the goal of creating sustainable, liveable cities.

Our role involves:

- providing advice to government on how to better achieve well-functioning urban areas through the resource management, planning, and related systems
- designing bespoke planning processes to support councils to respond to changing needs and conditions in urban areas (eg, establishing the special legislation to develop the Auckland Unitary Plan)

- responding to failures in the urban system by developing national direction, such as implementing the National Policy Statement on Urban Development Capacity to address insufficient supply for housing and business development with the Ministry of Business, Innovation and Employment
- monitoring, evaluating, and reporting on planning outcomes in urban areas across the country
- supporting local authorities to achieve better urban planning outcomes and implement national direction by providing guidance, and working with our stakeholders to build capability and facilitate knowledge sharing
- providing thought leadership on the quality of the built environment (eg, on urban design and urban form)
- working with other agencies in the Auckland Policy Office to support the achievement of government objectives in Auckland, our biggest city.

While the urban domain takes a systems approach to issues and opportunities, the outcomes in other domains also apply in urban areas. Urban residents should be able to enjoy clean waterways, breathe fresh air, enjoy a protected marine environment, and make positive contributions to our climate change goals. Various interventions across these domains also contribute to liveable, sustainable cities. For example, in the water domain the Three Waters work will improve stormwater, drinking water, and wastewater outcomes in cities.

Why we've chosen this target

The planning system is not functioning and responding as it should to people's needs to access high quality, affordable housing, particularly in our fastest growing urban centres. Constraints on the supply of opportunities for development are contributing to high house prices in these areas.

To track whether or not our policy interventions have achieved the intended outcome, we will measure the number of building consents issued, as a key indicator signalling changes in housing supply. Currently only Auckland Council has developed a target for the number of dwellings that are needed in the long term; however, all other high growth councils will be required to develop a similar target by 2018, and we will track progress against these in the future.

The current target for Auckland of 400,000 dwellings consented by 2047 comes from the Auckland Unitary Plan.

What are we doing to achieve this target?

The National Policy Statement for Urban Development Capacity (NPS-UDC) is designed to address the failure of the planning system to provide for

sufficient growth in a timely way. It is therefore a priority for the urban domain to successfully implement the NPS-UDC to help ensure housing supply in our faster growing urban areas keeps pace with demand.

The NPS-UDC was developed in collaboration with the Ministry of Business, Innovation and Employment and came into effect on 1 December 2016. It requires local authorities to provide sufficient opportunities in their regulatory plans (commercially feasible development capacity) for housing and business development to meet demand. It also requires high growth local authorities to have a better understanding of their local housing and business development markets (both current and in the future) through the collection and monitoring of data, and then respond to this information in their regulatory plans when they indicate that there is a problem with supply. The NPS-UDC is not intended to encourage development over other environmental outcomes such as air or water quality, rather its intention is to ensure councils better understand the trade-offs they are making across environmental outcomes in their planning decisions.

We expect the requirements of the NPS-UDC will lead to more responsive plans that better meet demand by enabling sufficient dwellings to be built. This will help ensure our cities are able to provide enough homes for our growing population, at affordable prices.

To support the effective implementation of the NPS-UDC, we are working with MBIE to develop guidance and provide tailored support for local authorities for their urban area.

To ensure the NPS-UDC is effective at increasing the supply of development capacity for housing, and that this results in more houses being built,

we will begin monitoring and reporting on the number of building consents issued.

What else are we doing?

We're also developing an urban outcomes framework that will help us more clearly articulate our role in the urban environment and enable us to monitor urban performance more proactively in future. This will help us evaluate urban performance domestically, in a way that we have not been able to previously, and we hope to include a new impact measure in the next statement of intent.

Beyond clarifying the outcomes we'd like to achieve, we've recognised that many of the factors driving poor urban and environmental outcomes are deeply embedded within our current approach to resource management, planning, and local government. To address this, we are leading the Government response to the Productivity Commission report and recommendations on urban planning.

Future targets

In addition to developing a liveability index, we are working towards gathering baseline data about regional infrastructure needs to inform where we invest future waste levy funding. Building the necessary infrastructure will enable more recovery of materials for reuse, and increase the flow of materials that are part of the circular economy. Once the baseline data is available, we envisage developing a target to incorporate recovered materials into the building, construction, and roading sectors, reducing the demand for raw materials.

Annual Report

2016/17

Presented to the House of Representatives
pursuant to section 44 of the Public Finance Act 1989

This year's highlights

October

Kigali Agreement signed to reduce greenhouse gases

Our marine environment 2016 released – the first report produced under the Environmental Reporting Act 2015

New Zealand ratified the Paris Agreement on climate change

Regulations delivered to manage space rocket launch debris in New Zealand's Exclusive Economic Zone

January

Consultation on managing microbeads opened

March

Whanganui River granted rights of a legal person – a new way of looking at our environment through the Māori world view

May

Phase down plan announced for hydrofluorocarbons

December

30th anniversary of the Ministry's establishment

Ross Sea Ocean Sanctuary created

New National Policy Statement on Urban Development Capacity came into effect

Hurunui/Kaikōura Earthquakes Emergency Relief and Recovery Acts 2016 signed into law

February

Clean Water package launched for consultation

Freshwater Improvement Fund opened for applications

Conservation and Environment Science Roadmap released

April

Our freshwater 2017 environmental report released

Changes to the regulatory regime for pest control implemented

Resource Legislation Amendment Act received Royal Assent

June

2017 Green Ribbon Awards held at Parliament, celebrating New Zealand's environmental heroes

New National Environmental Standard for marine aquaculture proposed

Consultation on a proposed National Environmental Standard for the Outdoor Storage of Tyres launched



01

About us

An overview of the Ministry for the Environment – our purpose, our people, and our funding.

Key topics

40 Who we are

41 Our strategy

42 Our people

45 How we work

48 How we are funded

Who we are

We are the Government's primary adviser on the New Zealand environment and on international matters that affect the environment.

We advise on:

- environmental management systems including laws, regulations and national environmental standards
- national direction through national policy statements and strategies
- guidance and training on best practice
- information about the health of the natural and built environment.

Our strategy

Our purpose is to make New Zealand the most liveable place in the world for our children, their children, and their mokopuna. This is how we plan to achieve our purpose, including our focus and edge behaviours introduced in 2016:

Our purpose

Aotearoa New Zealand is the most liveable place in the world
Aotearoa – he whenua mana kura mō te tangata

We are stewards for the environment, so that we continue to have a prosperous Aotearoa New Zealand, now and in the future

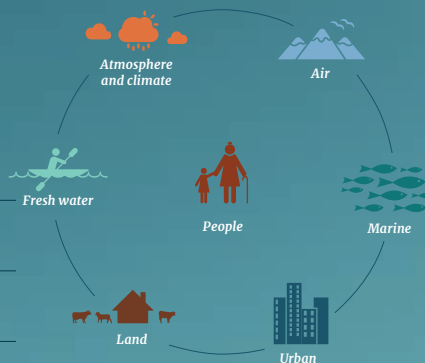
Our liveable future

We are committed to New Zealand having:

Atmosphere and climate – Innovative, productive, resilient and low emission

Fresh water – Improving quality, increasing value

Land – Improving soil and ecosystems, increasing value



Air – Healthy, with world-leading quality

Marine – World-leading in sustainable ecosystem management

Urban – Sustainable, liveable cities

The system – Developing practical policy, enabling good decisions and action

Our focus

Mana Taiao, Mana Tangata

Success means...

We **enable** people to act in a way that benefits society and the environment

We **optimise** how we use the environment and natural resources now and in the future

We **manage** risks to people and the environment

We **safeguard** the environment's capacity to sustain itself

Our edge

He rau mano, he rau kotahi tangata: we embrace our multiple talents

We are **curious**

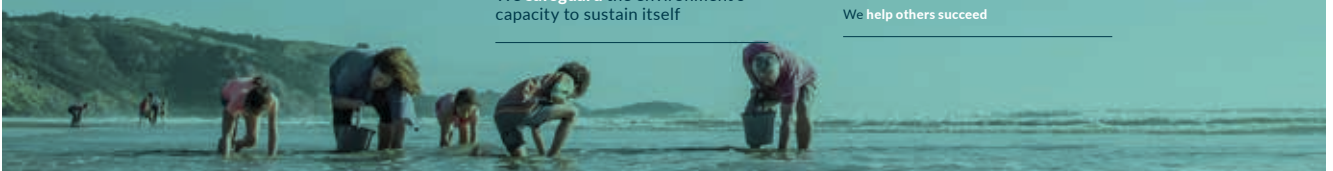
We are **innovative**

We are **courageous**

We **take action**

We **lead**

We **help others succeed**



Our people

Staff engagement



Gallup grand mean score

2016/17	3.99
2015/16	4.11

Averages



Age

39 years
39 years



Length of service

3.6 years
3.8 years

Position numbers



Full-time staff as at 30 June

2016/17	328.6
2015/16	319.9



Unplanned turnover

19.8%
23.5%



Part-time staff

14.4%
11.8%

Gender



All staff

2016/17	63.3%	36.7%
2015/16	61.6%	38.4%



Management

53.85%	46.15%
50.7%	49.3%

Engagement

Overall our engagement score (measured by Gallup) in late 2016 was 3.99, which is comparable to the New Zealand State Sector median of 3.89, a worldwide median of 4.09, and worldwide public service median of 4.05. However, it has dropped since 2015 (4.11). The percentage of employees that are actively disengaged remains low at 6 per cent.

Strengthening our workforce

Over the last year, we have focused on strengthening our workforce so we can respond to the challenges ahead. We have worked on creating the foundations required for the Ministry to build a more agile workforce better able to produce cutting edge policy.

As a result, over the coming year we will focus on lifting capability in six key areas, including:

- delivering 'policy plus'
- 'partnering with purpose'
- working with Māori and iwi and understanding Māori perspectives
- science and data stewardship
- new organisational behaviours
- leadership.

Critical to this success is a focus on our processes and systems and having the right technology in place to support our people.

We have also set six behaviours that we all aspire to (see 'our edge' in the figure on page 41). We know these behaviours will help us achieve our outcomes. This is our shared way of working every day so we enable ours and others' success in making New Zealand the most liveable place in the world.

Over 2016/17, we've set some clear guidance on what optimal use of these behaviours should look like to guide all staff. Our next step is to bring these to life by using them to drive our performance.

Turnover

We have experienced a 7 per cent reduction in turnover since October 2016. Part of that is due to improvements in our reporting functionality. We have also analysed our turnover and sought feedback from staff on their experiences of working at the Ministry.

As a result, in June 2017, we put in place a programme to address our findings. In support of this programme and the wider People Strategy, other initiatives will be rolled out, including a focus on on-boarding and induction, performance and remuneration, learning and development, recruitment, business improvement, leadership, and cultural alignment.

Diversity and inclusion

He rau mano, he rau Kotahi tangata – embracing our multiple talents.

Our shared way of working begins by first embracing our multiple talents, recognising diversity and inclusion as critical levers to success in creating a workplace that reflects New Zealand and our wider community. We see this action as essential to enabling ours and others' success.

At the Ministry for the Environment diversity includes diversity of thought and experience as much as it does gender, ethnicity, physical capability, sexual orientation, cultural background and preferences, education and more. Inclusion is about recognising our experiences and perspectives and being authentic – leveraging our individual experiences to create high performing teams that in turn create value in achieving our goals and reflecting the diversity of the New Zealanders we work with.

We are committed to further building engagement, diversity and inclusiveness. We have made a start. For example, we:

- ran a diversity census in 2016 to understand and share the diverse range of experiences of our people
- embraced flexible working practices, with the majority of our employees working flexibly (locations and hours) so they can integrate their work and home lives optimally
- introduced te reo classes during 2016/17 for any interested employees and have an active waiata group.

Other initiatives either underway or about to begin are included below. We:

- remain committed to reducing the gender pay gap; reducing from our June 2017 result of 7.7 per cent to zero per cent within five years; we will also look at pay equality across ethnicities and other lenses to ensure we are fair and operating without any unconscious bias
- have a programme of work underway to refresh our approach to health, safety and wellness
- are continuing our focus on increasing our ability to engage in a meaningful way with Māori in line with our strategic objective of moving from obligation to opportunity and incorporating a Māori world view in our work
- are developing a deeper understanding of te reo me ona tikanga Māori culture, which is an important underpinning to our strategic objectives. We have an active waiata group and a programme focused on improving te reo skills. Our Mana Taiao directorate works closely with Māori in the Treaty Settlement process to ensure development of enduring relationships and a platform for future engagement in the post-settlement era
- have redesigned our induction and onboarding to 'Manaakitanga' – which is about creating a welcoming and inclusive employee experience from hire to retire (to be implemented in October 2017)
- remain committed to recruiting the right people based on merit from a diverse pool of talented candidates
- are revisiting our learning and development strategy and service offering to reflect the variety of ways our people prefer to learn, with the aim of building inclusive and supportive cohorts to embed and share learning
- will review the effectiveness of our sourcing strategy to ensure we continue to attract diverse candidates and will be trialling new approaches in late 2017
- will continue to support an active social club that promotes inclusive and diverse experiences in celebrating our passion for the environment and recognising the diversity of our people.

Equal employment opportunities

We provide equal opportunities for employment in our procedures for recruitment and selection, career development and progression, training, and conditions of employment.

We have a flexible working policy. This allows our staff to balance their obligations at work and outside of work.

How we work

‘Policy plus’ and ‘partnering with purpose’ set out the ways we work. The ‘droplets’ show our focus for 2016/17. They are significant programmes of work for the year and in many cases will continue to be so for next year.



Policy plus

We are at the cutting edge of how policy is made and the difference it can make to people. **This means:**

We actively shape the agenda

We advise with impact: using storytelling, insights from data, real life examples, and the views of end users

We focus on supporting the decisions Ministers need to make

We problem solve in many ways: non-regulatory interventions, visual tools and more

We harness our diverse perspectives and the skills of our workforce

We see the whole system and play a brokering role



Partnering with purpose

We bring our ideas together with others' to give the best advice and delivery. **This means:**

We are clear about what we and others bring to the table and the results we all seek

We partner with Māori and iwi to make Aotearoa New Zealand uniquely liveable

We engage early in our thinking and doing, and others bring us into theirs

We work with people to inspire them to action and to get results

2016/17

Using an **investment approach** and other market mechanisms

Low emission economy – Developing a long term plan

Developing our own strategic **Natural Capital** story

2016/17

Moving to opportunity in our relationship with Māori and iwi

Engaging and partnering – Changing the way we work with others

Leading the natural resources sector with a focus on natural capital



Recent progress on our six focus areas

Low emission economy – developing a long-term plan

We are making good progress in setting ourselves up to deliver a long-term plan for how we achieve a low emission economy.

- We are establishing a 'transition hub' to provide advice on meeting our Paris Agreement targets, setting future targets to set us on a pathway to a low carbon society. The long-term strategy for emissions reduction will form part of this hub's work.
- We are designing the work programme and reporting back to Cabinet.

Using an investment approach and other market mechanisms

In the last year, we have focused on taking an investment approach to our work. This means moving beyond simply investing against future costs (like remediation work) and taking a longer-term view by investing early to reduce future liability – investing now, to save later.

We successfully used an investment approach to design the Freshwater Improvement Fund, introduced in Budget 2016. Work on the pilot was supported by agencies from across the Natural Resources Sector. Wider public and stakeholder views informed the work through the submissions received on the Next Steps for Freshwater consultation and targeted conversations with a range of groups and individuals with an interest in fresh water. The first funding round closed in April 2017.

The next step will be to use this approach for other initiatives and use the investment approach across the Natural Resources Sector for Budget 2018.

Obligation to opportunity

If we want Aotearoa to be the most liveable place in the world our Treaty partnership, mātauranga Māori, and Māori economic success need to form part of the foundation we build our liveable future on. In the last year we have continued to deepen and strengthen our relationship with Māori and iwi.

We are already moving toward a focus on opportunities and partnerships. Over the last year we have worked collaboratively with Waikato and Waipa River Iwi on the review of co-governance and co-management arrangements and the development of an internship programme.

Cultural monitoring projects with Te Arawa Lakes Trust iwi and Ngai Tahu, freshwater allocation case studies, and the development of a joint project with Ngati Kahungunu ki Wairarapa are further examples of partnerships.

A key aspect of moving to partnership and exploring opportunities is increasing capability of all partners to take part. Staff have the opportunity to take part in te reo Māori classes. We have also facilitated training for iwi in resource management, running two 'Making Good Decisions' courses in Hawke's Bay and Northland.

More direct engagement with Iwi Leaders and Iwi Advisor Groups has built stronger relationships, which has led to working together closely when we develop policy.

Natural capital

We are taking a natural capital approach to our work. This means taking the concepts of natural capital and ecosystem services to understand how what we do will affect, or be affected by, our natural and built environment. When we fail to account for effects on the natural and built environment in our decisions, we risk undermining our future capability to use and benefit from the environment.

We are beginning to incorporate the natural capital approach to resources into our work in a way that compels all of government and business to transition to investing in the environment. We want to shift from compliance and rehabilitation to setting new standards and engaging in a regenerative economy.

This work is tightly linked to our other five focus areas.

Leading the Natural Resources Sector

Working as a natural resources system is critical to achieving our outcomes. A critical lever for this is our leadership of the Natural Resources Sector. The Natural Resources Sector is a group of eight government agencies with the shared goal of investing in our natural and built resource base for our society's well-being and as a source of a global competitive advantage. Together, we lead the natural resources system to achieve outcomes in climate, land, water, oceans and biodiversity. The Natural Resources Sector seeks to work effectively together with key partners including local government, iwi/Māori, community groups, and businesses to achieve these outcomes.

During the year we have worked with the Natural Resources Sector to confirm its strategic priorities, refined the work programme to deliver these, and worked closely with the other agencies on budget priorities.

Engaging and partnering – Changing the way we work with others

We are increasing our focus on engaging with businesses. In the past few years we have sought to leverage connections with the business community and bring them in to hear their views. We are starting to move beyond 'getting to know one another' towards being able to use the business sector as a trusted, critical friend – able to test and challenge our thinking in a constructive way. We have had good feedback from external stakeholders that we are improving.

Performance Improvement Framework review

During 2016/17 we conducted a self-review of our performance to prepare for a formal State Services Commission Performance Improvement Framework (PIF) review. Due to the long-term nature of our work, we looked beyond the standard four-year horizon typically used in PIF reviews.

The formal review was conducted over April and May 2017 when the lead reviewers spoke with a range of internal and external stakeholders to hear their views about what will make the Ministry successful in the future. We asked the reviewers to go beyond

the normal four-year PIF horizon, to challenge our thinking about what the future might hold 10-15 years from now, and our strategy of pursuing results through 'policy plus' and 'partnering with purpose'.

The subsequent report, due for release later in 2017, endorses our strategy. It recommends we accelerate our shift to new ways of working, while recognising the importance of investing in foundational business systems to support and enable this change. It supports our thinking about the relationship between the economy

and the environment, especially the recognition that our environment is the natural 'asset base' for the economy and prosperity of our communities and New Zealand. We will continue to take a 'whole-of-system' approach, working closely with partners across the natural system to deliver outcomes New Zealanders want.

We will include the reviewers' findings in our next annual report and use them to inform the development of our future organisational plans, including the next four year plan.

How we are funded

Vote Environment

The figure on the following page shows 2016/17 expenditure in Vote Environment. The Vote is split by:

- departmental funding, which we use for our work programme
- non-departmental funding (including the next two bullets), which we administer on behalf of Ministers and distribute externally (for clean-up projects, for example)
- Environmental Protection Authority funding
- Emissions Trading Scheme funding (this covers the allocation of emission units to industry to mitigate the scheme's effects on international competitiveness, and to owners of post-1989 forests who choose to enter the scheme to earn units as their forests grow and sequester carbon).

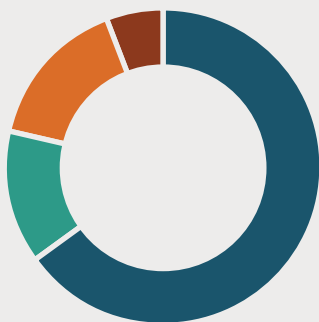
Departmental funding

Our departmental funding was spent in the following areas during 2016/17.

Non-departmental funding

In 2016/17, we administered non-departmental funding in the following categories.

VOTE ENVIRONMENT



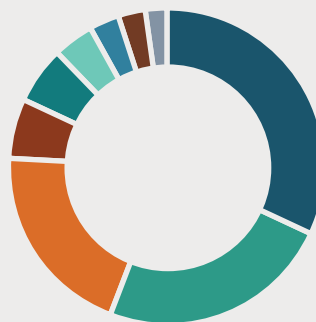
67% Emissions Trading Scheme, \$295,488

14% Departmental, \$60,155

13% Non-departmental, \$58,972

6% Environmental Protection Authority, \$25,267

DEPARTMENTAL FUNDING



32% Resource management advice, \$19,256

24% Water policy advice, \$14,729

20% Climate change policy advice, \$11,882

6% Marine policy advice, \$3,700

6% Waste minimisation and environmental hazards advice, \$3,614

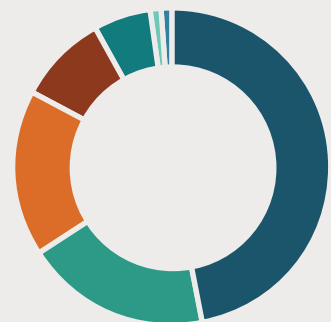
4% Ministerial servicing, \$2,111

3% International advice, \$1,841

3% Treaty policy advice, \$1,721

2% Administering grants, \$1,301

NON-DEPARTMENTAL FUNDING



47% Waste minimisation, \$27,891

19% Treaty obligations, \$11,280

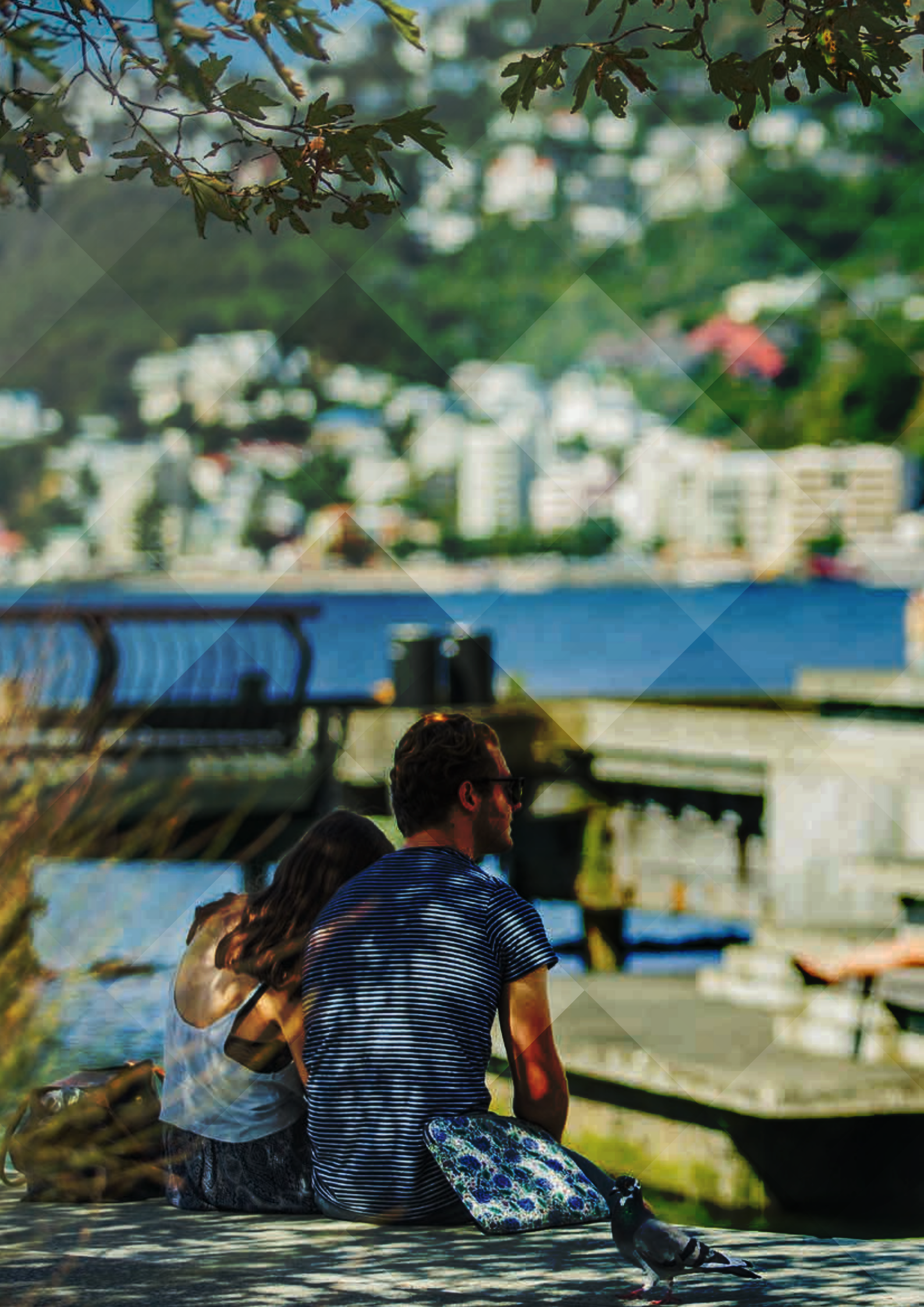
17% Water initiatives, \$10,225

9% Community funding, \$5,011

6% Contaminated sites \$3,364

1% International obligations, \$604

1% Climate change, \$597



02

Our performance

Part two looks at how we performed during 2016/17. The first section shows the longer-term results we want for New Zealand. The second section describes our day-to-day work programme performance.

Key topics

52 Our strategic intentions

80 Measuring our performance

Our strategic intentions

Our four outcomes were developed to take a long-term view to 2045.

Our medium-term measures, which contribute to our outcomes are set by domain: air, atmosphere and climate, fresh water, land, marine, urban, and the environmental management system. The figure on the following page shows how we see success within these domains.





During 2016/17, we made some changes to our impact level performance measures to better drive our work programme towards

our vision of success. They are published in the Statement of Intent 2017-2021 included with this annual report. Our next annual report will

show progress against our new measures.

Environmental management system

To achieve our vision we need our social and environmental processes to work together effectively.

LONG-TERM OUTCOMES	LONG-TERM TARGETS	INTERMEDIATE TARGETS	PERFORMANCE MEASURES	PERFORMANCE 2015/16	PERFORMANCE 2016/17
People are enabled to make and implement decisions that benefit society and the environment	The environmental management system's processes and objectives are clear and provide certainties to users	National objectives and priorities guide decisions throughout the system	Percentage of new plans, plan changes and variations as a result of national direction	9% of new plans, plan changes and variations started, underway or completed in 2014/15 were driven by being consistent with, or giving effect to, national direction.	23% of new plans, plan changes and variations started, underway or completed in 2015/16 were driven by being consistent with, or giving effect to, national direction.
		Regulatory framework for land use and management has been evaluated for effectiveness and consistency	Percentage of new plans, plan changes and variations completed within statutory timeframes	83% of new plans, plan changes and variations completed in 2014/15 (with data available on the time taken) complied with the two-year statutory timeframe.	95% of new plans, plan changes and variations completed in 2015/16 (with data available on the time taken) complied with the two-year statutory timeframe.
			Number of local authorities making publicly available the findings of their policy statement or plan efficiency and effectiveness monitoring	Six local authorities made these findings available in 2014/15.	Eight local authorities made these findings available in 2015/16.
			Percentage of resource consents processed within statutory timeframes	96% of all section 88, section 127, and section 128 resource consents (which were progressed to a decision in 2014/15) were processed within statutory timeframes.	96% of all section 88, section 127, and section 128 resource consents (which were progressed to a decision in 2015/16) were processed within statutory timeframes.
	Environmental and social objectives are aligned, mutually beneficial outcomes and trade-offs are achieved, and intergenerational impacts are taken into account	There is an effective framework for iwi/hapū engagement in resource management decisions	Number of iwi/hapū management plans and iwi/hapū agreements lodged with local authorities	Local authorities received 190 iwi/hapū management plans by the end of the 2014/15 financial year. ¹⁰	Eight iwi/hapū management plans were lodged, removed or updated with local authorities during 2015/16.
				Local authorities received 117 iwi/hapū agreements by the end of the 2014/15 financial year.	Local authorities received 127 iwi/hapū agreements by the end of the 2015/16 financial year.
		Number of local authorities with written iwi/hapū agreements	By the end of the 2014/15 financial year 53 local authorities had received one or more iwi/hapū management plans. This equates to 65% of councils, up from 44% of councils in the 2012/13 financial year.	By the end of the 2015/16 financial year, 59 local authorities had received one or more iwi/hapū management plans. This equates to 76% of councils, up from 65% of councils in the 2014/15 financial year.	
			We also know that 58% of councils have set aside budget to assist iwi/hapū to participate in the development of resource management plans. This is up from 54% in the 2012/13 financial year.	We also know that 36% of councils have set aside budget to help iwi/hapū participate in developing resource management plans. This is down from 58% in the 2014/15 financial year.	

¹⁰ This figure represents the total number of iwi/hapū management plans that were recorded as having been lodged with local authorities as at 2014/15.

LONG-TERM OUTCOMES	LONG-TERM TARGETS	INTERMEDIATE TARGETS	PERFORMANCE MEASURES	PERFORMANCE 2015/16	PERFORMANCE 2016/17																					
<p>People are enabled to make and implement decisions that benefit society and the environment</p>	<p>The environmental management system uses current science and leads international best practice</p>	<p>We have robust data sets for all environmental domains</p>	<p>Increasing number of indicators that meet Stats NZ standards</p>	<p>There were 122 indicators in <i>Environment Aotearoa 2015</i>:</p> <ul style="list-style-type: none"> • 30 national indicators (highest quality measure) • 40 case studies • 46 supporting information measures. <table border="1"> <thead> <tr> <th>Domain</th> <th>National indicators</th> <th>Case studies</th> </tr> </thead> <tbody> <tr> <td>Air</td> <td>4</td> <td>9</td> </tr> <tr> <td>Atmosphere and climate</td> <td>8</td> <td>8</td> </tr> <tr> <td>Land</td> <td>8</td> <td>8</td> </tr> <tr> <td>Fresh water</td> <td>7</td> <td>10</td> </tr> <tr> <td>Marine</td> <td>3</td> <td>11</td> </tr> <tr> <td>Totals</td> <td>30</td> <td>46</td> </tr> </tbody> </table> <p>For the upcoming marine domain reporting (to be released 27 October 2016), there will be five new measures (four national indicators, one case study) and 10 existing measures will be updated.</p>	Domain	National indicators	Case studies	Air	4	9	Atmosphere and climate	8	8	Land	8	8	Fresh water	7	10	Marine	3	11	Totals	30	46	<p><i>Our marine environment 2016</i>, published in October 2016, included five new measures (four national indicators, one case study), 10 existing measures that were updated, 13 existing measures that were not updated for the report, and three existing measures that were replaced by better new measures.</p> <p><i>Our fresh water 2017</i>, published in April 2017, included 11 new measures (two national indicators, six case studies, and three supporting information measures) and eight existing measures that were updated (one of which was from the land domain).</p> <p>Both reports adopted a <i>body of evidence</i> approach, to go beyond statistical measures and include references to a range of scientific literature to tell a more complete story about the environmental pressures, state and impact.</p>
Domain	National indicators	Case studies																								
Air	4	9																								
Atmosphere and climate	8	8																								
Land	8	8																								
Fresh water	7	10																								
Marine	3	11																								
Totals	30	46																								

Our role in the environmental management system

The 'environmental management system' describes the numerous and complex interactions and interdependencies between New Zealand's environmental and social processes.

New Zealand has a highly decentralised environmental management system: local government and the Environmental Protection Authority implement the majority of the legislation we administer. The system is also distributed, involving a broad range of participants, such as iwi, business, community and interest groups.

The Resource Management Act 1991 (RMA) is the key legislation for making decisions on the use of resources. As well as managing air, soil, fresh water, and coastal marine areas, the RMA regulates land use (including subdivision) and the provision of infrastructure, which are integral components of New Zealand's planning system. This means local government, who also have a wider planning role in transport, infrastructure, and economic development, make most resource management decisions.

We:

- are the Government's primary adviser on how human interactions and uses impact the environment (nationally and internationally)
- set policy on how our natural and built environment is managed
- advise the Government on the system of institutions, laws, regulations, policies and economic incentives that form the framework for environmental management
- monitor the system's performance.

Achieving our goals: 2016/17 progress

Setting clear national direction for managing our natural and built resources

Our resource management system seeks to promote the right balance of flexibility and certainty that enables communities to focus on the things that matter now and for the future. We take a partnership approach, underpinned by evidence and strong tangata whenua–Ministry relationships, to lead and influence the system from within.

The judicious use of national direction helps determine how specific resources and activities should be managed to protect the environment, strengthen the economy, and enable New Zealanders to provide for their social and cultural well-being. Over the last year we have consulted on six pieces of national direction:

- National Policy Statement for Freshwater Management amendments
- National Environmental Standard for Assessing and Managing Contaminated in Soils to Protect Human Health amendments
- proposed National Environmental Standard on Plantation Forestry consultation on permitted activity monitoring
- proposed National Environmental Standard for Marine Aquaculture
- stock exclusion regulations
- proposed National Environmental Standard for the Outdoor Storage of Tyres.

New instruments, such as the National Policy Statement on Urban Development Capacity, the National Environmental Standard

for Telecommunication Facilities, and the pest control regulations came into effect. We continue to work closely with iwi, councils, and other stakeholders to develop and implement our national direction, and have committed to annually updating a forward list of new national direction priorities to provide greater certainty to iwi, communities, businesses and councils. Our expanded work programme is also being reflected in the increasing numbers of councils undertaking plan changes to implement national direction.

Continuous improvement of our regulatory frameworks

The Resource Legislation Amendment Act 2017 (RLAA) delivered the most comprehensive package of reforms to the Resource Management Act since its inception 26 years ago. RLAA will make improvements to support more effective environmental management and drive capacity for development and economic growth. Nearly 40 amendments collectively aim to provide even stronger national direction, a more responsive planning process, a streamlined resource consent process, and better alignment with other legislation.

A national roadshow was launched to support the implementation of RLAA, including consultation on the form and content of new national planning standards. We are also working closely with iwi on changes to Māori participation under the RMA such as establishing agreements between tangata whenua (through iwi authorities) and councils, called mana whakahono a rohe (iwi participation arrangements). The increasing proportion of plans completed within statutory timeframes is also likely to be attributable to the Government's strong focus on RMA efficiency and performance.

The National Monitoring System is now in its second year of operation and continues to capture valuable information on how well the RMA is working. National Monitoring System data directly informs our policy development and alongside qualitative feedback and environmental reporting, is expected to play an increasingly important role in evaluating resource management system performance.

Framework for iwi/hapū engagement

Iwi/hapū management plans must be taken into account when preparing or changing regional policy statements and regional and district plans. They are used by iwi/hapū to express kaitiakitanga and consider iwi views and visions when engaging with iwi/hapū. Iwi/hapū agreements are written agreements between iwi/hapū and local authorities.

Given the special kaitiaki role Māori play in managing natural and built resources, our measures are important in demonstrating whether there is an effective framework for engagement in resource management decisions.

The changes to Māori participation under the RMA have enhanced opportunities for iwi input into the RMA plan-making processes and introduced the new process for mana whakahono a rohe (iwi participation arrangements). We have supported iwi/hapū with iwi management plans and engagement in resource management decisions by providing training and guidance. We have also established a secondment to Te Aupouri to help support their iwi management plan.

The Waikato and Waipa River co-governance and co-management arrangements review provides a unique and detailed insight into how five iwi engage with local government.

Robust data

National-scale environmental reporting informs both the public and decision-makers on the current state and long-term trends in the environment. This helps us identify and understand national-scale environmental problems and opportunities, as well as their causes and significance.

We have used insights from the marine and freshwater domain reports to plan our work programme and as a catalyst for conversations with industry on, for example, marine and resource management connections.

The Environmental Reporting Act 2015 requires us to publish one domain report every six months and a synthesis report on New Zealand's environment as a whole every three years.

During 2016/17 we (with Stats NZ) published two domain reports: marine and fresh water. The entire environmental reporting series is on our website: www.mfe.govt.nz/more/environmental-reporting/about-reporting-series.

Atmosphere and climate, and land domain reports are scheduled to be published in 2017/18. You can find out more about our environmental reporting on our website: www.mfe.govt.nz/more/environmental-reporting.

CASE STUDY

Resource Legislation Amendment Act receives Royal Assent

The Resource Legislation Amendment Act was signed into law on 18 April 2017, making close to 40 substantial changes to the Resource Management Act and other legislation. It was a significant milestone for the Ministry, closing the chapter on nearly 18 months of work since the second phase of reforms was introduced to Parliament. More than 700 submissions were received on the Bill, including 137 oral submissions.

The Act makes changes to five existing Acts, and consequently amends several others. Together these changes deliver improvements to the resource management system, to support more effective environmental management and drive capacity for housing and business development.

Initial guidance was published on the Ministry website upon Royal Assent, including a series

of 16 fact sheets for councils and resource management professionals. A comprehensive implementation programme is underway and will continue throughout the year ahead, including the development of technical guidance and a schedule of presentations and workshops.

Air – Āngi

Our vision is that New Zealand is a world leader in managing risks to human health and the environment that result from poor air quality.

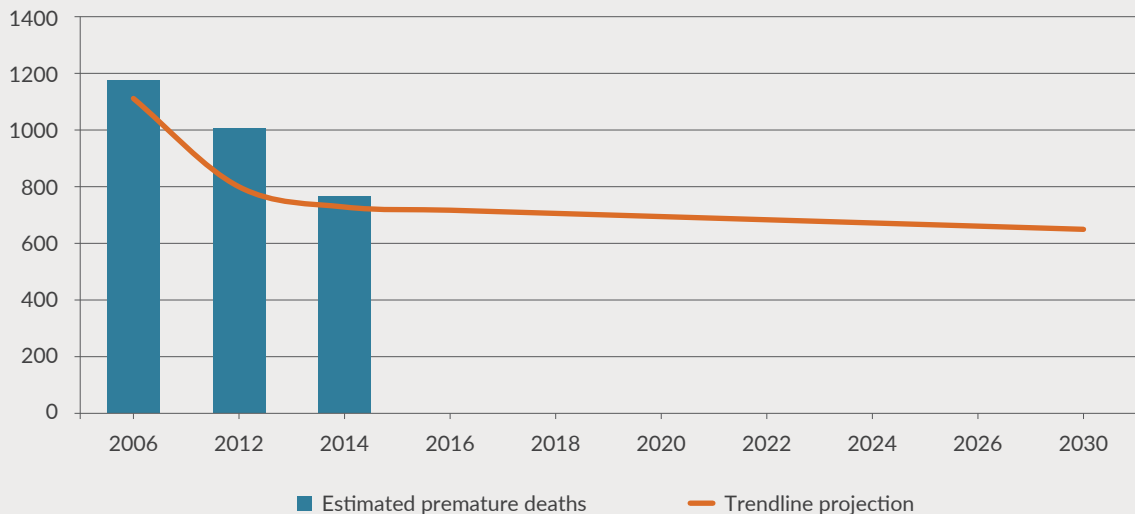
LONG-TERM OUTCOMES	LONG-TERM TARGETS	INTERMEDIATE TARGETS	PERFORMANCE MEASURES	PERFORMANCE 2015/16	PERFORMANCE 2016/17
Risks to people and the environment are known, understood and well managed	Health impacts from poor air quality are minimised	Health impacts from anthropogenic (human-made) sources are reduced by 10% from 2012 levels	Number of premature deaths and health complaints due to poor air quality	See figure 8 for health effects from exposure to human-made PM ₁₀ ¹¹ , 2012 and 2014.	Based on modelled data, in 2014 there were about 770 premature deaths ¹² in New Zealand associated with exposure to human-made particulate matter PM ₁₀ , such as emissions from home heating, industry, and transport. This equates to an estimated 23 per cent decrease in premature deaths associated with exposure to human-made PM ₁₀ between 2012 and 2014. This decrease is linked to a decrease in PM ₁₀ over the same period. See figure 9 for estimated premature deaths from air pollution.

FIGURE 8: HEALTH EFFECTS FROM EXPOSURE TO HUMAN-MADE PM₁₀¹¹, 2012 AND 2014 (ROUNDED FIGURES)

Health effect	2012			2014			Change between best estimates (%)
	Best estimate	Low estimate	High estimate	Best estimate	Low estimate	High estimate ¹³	
Premature deaths	1,000	460	1,370	770	350	1,050	-23
Hospital admissions	520	290	830	390	220	620	-25

- 11 Particulate matter is a mixture of solid particles and liquid droplets found in the air that are associated with various health effects. PM₁₀ is a particle that has a diameter of 10 or less micrometres.
- 12 NIWA. 2016. *PM_{2.5} in New Zealand; Modelling of current state*. Health impacts from exposure to air pollution are calculated using a statistical model. This figure represents the estimated mortality from the collective shortening of life experienced by the whole population from exposure to particulate matter pollution.
- 13 The high and low estimates reflect only the uncertainty in the health risks of PM₁₀ exposure, not other uncertainties in the model. Low and high estimates for 2014 were calculated based on the corresponding proportions of the best estimate shown in the past two reporting years. For 2012, the low and high estimates were estimated using the low and high health risk values. We expect the next estimates to be available for the air domain reporting (as part of the Environmental Reporting series) in 2018.

FIGURE 9: ESTIMATED PREMATURE DEATHS FROM AIR POLLUTION



About the air domain

Good air quality is fundamental to our well-being. An average person inhales about 14,000 litres of air every day, and the presence of contaminants in this air can adversely affect people's health. Poor air quality can also cause damage to the natural and built environment.

Adverse effects on human health can have negative economic impacts through, for example, lost work days,

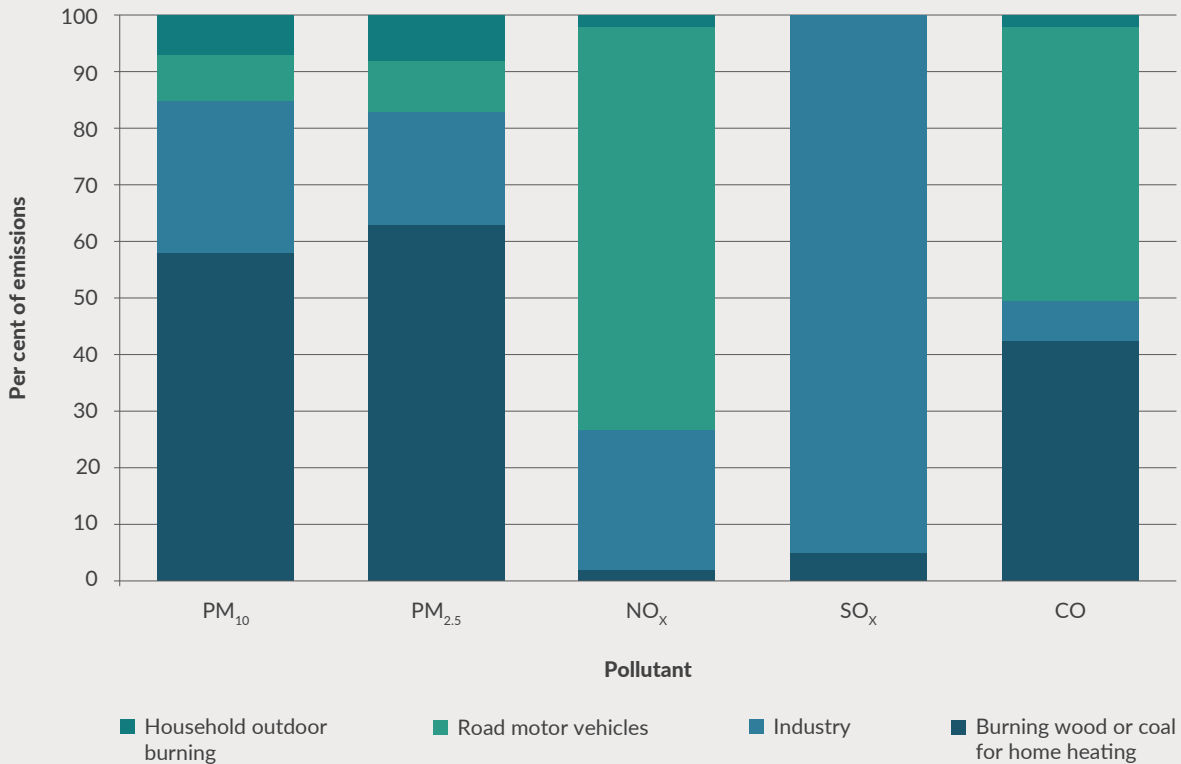
hospitalisation, medical treatment, and premature deaths. Air pollution leads to an increase in the premature death rate across a population.

In New Zealand, particulate matter, including PM₁₀ and PM_{2.5}¹⁴, is the air pollutant of most concern. In New Zealand, particulate matter largely originates from the burning of solid fuels such as wood and coal for domestic heating. Other pollutants,

including sulphur oxides, nitrogen oxides, and carbon monoxide, mainly come from industry activities and road vehicles emissions (figure 10).

14 PM_{2.5} are particles with a diameter of 2.5 microns or less. PM_{2.5} is a subset of PM₁₀.

FIGURE 10: RELATIVE CONTRIBUTION OF MAIN HUMAN-MADE EMISSION SOURCES - ESTIMATED ANNUAL EMISSIONS BY KEY POLLUTANT, 2013



Note: NO_x - nitrogen oxides; SO_x - sulphur oxides; CO - carbon monoxide. This graph does not include CO₂ emissions.

Source: Environet; Golder Associates

Our role

We provide policy oversight of systems and direction for environmental management. Our responsibilities include the following:

- We are responsible for the National Environmental Standards for Air Quality (NES for Air Quality) under the RMA. The NES for Air Quality sets minimum requirements for councils to manage air pollution.
- The Environmental Reporting Act 2015 requires regular reports on New Zealand’s environment, including the air domain. The Government Statistician and the Secretary for the Environment have joint responsibility for producing and publishing environmental reports independently from the government of the day.

- The Ministry helps councils understand their responsibilities in meeting the NES for Air Quality and is the catalyst for cross-government work on managing air quality.

Regional councils and unitary authorities monitor and manage air quality within their regions. Regional councils have developed regional plans to manage activities that discharge contaminants into the air.

Territorial authorities observe and enforce the NES for Air Quality by ensuring wood burners installed in urban properties comply with the wood burner design standards.

Achieving our goals: 2016/17 progress

During 2016/17, we:

- developed policy for amendments to the National Environmental Standards for Air Quality
- updated these three guides to support air quality management:
 - Good practice guide for assessing discharges to air from industry
 - Good practice guide for assessing and managing odour
 - Good practice guide for assessing and managing dust.

You can find out more about air quality on our website: www.mfe.govt.nz/air.

Atmosphere and climate – Kōhauhau and āhua o ngā rangi

Our vision is that New Zealand has an innovative and productive economy, with fewer greenhouse gas emissions, and is resilient to the physical and economic impacts of climate change and adverse climatic events.

LONG-TERM OUTCOMES	LONG TERM TARGETS	INTERMEDIATE TARGETS	PERFORMANCE MEASURES	PERFORMANCE 2015/16	PERFORMANCE 2016/17
The capacity of the environment to sustain itself is safeguarded	New Zealand is carbon neutral by 2050, contributing to global efforts to reduce emissions	The vehicle fleet will comprise upwards of 250,000 (about 8%) electric vehicles (including plug-in hybrids) (by 2025)	Percentage of the total vehicle fleet that is electric or hybrid	Approximately 0.04% of the total New Zealand fleet is electric or hybrid (as at June 2016). Government has set a target of doubling the number of electric vehicles in New Zealand every year, to reach approximately 64,000 by 2021. New Zealand's light electric vehicle fleet has increased by over 100% in the last year.	As at 30 June 2017: <ul style="list-style-type: none"> 3,764 electric vehicles (including pure and plug-in hybrid) registered, which is around 0.1% of the total vehicle fleet 21,936 conventional hybrid vehicles registered, which is around 0.6% of the total vehicle fleet.
		Net forest area has increased by 500,000 hectares from 2015 (by 2040)	Total net gain in forest area	The 2014 Greenhouse Gas Inventory reports that deforestation continues to exceed afforestation resulting in a reduction in forest area by 6,000 hectares in 2014. This continues a generally reducing forest area trend since the mid-2000s. However, the increased carbon price in response to the exclusion of international units in the New Zealand Emissions Trading Scheme (NZ ETS) and the NZ ETS review is expected to reduce deforestation and increase afforestation in future. The proposed National Environmental Standard for Plantation Forestry will also help support afforestation by providing nationally-consistent rules and greater certainty around planning controls involving forestry activities.	Deforestation continues to exceed afforestation in 2015 resulting in a reduction in net forest area by 3,000 hectares. (See Forestry section on page 63 for more information.)

LONG-TERM OUTCOMES	LONG TERM TARGETS	INTERMEDIATE TARGETS	PERFORMANCE MEASURES	PERFORMANCE 2015/16	PERFORMANCE 2016/17
The use of the environment, including natural resources, is optimised for the betterment of society and the economy, now and over time	A carbon neutral New Zealand enables a more innovative and productive economy	There is a durable mechanism and effective pricing for greenhouse gas emissions (by 2020)	Percentage of total emissions covered by the New Zealand Emissions Trading Scheme	This year the Government decided to remove the one-for-two transitional measure from the NZ ETS. This measure will be phased out over three years from 1 January 2017, and increase the coverage and effectiveness of emission pricing to approximately 50% by 2019.	The phase out of the one-for-two transitional measure from the NZ ETS started on 1 January 2017. The phase out has increased the effective carbon price faced by non-forestry sectors from 50% to 67%.

About the atmosphere and climate domain

Climate change is a complex, contentious and multi-generational issue. The climate is already changing, and as we prepare for future change, policies across all sectors must contribute to reducing emissions, help us adapt to inevitable environmental, economic and social impacts, and make the most of new opportunities.

In New Zealand, it is becoming evident that human and environmental systems (eg, existing infrastructure) may not cope with the rate of change or the frequency and intensity of extreme weather events. These events have the potential to cause costly damage, create fiscal burden such as higher insurance premiums, loss of taonga, lowered productivity, and impact our ability to trade.

We need long-term, effective and stable policy solutions supported by society and iwi/hapū to move to a resilient, low emissions economy. To meet these challenges we need climate change to be seen not only

as an environmental issue, but as a broader societal one; where the economic and socio-cultural foundations that shaped the behaviours of the past need to be reshaped for the future.

Our role

We have an environmental stewardship role and are by statute the lead agency on domestic climate change policy. It is important that we work closely with other government agencies and key stakeholders (local government) to ensure our approach to climate change policy is well led, well-coordinated and effective.

The Natural Resources Sector group of agencies provide opportunities to address climate change in a way that can support outcomes across multiple portfolios (including through their own measures and targets) – an all of economy approach is required to create enduring changes in behaviour and practices to lower our emissions and there are multiple levers and opportunities across these agencies and organisations.

Achieving our goals: 2016/17 progress

Adapting for our future

Climate change will have significant impacts on our people, environment, economy and the way we live. We need to start adapting and building resilience now. We are working with local government to provide information and guidance on managing risks.

Last year we established the Climate Change Adaptation Technical Working Group, bringing together expertise from central and local government, iwi/Māori, infrastructure, business, the insurance sector, science, and research communities. Co-chaired by adaptation expert Dr Judy Lawrence and our Deputy Secretary Sector Strategy Penny Nelson, the group will identify options for how New Zealand can build resilience to the effects of climate change while growing our economy sustainably.

Reducing harmful greenhouse gases

We want to help address climate change worldwide by phasing down the use of the potent greenhouse gases called hydrofluorocarbons (HFCs) used in the air-conditioning and refrigeration industries.

Last year New Zealand, along with 196 other parties, adopted an amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer. The Kigali Amendment sets in place a global phase down of HFCs. HFCs are synthetic gases up to 15,000 times more powerful in their global warming effect than carbon dioxide. They are contributing to climate change worldwide and are projected to raise temperatures by 0.5 degrees by the end of the century if we don't curb their use. The phase out of these ozone depleting substances will benefit both human health and the environment.

What is covered by the Emissions Trading Scheme

The New Zealand Emissions Trading Scheme (NZ ETS) is our main policy response to address climate change. We need to get the settings right so we can meet our international targets and be prepared for a carbon-constrained future.

Over the last year we've been looking at how the design and operation of the scheme helps New Zealand meet its targets under the Paris Agreement. The NZ ETS requires all sectors of New Zealand's economy to report on their emissions. With the exception of agriculture, all sectors must purchase and surrender emission units to the Government for those emissions. Putting a price on emissions creates a financial incentive for investment in technologies or practices that reduce emissions and for carbon removals from forestry by allowing eligible foresters to earn New Zealand Units as their trees grow and absorb carbon.

What this means for New Zealanders is that:

- firms are incentivised to invest in low emissions technologies and practices – the higher the price, the greater the incentive
- foresters are encouraged to plant more forests – again the higher the price, the greater the incentive
- households will face higher prices for goods and services that are emissions intensive.

The Government has already strengthened the NZ ETS. From January this year the Government started phasing out a subsidy that allowed some businesses to pay one emissions unit for every two tonnes of pollution they emit. From 2019, all participants will be paying full price for their emissions.

Forestry

Forestry is an important way of reducing domestic emissions. A review of the NZ ETS is looking at how the scheme aligns with the Paris Agreement to increase forest planting, provides better incentives to foresters, and reduces compliance and administration costs.

Results in the table on page 61 show a low level of afforestation in 2015. They were likely driven by high rural land prices, the relative profitability of other forms of land use, and the past low carbon price in the NZ ETS. The exclusion of international units from the NZ ETS in May 2015, the NZ ETS review and the phasing out of the one-for-two transitional measure have contributed to higher carbon prices, and this is expected to increase the economic incentive for afforestation in future.

The Afforestation Grant Scheme is also underway and aims to establish 15,000 hectares of forest between 2015 and 2020. Deforestation in 2015 was at the lowest level since 2002 when the large scale conversion of forestry to pastoral farming began. This reduction was in part influenced by the higher carbon price.

The increasing carbon price, restrictions around the access to water for irrigation, and the discharge of nutrients is likely to reduce deforestation in future.

Electric vehicles

Adoption of electric or hybrid vehicles will reduce New Zealand's carbon emissions, improve air quality in our major centres, and decrease traffic noise (full electric vehicles have no tailpipe, meaning less noise).

Light road transport is the biggest contributor to our transport emissions; therefore focusing on this sector will have the greatest impact on climate change mitigation (as opposed to aviation, railways or heavy road transport).

Our target is to have 64,000 electric vehicles on New Zealand roads by 2021. So far, 30 New Zealand businesses have committed to electrifying 30 per cent of their road vehicle fleet by the end of 2019.

You can find out more about the atmosphere and climate change on our website: www.mfe.govt.nz/climate-change.

CASE STUDY

Making history on climate change

New Zealand helped make history on climate change when we ratified the Paris Agreement on 4 October 2016.

This historic agreement formalises the legal framework for all countries to take action to reduce greenhouse gas emissions.

We're playing our part in global efforts to keep temperature rise well below 2 degrees Celsius above pre-industrial levels, and efforts to limit temperature increase to 1.5 degrees Celsius.

New Zealand has committed to a target of reducing emissions by 30 per cent on 2005 levels by 2030.

We're also stepping up work with business and communities on practical ways to reduce or offset our greenhouse gas emissions, and to adapt to and become more resilient to the impacts of climate change. And we're continuing to support the mitigation and adaptation efforts of developing countries through the work of the New Zealand Aid Programme, with a particular focus on the Pacific.

Our climate change work programme includes providing costed, tested and modelled policy options to meet our international emissions reductions. We also have expert advisory groups in agriculture, forestry, and adaptation providing an evidence base for our work.

Fresh water – Wai

Our vision is that New Zealand increases the value from, and improves the quality of, our fresh water.

LONG-TERM OUTCOMES	LONG-TERM TARGETS	INTERMEDIATE TARGETS	PERFORMANCE MEASURES	PERFORMANCE 2015/16	PERFORMANCE 2016/17
The capacity of the environment to sustain itself is safeguarded	Freshwater ecosystems are healthy and resilient to pressures	Water quality is being maintained or improved	Trends for water quality factors including nutrients, macroinvertebrates and clarity are improving	<i>See figure 11 for trends for water clarity, nutrients, and macroinvertebrate community index at NIWA sites, 1989-2013.</i>	The data in the 2015/16 performance reporting column was reported in <i>Environment Aotearoa</i> in 2015. Since 2015 we have focused on filling gaps in our national reporting on our fresh water, rather than adding years to our existing indicators. Environmental change is generally not seen in one or two years. Because of this the data reported in 2015/16 is the most recent data available.
The use of the environment, including natural resources, is optimised for the betterment of society and the economy, now and over time	New Zealand gets best value from freshwater resources	We are increasing the value we get from the use of freshwater	An increase in the number of hectares under irrigation (<i>Ministry for Primary Industries data</i>)	260,500 hectares (new irrigated areas under development with Irrigation Acceleration Fund funding contracted as at 30 June 2016).	340,500 hectares (new irrigated areas under development that have received Irrigation Acceleration Fund or Crown Irrigation Investments Ltd funding contracted as at 30 June 2017).
Risks to people and the environment are known, understood and well managed	Harmful health impacts from people's contact with fresh water are eliminated	Human health risks associated with the use of fresh water (eg, for recreation) are reducing	An increase in the percentage of rivers that are 'safe for swimming' ¹⁵	<i>See figure 12 for rivers that exceed the NZ swimming guideline value (540 E. coli per 100ml) (preliminary).</i>	<i>See figure 13 for rivers by grade based on E. coli concentration (final).</i>

15 For the 2015/16 data 'safe for swimming' is defined as excellent, good or variable. For the 2016/17 data 'safe for swimming' is defined as A, B or C. Both of these measures are based on concentrations of *E. coli* in rivers. The data used in 2015/16 was preliminary, while the data for the 2016/17 year is based on the Government's target for 90% of New Zealand's rivers and lakes swimmable by 2040.

FIGURE 11: TRENDS FOR WATER CLARITY, NUTRIENTS, AND MACROINVERTEBRATE COMMUNITY INDEX AT NIWA SITES, 1989–2013

Variable	Trend	Sites showing a statistically significant increase (%)	Sites showing a statistically significant decrease (%)	Sites showing an indeterminate trend (%)
Clarity	↗	64	9	27
Total nitrogen	↘	60	14	26
Nitrate-nitrogen	~	52	27	21
Ammonia-nitrogen	↘	4	78	18
Total phosphorus	~	38	30	32
Dissolved phosphorus	↘	51	14	35
Macroinvertebrate community index (MCI)	~	5	13	83

Source: Environment Aotearoa 2015 (2015) and Larned et al (2015).

Note: Trends for NIWA's National River Water Quality Network (77 sites). Data are for the period 1989–2013, except for the MCI (covering 462 NIWA and regional council sites) which are for the period 2004–13. Green arrows indicate improving water quality; red arrows indicate declining water quality. No trends could be determined for nitrate-nitrogen, total phosphorus, and the MCI. Percentages may not add to 100 per cent due to rounding.

FIGURE 12: RIVERS THAT EXCEED THE NZ SWIMMING GUIDELINE VALUE (540 E. COLI PER 100ML) (PRELIMINARY)

Rivers that exceed the NZ swimming guideline value (540 E. coli per 100ml) (preliminary)	Colour	Cumulative proportion of total river length (%)
Excellent	Blue	39
Good	Green	52
Variable	Yellow	70
Intermittent	Orange	87
Poor	Red	100

FIGURE 13: RIVERS BY GRADE BASED ON *E. COLI* CONCENTRATION* (FINAL)

Category	Percentage of exceedances over 540 <i>E. coli</i> per 100ml	Percentage of samples above 260 <i>E. coli</i> per 100ml	Median: <i>E. coli</i> per 100ml	95th percentile: <i>E. coli</i> per 100ml	Risk of <i>Campylobacter</i> infection (based on <i>E. coli</i> indicator)	Cumulative proportion of total river reach
<i>What it means</i>	<i>How often the river exceeds the acceptable threshold for swimming</i>	<i>How often the river goes over the point where additional monitoring is needed at primary contact sites</i>	<i>The mid-point (ie, half the time <i>E. coli</i> is lower than this, half the time it is higher)</i>	<i><i>E. coli</i> only rarely goes past this point (only 5% of the time)</i>	<i>The overall average infection risk to swimmers based on a random exposure on a random day. Actual risk will generally be less if a person does not swim during high flows.</i>	<i>The percentage of kilometres of river¹⁶ that fit into each category, cumulatively.</i>
A	<5%	<20%	≤130	≤540	For at least half the time, the estimated risk is <1 in 1,000 (0.1% risk). The predicted average infection risk is 1%**.	39%
B	5-10%	20-30%	≤130	≤1,000	For at least half the time, the estimated risk is <1 in 1,000 (0.1% risk). The predicted average infection risk is 2%**.	52%
C	10-20%	20-34%	≤130	≤1,200	For at least half the time, the estimated risk is <1 in 1,000 (0.1% risk). The predicted average infection risk is 3%**.	69%
D	20-30%	>34%	>130	>1,200	20-30% of the time the estimated risk is ≥50 in 1,000 (>5% risk). The predicted average infection risk is >3%**.	86%
E	>30%	>50%	>260	>1,200	For more than 30% of the time the estimated risk is ≥50 in 1,000 (>5% risk). The predicted average infection risk is >7%**.	100%

*Based on grades for the *E. coli* attribute table in the National Policy Statement for Freshwater Management.

**The predicted average infection risk is the overall average infection to swimmers based on a random exposure on a random day, ignoring any possibility of not swimming during high flows or when a surveillance advisory is in place. Actual risk will generally be less if a person does not swim during high flows.

16 Rivers included in this measure are fourth order and larger. The stream order describes the relative size of streams. Streams with no tributaries are first order, streams with two first order tributaries are second order, and with two second order tributaries are third order, etc. Around 90 per cent of New Zealand's catchments flow into rivers that are fourth order or bigger.

About the freshwater domain

Our rivers and lakes are central to our natural environment, economy, our well-being and way of life in New Zealand. Fresh water supports diverse communities of native flora and fauna. It underpins much of the New Zealand economy – it is used to irrigate crops and pastures, for industrial and manufacturing purposes, to produce hydro-electric energy, and it has tourism value in many regions.

For Māori, fresh water is a taonga. All iwi and hapū have strong connections with local lakes and rivers, reflected in their whakapapa and history. This relationship with water is recognised under the Treaty of Waitangi. Healthy fresh water also provides mahinga kai (customary food and resource gathering).

New Zealand has plenty of fresh water – 145 million litres per person per year. However, more than 150 years of changing land uses and population growth have put pressure on our rivers and lakes. In some areas we do not always have enough fresh water where and when we need it. In others, freshwater quality is under pressure. This affects our native biodiversity and the extent water can provide for our needs, such as recreation, cultural well-being, tourism, and economic production.

Our role

Together with the Ministry for Primary Industries, we are responsible for developing and overseeing the freshwater management system. We work closely with other Natural Resources Sector agencies because fresh water underpins the economy in a wide range of ways, including through agriculture. We support the implementation of policy by regional

councils and unitary authorities who are responsible for managing fresh water within their regions. We also provide funding to councils and communities for freshwater clean-up work.

Outside of government, the Ministry works with many different groups including the Land and Water Forum, iwi, and industry groups, to broker solutions, and understand the different values these groups represent.

Achieving our goals: 2016/17 progress

Our work over the last year has focused on reform to lift the quality of our freshwater bodies and better provide for the range of values that we as a nation place upon our freshwater resource. This work builds on the change already underway for New Zealand's freshwater management resulting from the National Policy Statement for Freshwater Management 2014 (Freshwater NPS).

In February 2017, we released for public consultation the *Clean Water* package setting out an ambitious programme of work in the ongoing reform of New Zealand's freshwater management. This package of reforms, co-led by the Ministry for the Environment and the Ministry for Primary Industries, includes:

- a target to have 90% of rivers and lakes swimmable by 2040
- detailed proposals for regulations to exclude stock from waterways
- proposed amendments to the National Policy Statement for Freshwater Management 2014
- an invitation for applications to the first round of funding under the 10-year \$100 million Freshwater Improvement Fund.

In addition to our programme of reform, we have continued to support regional councils, iwi and the community in giving effect to the Freshwater NPS to improve freshwater management. Of particular focus has been developing economic assessment capability with councils to assess options for water planning. We have run training courses, held discussion groups, and co-funded projects that have national applicability. We have joined wānanga with iwi and hapū to look at science and cultural indicators for stream health. We also held workshops with territorial authorities to discuss implications of the Freshwater NPS for water infrastructure management. Over the course of 2016/17 we have completed a review of the progress each council has made to progress implementing the Freshwater NPS in their region.

You can find out more about fresh water on our website: www.mfe.govt.nz/freshwater.

CASE STUDY



Whangawehi catchment restoration project supreme award winner

A highly successful Hawke's Bay stream restoration project took out the top prize at the 2017 Green Ribbon Awards as an outstanding example of how an entire community can make a real difference to their waterways.

Local iwi, councils, landowners and agencies got together to improve water quality and protect endangered habitats by taking a holistic approach to water management.

Years later, their efforts have paid off. About 7.5 km of the stream is now protected by fences,

42 hectares of its margins have been planted with 136,000 native trees, 5 hectares of native bush have been retired, and debris dams have been built to retain silt and build up the stream beds. The community and landowners manage a large network of pest traps, and birds are already returning to the area.

The group's water and fish monitoring team have recorded significant improvements in water quality, and the Hawke's Bay Regional Council's recreational status of the stream has improved by 15 per cent.

Since the spawning site for whitebait was fenced off, significant schools have been observed in the headwaters. The endangered long fin eel population is also now more abundant and varied.

Meanwhile, employment opportunities are also being explored, with projects which could return long-term income, including a walkway, a branding initiative, a kiwi restoration project, and ecotourism.

Find out more about the [Green Ribbon Awards](#).

Land – Whenua

Our vision is that New Zealand improves the quality of our soils and terrestrial ecosystems and increases the value from our land-based resources.

LONG-TERM OUTCOMES	LONG-TERM TARGETS	INTERMEDIATE TARGETS	PERFORMANCE MEASURES	PERFORMANCE 2015/16	PERFORMANCE 2016/17
Risks to people and the environment are known, understood and well managed	Risks from contaminated land, hazardous substances and new organisms are known and managed, proportional to risk	The use of substitute substances with reduced human and environmental impact are incentivised (by 2025)	The number of highly toxic and eco-toxic substances approved is reduced	Baseline currently being established.	<p>2016/17 information</p> <p>There were two reassessments decided between 1 July 2016 and 30 June 2017. These reassessments covered methods of application and non-professional access.</p> <p>As a result of the reassessments, four substances had their approvals revoked.</p> <p>Three substances that were previously reassessed are now being phased out after 30 June 2016.</p> <p>2015/16 information</p> <p>Twenty-one substances had their approvals for import or manufacture revoked.</p>
	The risks from natural hazards ¹⁷ to people, property and the environment are reduced	Key indicators and baseline conditions are in place for monitoring the impact of new organisms	No unintended significant adverse environmental impacts reported arising from released new organisms	No significant adverse environmental impacts reported.	No significant adverse environmental impacts reported.

About the land domain

In New Zealand, our land is a complex weave of ownership, identity and connection. Policies relating to almost every aspect of the economy and society connect to land and its use:

housing; transport and energy networks; biosecurity; trade and investment; biodiversity; water storage and use; climate change adaptation and mitigation; health; and employment.

Protecting and preserving our tūrangawaewae (place to stand) is one of our society's most complex and important challenges. Our land is where most of our environmental issues converge and underpins the natural resources we rely on.

¹⁷ This should be interpreted to mean new organisms, instead of natural hazards.

- The health and quality of our fresh water and coastal marine environment are driven by land use, through the impact of sediment and accumulation of contaminants and nutrients in water bodies.
- New Zealand's unique biodiversity relies on our land. We know that we have lost a lot of indigenous environments and the remainder are not representative of original ecosystems. Additionally, many of our indigenous plants and animals are at risk of extinction, and for a large proportion of these, this risk of extinction is increasing.
- Our choices about how we use our land, such as forestry and pastoral agriculture, impact on how we mitigate climate change.
- The future capability of our land is impacted by current and legacy contamination (acute in terms of contaminated sites, and chronic in terms of fertiliser trace elements, such as cadmium).

New Zealand is heavily dependent on natural resources for economic prosperity and well-being. Land is a significant component of New Zealand's natural capital asset base. To ensure ongoing prosperity, we will need to carefully manage resource use while maintaining and enhancing the resilience of our land-based ecosystems.

Our land, and what we do with it, is a legacy from our ancestors and our generation's legacy to pass on to our descendants. The investments and decisions we make today will influence our children's future. Once lost through erosion, soil takes millennia to be replaced; contamination of our land may persist decades after the original event; and competition for land in our fast growing urban areas is putting pressure on other resources such as fresh water and soil. A long-term and intergenerational approach to the use and management our land resource is fundamental.

Our role

We are directly responsible for several statutes governing our land. These statutes are supported by statutory instruments (regulations, national policy statements, national environmental standards), non-statutory guidance, funding mechanisms, research programmes, collaborative bodies, and other initiatives. Our responsibilities for managing land are broad, including numerous aspects of resource management, hazardous substances, and waste.

The Resource Management Act 1991 (RMA) is New Zealand's primary environmental management legislation. It is designed to manage competing demands for land and other natural resources.

Unitary, regional and territorial councils have a major role in managing soil and land use through regional and district plans under the RMA, as well as non-regulatory measures (such as training with farmers or rates rebates for good practice). The Ministry sets the framework for councils' land management through the RMA and national direction made under the RMA, and provides targeted support for councils on land issues. We also work with industry and environmental non-governmental organisations to build robust policy and support these groups to implement our policy.

Within the RMA framework, we are working on the following.

- Together with the Ministry for Primary Industries, we are working on the National Environmental Standard for Plantation Forestry to increase certainty for foresters while minimising environmental effects to land and waterways (such as wilding pines, effects on spawning fish and erosion). It was gazetted on 3 August 2017, and comes into force on 1 May 2018.

- We have established and are supporting an independent collaborative group for biodiversity policy (made up of environmental NGOs, industry sector groups, iwi, and others). The group is tasked with developing a National Policy Statement for Indigenous Biodiversity and supporting measures by late 2018. The main drivers of this work are to improve biodiversity outcomes on land and in freshwater and coastal areas, as managed by councils under the RMA. This work may also result in co-benefits for reducing the risk of erosion, improving soil health, and maintaining and increasing soil carbon.
- The National Policy Statement for Freshwater Management requires councils to set limits by 2025 to maintain or improve water quality. This supports councils and communities to better manage land use to reach desired water outcomes (such as reducing nutrients and sediment in our waterways).
- The proposed NES for the Outdoor Storage of Tyres will protect the environment, human health, and local communities from the future risks of adverse effects associated with the outdoor storage of tyres. The NES would develop consistent minimum standards for local government, reducing the time and costs for local government to create individual plan changes.
- The Resource Legislation Amendment Act 2017 introduced a new requirement for councils to recognise and provide for the management of significant risks from natural hazards. We are developing government policy to support councils with managing natural hazards under the RMA.

We are also responsible for a rigorous hazardous substances and waste regime that prevents soil contamination and other incidences from occurring and responds to issues as they arise.

- We are responsible for the Hazardous Substances and New Organisms Act (HSNO), which is the framework for managing risks to the New Zealand environment posed by the use of hazardous substances and introduction of new organisms. HSNO and the regulations made under it form a rigorous regime, controlling hazardous substances to prevent incidents and environmental contamination from occurring.
- The Waste Minimisation Act 2008 is designed to decrease waste disposal to protect the environment from harm and encourage waste minimisation by changing the current linear economic model to a circular economic model that provides environmental, social, economic, and cultural benefits. The future key areas of focus for waste-related work includes:
 - developing a national waste data collection and evaluation framework that targets key baseline information that will help us prioritise waste issues, and measure effectiveness of the Waste Disposal Levy
 - investing funding into projects that are targeted, measurable, and provide the greatest returns. This includes strategic investment in regional infrastructure development which is one of the building blocks towards a circular economy in New Zealand.

- The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) is a regulation under the RMA implemented by councils, to manage the risks to human health on sites that are being redeveloped. We are currently amending the NESCS to ensure the NESCS is better targeted to reduce risks to human health.
- The Contaminated Sites Remediation Fund puts in place mechanisms to help regional councils address priority contaminated sites in their regions.

Most aspects of the Ministry's work also relate to soil, how we use land, and what results from land use. Our work on achieving our urban, water and marine outcomes all benefit or relate to land in some way. Additionally, the Emissions Trading Scheme puts a price on greenhouse gas emissions, which incentivises businesses to reduce emissions and plant forests to absorb carbon dioxide. This is likely to have co-benefits for land, such as reducing the risk of erosion.

Achieving our goals: 2016/17 progress

For the measures we report on in this annual report, we have made progress in these areas.

- We have been reviewing legislation and mechanisms to give incentives for 'greener' chemicals, and reduce the number of highly toxic substances that are approved for use in New Zealand. We have also been working with the Environmental Protection Authority to develop indicators to measure and determine environmental harm caused by hazardous substances.

- As a result of the Concours electroplating incident¹⁸ in 2015, we have been undertaking a review of legislation relating to hazardous substance incident response, management and the disposal of hazardous waste.
- In October 2016, the Imports and Exports (Asbestos-containing Products) Prohibition Order 2016 came into force. This order prohibits asbestos-containing products unless the importation is authorised by a permit.
- In addition, we have continued to provide advice on implementing HSNO aspects of the Health and Safety Legislative Reform.

Though the measures in the land domain for this annual report are restricted to the two in the table on page 70, we have also carried out significant other work in the land domain during 2016/17. This includes work on contaminated sites remediation and waste (see our output reporting from page 80).

You can find out more about land on our website: www.mfe.govt.nz/land.

¹⁸ On 9 February 2015, a fire at Concours Electroplating Ltd forced the evacuation of Timaru's central business district and port. As a result, it was discovered that hazardous substances and hazardous waste were being stored, breaching multiple requirements under the Hazardous Substances and New Organisms Act 1996.



CASE STUDY

Webstar closes in on zero waste to landfill

Print company Webstar has been recognised for its outstanding contribution to the environment, as the 'Minimising Our Waste' category winner at the 2017 Green Ribbon Awards.

Webstar, a specialist in high-volume magazine, catalogue, and directory printing, is currently recycling 99 per cent of its solid waste and has reduced its residual waste to landfill by 60 per cent.

Many separate initiatives have contributed to these outcomes, including finding more ways to recycle by-products, compressing paper dust into dust 'briquettes'

for composting, and on-selling used containers instead of sending them to landfill.

Technology initiatives have reduced paper waste from print run setups and overruns by about 4 per cent, new equipment has reduced the use of plastic film wrap by 11 per cent, and paper towel dispensers have been replaced with hand-dryers.

Behaviour change has also been a significant factor, with bins provided for waste segregation at every work station, stopping the purchase of foam cups, and recycling plastic laminating roll ends and broken wooden pallets.

As one of New Zealand's largest printers, Webstar says it recognises a responsibility to make a real contribution to sustainability.

Webstar says their waste reduction programme is now part of the way they do business – it is the focal point for new initiatives and an integral part of their environmental value.

The waste reduction programme has reduced the company's costs, showing that if businesses take time to examine all aspects of their waste streams, reductions can be relatively easy and cost-effective.

Marine – Wai tai

Our vision is that New Zealand is a world leader in the sustainable management of marine ecosystems that support New Zealand’s marine life, society and the economy.

LONG-TERM OUTCOMES	LONG-TERM TARGETS	INTERMEDIATE TARGETS	PERFORMANCE MEASURES	PERFORMANCE 2015/16	PERFORMANCE 2016/17
The capacity of the environment to sustain itself is safeguarded	Marine ecosystems are healthy and resilient to pressures	Fewer species are threatened or endangered due to human activity (by 2025)	Proportion of threatened and at risk marine species, where human activity is identified as a causal factor	25% of marine fish identified as being at risk. <i>Source: Summary of changes to the conservation status of taxa in the 2008–11 New Zealand Threat Classification System (NZTCS) listing cycle.</i>	The Ministry for the Environment and Stats NZ report on the national state of the marine environment as part of the <i>Environmental Reporting Series</i> , with emphasis on the best available data. ¹⁹ The 2016 report ²⁰ , outlined that 35% of seabird species are ‘threatened’ and 55% are ‘at risk’; 57% of shorebird species are ‘threatened’ and 29% are ‘at risk’; and 28% of marine mammal species are threatened. ²¹ The NZTCS identified 25% of marine fish as being threatened or at risk. ²²
		Targeted interventions are in place to preserve or restore the ecological integrity of high priority ecosystems (by 2025)	Area and representativeness of marine protected areas	10% of coastal marine area is protected as marine reserves.	12% of coastal marine area is protected as marine reserves, but it is not representative (see explanation on page 75).

19 The status of New Zealand’s threatened species are not audited or reported on annually because any changes or trends in population cannot be observed on an annual scale. The Department of Conservation’s New Zealand Threat Classification Series reports on the conservation status of marine mammals, birds and invertebrates every three years, and New Zealand’s Environmental Reporting series is repeated every three years. The next marine domain report will be published in 2019.

20 Ministry for the Environment and Statistics New Zealand. 2016. *New Zealand’s Environmental Reporting Series: Our Marine Environment 2016* (pages 29-31). Available from www.mfe.govt.nz.

21 It is challenging to quantify the relationship between human activity and threatened status. For example, estimated seabird commercial bycatch decreased, from about 9000 in 2003 to 5000 in 2014, likely due in part to mitigation measures. But five species of seabird classified as threatened had a high or very high risk of dying as a result of commercial fishing (Ministry for the Environment and Statistics New Zealand. 2016. *New Zealand’s Environmental Reporting Series: Our Marine Environment 2016* (pages 29-31).

22 Hitchmough, R. 2013. *Summary of changes to the conservation status of taxa in the 2008–11 New Zealand Threat Classification System listing cycle*. Department of Conservation. www.doc.govt.nz/Documents/science-and-technical/nztcs1entire.pdf (page 6). (Please note that the status for marine fish has not been updated since 2005 and uses a different classification system that should not be directly compared with birds and mammals statistics.)

About the marine domain

Our marine environment has a rich and unique array of animals, plants and habitats. Scientists estimate that as much as 80 per cent of New Zealand's indigenous biodiversity may be found in the sea. More than 15,000 marine species have been identified in our waters to date. Our isolation means many of these species are not found anywhere else in the world.

The ocean also supports our economy and most of us live near the coast and use the ocean for recreational activities. Given our reliance on the ocean, we need to ensure a system is in place to support its ongoing health and productivity.

Our role

We want to be a world leader in the sustainable management of marine ecosystems that support New Zealand's marine life, society and the economy. We are one of many government agencies and stakeholders with an important role to play in marine management.

We act as a regulatory steward of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 and supporting regulations, and the Resource Management Act 1991, which applies to the territorial sea.

We lead and support the development and implementation of new marine legislation which currently consists of new Marine Protected Areas legislative reforms and passage of special legislation to give effect to the proposed Kermadec Ocean Sanctuary.

Marine protected areas

In 2005, New Zealand introduced the [Marine Protected Areas Policy](#). The policy uses existing marine management tools to protect marine biodiversity by establishing a network of marine protected areas (MPAs) that is comprehensive and representative of New Zealand's marine habitats and ecosystems. A target of protecting 10 per cent of New Zealand's marine environment by 2010 was specified. A range of different types of spatial closures are recognised as marine protected areas under the 2005 policy.

At present, marine protected areas cover 12 per cent of New Zealand's coastal marine area. However, this is not representative. Most of the area protected is located around the Kermadec and Sub-Antarctic offshore islands. Mainland New Zealand coastal areas are significantly under-represented.

Why we need marine protected areas

Effective area-based protection through marine protected areas helps maintain coastal and marine ecosystem health and productivity, while safeguarding social and economic development. MPAs are most effective when they form a representative and adaptable network.

MPA networks can improve the resilience of marine ecosystems by helping to stem the losses of marine resources, recover both marine life and entire ecosystems, magnify benefits of individual sites, protect large-scale processes, slow the loss of endangered marine species, and restore depleted fisheries. MPAs can also help maintain the full range of genetic variation, essential in securing viable populations of key species, sustaining evolutionary processes, and ensuring resilience in the face of natural disturbances and human use.

Achieving our goals: 2016/17 progress

We are responsible for leading legislative reform which will repeal the Marine Reserves Act 1971, and introduce new marine protected areas legislation. In early 2016, we consulted on a proposed new approach to marine protection in New Zealand. We received 5393 written submissions. Over 2016/17, we provided advice to Ministers to support decisions on the content of the proposed legislation.

We administer the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act) which manages the effects of activities undertaken in the EEZ. In 2016/17, we continued work progressing changes to the EEZ Act through the Resource Legislation Amendment Bill. The Bill received Royal Assent in April 2017 and changes to the EEZ Act came into force on 1 June 2017. During this time, we analysed and summarised submissions on the Bill, assisted the select committee as part of their deliberations, and prepared two departmental reports. We began work in early 2017 to develop regulations to implement changes to the EEZ Act that address decommissioning of offshore oil and gas installations.

We worked with the Ministry for Business, Innovation and Employment and other agencies to ensure requirements under the EEZ Act for new space launch activities were appropriate and fit-for-purpose. This included public consultation on the development of new regulations to permit the deposit of jettisoned material from space launch activities on the seabed in the EEZ. The regulations came into force in October 2016.

You can find out more about marine on our website: www.mfe.govt.nz/marine.

CASE STUDY



Putting a lens on our freshwater and marine environments

Robust and trusted information on the state of the environment is a critical part of achieving the changes we seek.

That is why, in partnership with Stats NZ, we report on the pressures, state and impacts of different aspects of the environment every six months. These reports are legislated so they are here to stay.

Most recently we put the lens on our water environments with the release of *Our fresh water 2017* in April 2017, and *Our marine environment 2016* in October 2016.

These reports showcase just how much what we do on the land affects our freshwater and marine environments including on our animals and plants. They also show how climate change is further exacerbating these pressures.

This information is about helping New Zealand develop solutions and make good investments to, not only restore the environment, but use it in a way that delivers the best outcomes for the economy, our culture, society, and the environment.

The next report to be released is *Our atmosphere and climate 2017* in October.

Find out more in the [environmental reporting section](#) of our website.

Urban – Tāone

Our vision is that New Zealand is a leader of environmentally sustainable cities, leveraging the benefits that cities offer while reducing the costs and impacts that they impose.

LONG-TERM OUTCOMES	LONG-TERM TARGETS	INTERMEDIATE TARGETS	PERFORMANCE MEASURES	PERFORMANCE 2015/16	PERFORMANCE 2016/17
Urban environments maximise social, cultural and economic exchange	Urban form supports liveable, connected and productive urban environments that are adaptable to changing needs	Urban environments are developed through coordinated urban and infrastructure planning	New Zealand cities improve their ratings on relevant national and international liveability indicators	In New Zealand's most recent biennial Quality of Life Survey (2014) a growing number of residents in the country's largest cities reported their quality of life had improved in the past 12 months.	<p>New Zealand's Quality of Life Survey (2016):</p> <ul style="list-style-type: none"> 81% rated life positively 27% reported their quality of life had improved in the past 12 months 79% think their city is a great place to live. <p>Mercer's Quality of Living Index (2017):</p> <ul style="list-style-type: none"> Auckland = 3rd Wellington = 15th. <p>Economic Intelligence Unit's Global Liveability Ranking (2016):</p> <ul style="list-style-type: none"> Auckland = 8th. <p>Monocle Magazine's Quality of Life Survey (2016):</p> <ul style="list-style-type: none"> Auckland = 22nd. <p>Deutsche Bank's Mapping the world's prices report (2017):</p> <ul style="list-style-type: none"> Wellington = 1st Auckland = 13th.
			Regional councils in the high growth urban areas set minimum targets for sufficient residential development capacity in accordance with their housing assessment, and incorporate the targets into regional policy statements by the end of 2018 (subject to the National Policy Statement on Urban Development Capacity being finalised)	This is an important measure for the future. However, because the National Policy Statement on Urban Development Capacity has not been finalised, we will first report against this measure next year.	The National Policy Statement on Urban Development Capacity came into effect in December 2016. We are working with local authorities to ensure they complete their housing and business assessments by December 2017 and incorporate targets into their regional policy statements by December 2018.

About the urban domain

By helping ensure our cities are great places to live, we can make a big difference to making Aotearoa New Zealand the most liveable place in the world, as the majority of us live in urban areas.

Improving the performance and productivity of our cities and towns will help ensure New Zealand has a resilient economy capable of responding to changing social and economic conditions, and to the physical and economic impacts of climate change and adverse climatic events.

The liveability of our cities affects our well-being, and the ways in which our cities are planned, designed, built, and regulated impacts New Zealand's economic performance and the diversity of our economy.

Our cities are facing significant challenges from population growth, such as increasing housing costs, congestion and vehicle emissions, and declining biodiversity, as well as grappling with the need to respond to natural hazards and climate change. We must address these challenges to secure long-term liveability, resilience, and sustainability in our cities.

We know that the changing nature of our cities affords us with abundant opportunities to improve the quality of our built and natural environment. By recognising and leveraging these opportunities and working with our stakeholders, we can work with them to improve the performance of our cities across economic, social, cultural, and environmental outcomes.

Our role

We provide policy oversight of urban planning and environmental management, providing a system-wide perspective across all domains with the goal of creating sustainable, liveable cities.

Our role involves:

- providing advice to government on how to better achieve well-functioning urban areas through the resource management, planning and related systems
- designing bespoke planning processes to support councils to respond to changing needs and conditions in urban areas (eg, establishing the special legislation to develop the Auckland Unitary Plan)
- responding to failures in the urban system by developing national direction (such as implementing the National Policy Statement on Urban Development Capacity to address insufficient supply for housing and business development with the Ministry of Business, Innovation and Employment)
- monitoring, evaluating and reporting on planning outcomes in urban areas across the country
- supporting local authorities to achieve better urban planning outcomes and implement national direction by providing guidance, and working with our stakeholders to build capability and facilitate knowledge sharing
- providing thought leadership on the quality of the built environment (eg, on urban design and urban form)
- working with other agencies in the Auckland Policy Office to support the achievement of government objectives in Auckland, our biggest city.

While the urban domain takes a systems approach to issues and opportunities, the outcomes in other domains also apply in urban areas. Urban residents should be able to enjoy clean waterways, breathe fresh air, enjoy a protected marine environment, and make positive contributions to our climate change goals. Various interventions across these domains also contribute to liveable, sustainable cities. For example, in the water domain the three waters work will contribute to improving stormwater, drinking water, and wastewater outcomes in cities.

Achieving our goals: 2016/17 progress

We have been finalising significant policy processes this year, and designing and embarking on implementation programmes to ensure the policies are successful in achieving their intended outcomes.

- **National Policy Statement on Urban Development Capacity:** We developed, with the Ministry for Business, Innovation and Employment (MBIE), the National Policy Statement on Urban Development Capacity (NPS-UDC), which came into effect on 1 December 2016. The NPS-UDC aims to ensure councils with high and medium growth urban areas provide plenty of development opportunities for housing and businesses in their resource management plans. Since the policy came into effect, we have continued to work with MBIE to develop a comprehensive programme to support fast growing urban councils, as well as targeted support for medium growing urban councils. We support councils by developing close working relationships with them, and monitoring and evaluating progress and reporting on performance.

- **Resource Management Legislation Amendment Act 2017:** This amendment aims to provide stronger national direction, a more responsive planning process, a streamlined resource consent process, and better alignment with other legislation. It was adopted on 18 April 2017. The changes implemented by this Act aim to deliver improvements to the resource management system to support more effective environmental management and drive capacity for development and economic growth, especially in our growing urban areas.
- **Auckland Unitary Plan process:** We designed the streamlined process to make decisions on the Auckland Unitary Plan, and have been supporting the work of the Auckland Independent Hearings Panel throughout the process. This year, support moved from process support to ensuring the Panel's recommendations reflected government objectives for the Auckland Unitary Plan. In particular, we helped ensure the Plan enabled sufficient feasible development capacity for housing and business land.
- **Christchurch District Plan Review process:** We provided advice, and joined appeals on the Christchurch District Plan Review. Our support for this process was similar to what we provided in Auckland, but was delivered in partnership with the Department of the Prime Minister and Cabinet, to achieve the intended outcomes for government.
- **Response to Productivity Commission reports:** We have continued to lead, and contribute a number of responses to the Productivity Commission's reports on using land for housing and better urban planning. For example, in response to a Productivity Commission suggestion, we are leading a review of best practice urban design, and an evaluation of the Urban Design Protocol, to consider the role of regulation in achieving good urban design outcomes.

You can find out more about towns and cities on our website: www.mfe.govt.nz/more/towns-and-cities.

Measuring our performance

In this section we report financial and non-financial performance against our appropriations.

Ministerial servicing

This appropriation is intended to achieve the provision of support to Ministers, especially in relation to their accountability to Parliament and the public.

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	2,090	2,150	2,150	2,150	2,150
Departmental	11	20	20	5	20
Other	14	13	25	7	13
Total revenue	2,115	2,183	2,195	2,162	2,183
Total expenses	2,130	2,183	2,195	2,111	2,183
Net surplus (deficit)	(15)	-	-	51	-

Performance information for the appropriation

PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
Quality of advice			
Percentage of all regulatory impact statements that partially or fully meet quality assurance criteria	94% (with 39% fully meeting criteria)	At least 90% (with 70% fully meeting criteria)	100% (with 38% of regulatory impact statements fully meeting quality assurance criteria) See page 82 for more information.
The satisfaction of the Minister for the Environment and the Minister for Climate Change Issues with the advice service, as per the common satisfaction survey	81.6% (based on a survey result from the Minister for the Environment only)	At least 80%	82% (based on a survey result from the Minister for the Environment and the Associate Minister for the Environment)
The total cost per hour of producing outputs	\$191.04	\$200	\$206.40
Ministerial services			
Percentage of responses to parliamentary questions that are completed within required timeframes	99%	100%	91.5%
Percentage of responses to ministerial correspondence submitted to the Minister within agreed timeframes	85%	95%	57.5%
Percentage of Ministerial Official Information Act requests submitted within the timeframes agreed with the Minister's office	68%	95%	73%
Percentage of responses to departmental Official Information Act requests sent within statutory deadlines	79%	90%	75.4%

Explanation

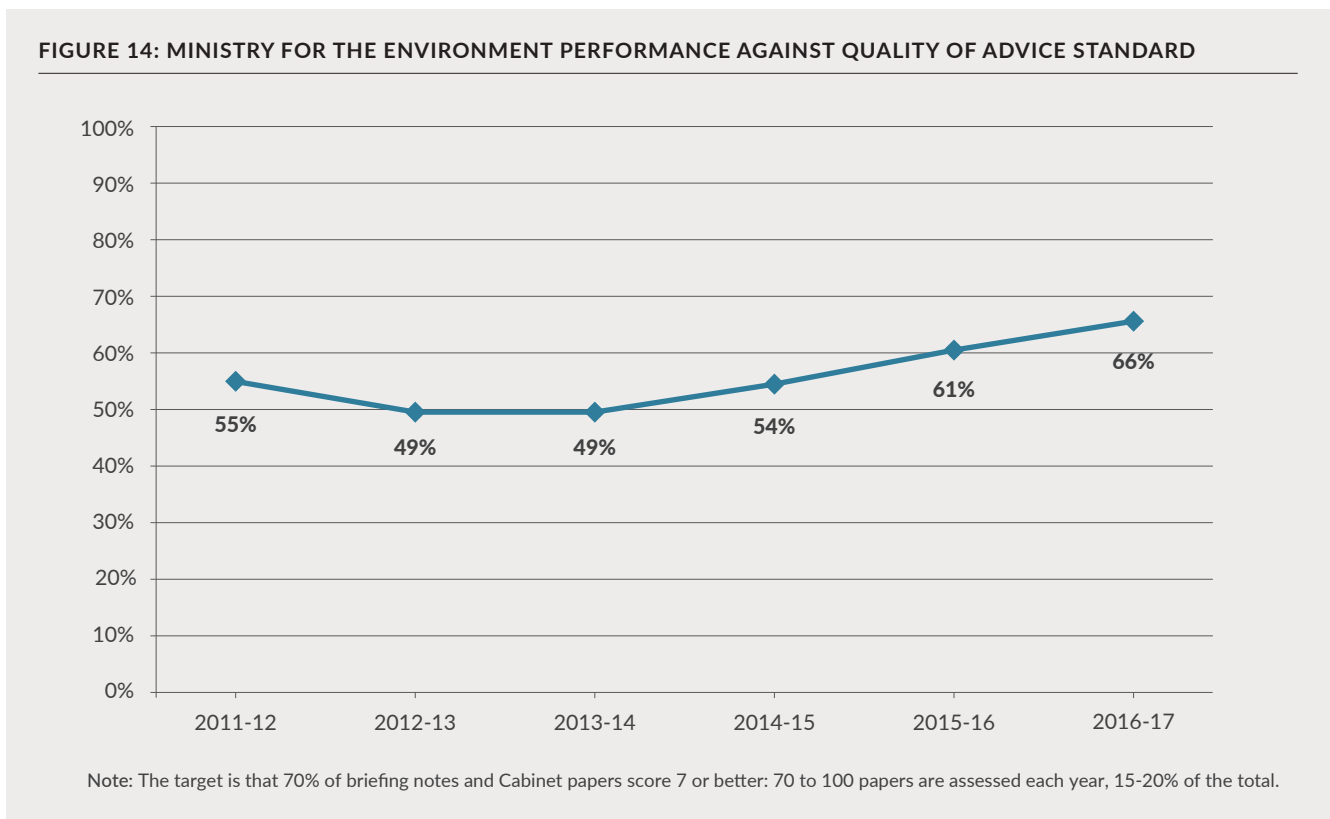
Regulatory impact statements results

In the 2016/17 year, 16 regulatory impact statements (RISs) we developed were subject to quality assessment. Of these, 11 were assessed by our internal assessment panel and five by The Treasury. Ten RISs partially met rather than fully met the criteria, due to either limited consultation or it being considered that the RIS did not fully identify the impacts of the outlined options.

Quality of advice results

Since 2015/16, we have reported performance against our quality of advice standard by multi-category appropriation. Results can be found underneath each of these appropriations below.

Figure 14 shows all quality of advice results since 2011/12. It includes results for Waste Minimisation Administration (100%) and other advice not covered by a specific multi-category appropriation (80%).



Our concerted efforts to improve the quality of our advice over this time have shown good gains. We focus on providing clear guidelines and training to staff, using a peer review community and panel to improve our advice as we are developing it (and as part of our staff development programme), and clear feedback once advice has been assessed. We intend to see this increase further with our new focus on ‘policy plus’.

Ministerial servicing

Our 2016/17 results have been affected for a variety of reasons, including delays in responses due to the Kaikōura earthquake (when we were forced to move to a new building), staff changes, and workloads. We have begun making improvements to processes and systems to improve our results.

Climate Change Multi-Category Appropriation

This appropriation is intended to achieve policy advice and other support to Ministers focusing on reducing New Zealand's greenhouse gas emissions in a cost-effective way, managing the risks posed by climate change impacts, and contributing to coordinated international and domestic action further to the Paris Agreement.

Departmental Output Expense: Domestic Climate Change Programme Policy Advice

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	4,304	3,470	5,990	5,990	6,429
Departmental	26	42	42	22	42
Other	33	25	31	29	25
Total revenue	4,363	3,537	6,063	6,041	6,496
Total expenses	4,127	3,537	6,063	5,711	6,496
Net surplus (deficit)	236	-	-	330	-

At Main Estimates, the 2016/17 budget for this output class was \$3.537 million. During the year, this output class increased by \$2.526 million to \$6.063 million for 2016/17. This increase was due to:

- an expense transfer of \$328,000 from 2015/16 to continue with the work on the New Zealand Emissions Trading Scheme review
- additional funding of \$342,000 allocated for progressing work to ratify the Paris Agreement and plan domestic action on climate change
- reprioritisation of \$1.850 million (\$1.050 million from Departmental Output Expense: Water Management Implementation; \$400,000 from Departmental Output Expense: Environmental Hazards and Waste Policy Advice, and \$400,000 from Departmental Output Expense: International Climate Change Programme Policy Advice) for progressing work on climate change related work programmes, including the New Zealand Emissions Trading Scheme review.

Total expenditure for this output class was lower than the revised budget due to the timing of New Zealand Emissions Trading Scheme review and other work related to the New Zealand Emissions Trading Scheme. The Ministry has sought an in-principle expense transfer to continue the work in 2017/18.

Departmental Output Expense: International Climate Change Programme Policy Advice

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	3,550	3,550	3,733	3,733	3,665
Departmental	22	37	137	79	37
Other	22	24	24	12	24
Total revenue	3,594	3,611	3,894	3,824	3,726
Total expenses	3,489	3,611	3,894	3,487	3,726
Net surplus (deficit)	105	-	-	337	-

At Main Estimates, the 2016/17 budget for this output class was \$3.611 million. During the year, this output class increased by \$283,000 to \$3.894 million for 2016/17. This increase was due to:

- an expense transfer of \$183,000 from 2015/16 to arrange the Asia Pacific Carbon Markets Roundtable meeting, a New Zealand-led initiative delayed due to Climate Change conference and signing of the Paris Agreement in 2015/16
- additional funding of \$400,000 allocated for progressing work to ratify the Paris Agreement and plan domestic action on climate change
- an increase of \$100,000 related to cost recovery revenue from other parties.

These increases were partially offset by transfer of \$400,000 to Departmental Output Expense: Domestic Climate Change Programme Policy Advice for progressing work on climate change related work programmes, including the New Zealand Emissions Trading Scheme review.

Total expenditure for this output class was lower than the revised budget due to lower travelling costs than expected at the time of budget.

Departmental Output Expense: Synthetic Greenhouse Gas Levy

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	49	49	49	49	49
Departmental	-	-	-	-	-
Other	-	-	-	-	-
Total revenue	49	49	49	49	49
Total expenses	45	49	49	47	49
Net surplus (deficit)	4	-	-	2	-

Departmental Output Expense: Carbon Monitoring Programme

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	3,667	2,667	2,667	2,667	2,167
Departmental	21	13	25	6	13
Other	16	7	16	10	7
Total revenue	3,704	2,687	2,708	2,683	2,187
Total expenses	3,669	2,687	2,708	2,637	2,187
Net surplus (deficit)	35	-	-	46	-

Total expenditure for this output class was lower than the revised budget due to a delay in upgrading land-use mapping (geospatial system). The Ministry has sought an in-principle expense transfer to continue the work in 2017/18.

Performance information for the appropriation

PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
Technical quality of advice papers assessed by a survey with a methodical robustness of 100%	80%	70%	63% (see page 82 for aggregated results)

Carbon Monitoring Programme

This category is intended to achieve compliance with reporting requirements under the United Nations Framework Convention on Climate Change and the Kyoto Protocol.

The LUCAS system is available for use during business hours by the Ministry for the Environment and the Ministry for Primary Industries (as provided for in the Memorandum of Understanding)	Achieved	99%	99% (including during the aftermath of the Kaikōura earthquake)
The land use and land-use change and forestry and the Kyoto Protocol portions of the National Inventory Report are completed to quality specifications and submitted on time	Achieved	Achieved	Achieved

Domestic Climate Change Programme Policy Advice

This category is intended to achieve policy advice on domestic climate change issues, such as the effective operation and evolution of the New Zealand Emissions Trading Scheme and the need for other mitigation measures.

Provide policy advice to Ministers on the findings of the NZ ETS review	New measure	By 30 June 2017	Achieved
Provide policy advice to Ministers on any regulation changes needed for the operation of the NZ ETS	New measure	By 30 June 2017	Achieved

PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
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International Climate Change Programme Policy Advice

This category is intended to achieve developing quality policy advice regarding international climate change, including continued work on the Paris Agreement, projecting and reporting emissions and removals, and negotiation.

Percentage of New Zealand's international greenhouse gas reporting that meets agreed deadlines and is accepted by international institutions as meeting UNFCCC and the Kyoto Protocol reporting requirements	100%	100%	100%. The report submitted in April 2016 has now been reviewed by international experts and accepted as meeting reporting requirements. The report submitted in May 2017 has passed preliminary checks and will undergo fuller review with a review report produced by mid-2018. (Note: submission of the 2017 report was delayed as agreed with the UNFCCC as collection of data for the report was delayed by the Kaikōura earthquake).
The outcome of international negotiations for New Zealand's priority areas is consistent with the negotiating mandate as agreed by Cabinet	New measure	Achieved	Achieved

Synthetic Greenhouse Gas Levy

This category is intended to achieve the efficient administration of the Synthetic Greenhouse Gas Levy Collection System by the New Zealand Transport Agency and New Zealand Customs Service.

Administer the funding for the ongoing costs of collecting the Synthetic Greenhouse Gas Levy by the New Zealand Transport Agency and New Zealand Customs Service in accordance with respective Memoranda of Understanding	Achieved	Achieved	Achieved
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Improving Environmental Management Multi-Category Appropriation

This appropriation is intended to achieve policy advice and other support to Ministers with a focus on improving the environmental management frameworks so natural and built resources are allocated efficiently and used sustainably to achieve the greatest overall environmental, economic, social and cultural benefits now and for successive generations.

Departmental Output Expense: Developing and Implementing Treaty Settlements and Environmental Accords Policy Advice

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	1,074	1,074	1,874	1,874	1,874
Departmental	7	17	144	59	17
Other	9	9	9	25	9
Total revenue	1,090	1,100	2,027	1,958	1,900
Total expenses	946	1,100	2,027	1,721	1,900
Net surplus (deficit)	144	-	-	237	-

At Main Estimates, the 2016/17 budget for this output class was \$1.100 million. During the year, this output class increased by \$927,000 to \$2.027 million for 2016/17. This increase was due to:

- the reprioritisation of \$800,000 from Departmental Output Expense: Water Management Implementation for progressing work related to Treaty Settlements
- an increase of \$127,000 related to cost recovery revenue from other parties.

Total expenditure for this output class was lower than the revised budget. This represents cost savings.

Departmental Output Expense: Marine Environment Policy Advice

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	2,641	2,641	3,891	3,891	4,141
Departmental	15	18	71	91	18
Other	20	10	52	20	10
Total revenue	2,676	2,669	4,014	4,002	4,169
Total expenses	2,447	2,669	4,014	3,700	4,169
Net surplus (deficit)	229	-	-	302	-

At Main Estimates, the 2016/17 budget for this output class was \$2.669 million. During the year, this output class increased by \$1.345 million to \$4.014 million for 2016/17. This increase was due to:

- the reprioritisation of \$1.250 million (\$1.150 million from Departmental Output Expense: Resource Management Policy Advice and \$100,000 from Departmental Output Expense: Domestic Obligations and Programmes) for progressing policy work on marine protected areas
- an increase of \$95,000 related to cost recovery revenue from other parties.

Total expenditure for this output class was lower than the revised budget due to delays in progressing the marine protection legislative work including the proposed Marine Protected Areas Bill. The Ministry has sought an in-principle expense transfer to continue the work in 2017/18.

Departmental Output Expense: Resource Management Implementation

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	10,981	8,689	11,513	11,513	11,783
Departmental	153	85	163	115	85
Other	110	44	121	99	44
Total revenue	11,244	8,818	11,797	11,727	11,912
Total expenses	10,207	8,818	11,797	11,688	11,912
Net surplus (deficit)	1,037	-	-	39	-

At Main Estimates, the 2016/17 budget for this output class was \$8.818 million. During the year, this output class increased by \$2.979 million to \$11.797 million for 2016/17. This increase was due to:

- an expense transfer of \$1.231 million from 2015/16 for progressing work on the development of the proposed National Planning Template
- additional funding of \$503,000 was allocated through the 'Better Public Service Seed Funding' for an Environmental Integrated Data Infrastructure Pilot project
- the reprioritisation of \$1.250 million (\$1.150 million from Departmental Output Expense: Resource Management Policy Advice and \$100,000 from Departmental Output Expense: Domestic Obligations and Programmes) for progressing policy work on the resource management reforms.

Total expenditure for this output class was lower than the revised budget due to delays to the legislative timetable for passing the Resource Legislation Amendment Act. The main drafting phase of the National Planning Standards will occur in 2017/18. The Ministry has sought an in-principle expense transfer to continue the work in 2017/18.

Departmental Output Expense: Resource Management Policy Advice

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	9,116	9,472	7,557	7,557	6,942
Departmental	69	80	115	48	80
Other	131	44	101	121	44
Total revenue	9,316	9,596	7,773	7,726	7,066
Total expenses	8,462	9,596	7,773	7,568	7,066
Net surplus (deficit)	854	-	-	158	-

At Main Estimates, the 2016/17 budget for this output class was \$9.596 million. During the year, this output class decreased by \$1.823 million to \$7.773 million for 2016/17. This decrease was due to:

- the reprioritisation of \$2.300 million (\$1.150 million to Departmental Output Expense: Resource Management Implementation for progressing work on the development of the proposed National Planning Template and \$1.150 million to Departmental Output Expense: Marine Environment Policy Advice for Progressing Work on Marine Protected Areas).

This decrease was partially offset by a transfer of \$415,000 from 2015/16 for progressing work on the resource management reforms.

Total expenditure for this output class was lower than the revised budget due to small delays in progressing the national direction forward agenda and the review of the planning and resource management system.

Departmental Output Expense: Water Management Implementation

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	6,305	6,125	3,171	3,171	2,725
Departmental	30	55	55	66	55
Other	40	25	38	39	25
Total revenue	6,375	6,205	3,264	3,276	2,805
Total expenses	5,618	6,205	3,264	3,055	2,805
Net surplus (deficit)	757	-	-	221	-

At Main Estimates, the 2016/17 budget for this output class was \$6.205 million. During the year, this output class decreased by \$2.941 million to \$3.264 million for 2016/17. This decrease was due to:

- the reprioritisation of \$3.400 million (\$1.550 million to Departmental Output Expense: Water Management Policy Advice for progressing work on the Water management reforms; \$1.050 million to Departmental Output Expense: Domestic Climate Change Programme Policy Advice for progressing work on climate change related work programmes, including the New Zealand Emissions Trading Scheme review and \$800,000 to Departmental Output Expense: Developing and Implementing Treaty Settlements and Environmental Accords Policy Advice for progressing work on the Treaty Settlements).

This decrease was partially offset by a transfer of \$446,000 from 2015/16 for progressing work on the water management reforms.

Total expenditure for this output class was lower than the revised budget due to delays in the water management reform work programme. This includes monitoring and evaluation, developing a freshwater guidance tool, economic capacity for councils, and a programme to support stakeholder engagement in the freshwater reforms.

Departmental Output Expense: Water Management Policy Advice

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	11,217	10,852	12,402	12,402	12,402
Departmental	59	75	109	78	75
Other	80	135	77	59	135
Total revenue	11,356	11,062	12,588	12,539	12,612
Total expenses	11,151	11,062	12,588	11,674	12,612
Net surplus (deficit)	205	-	-	865	-

At Main Estimates, the 2016/17 budget for this output class was \$11.062 million. During the year, this output class increased by \$1.526 million to \$12.588 million for 2016/17. This increase was due to reprioritisation of \$1.550 million from Departmental Output Expense: Water Management Policy Advice for progressing work on the National Policy Statement for Freshwater Management.

Total expenditure for this output class was lower than the revised budget was in relation to the water conservation orders. The Special Tribunal took longer than expected to hold their initial meeting which has resulted in a delay in incurring expenses. The greater proportion of the work will now happen in the 2017/18 financial year. The Ministry has sought an in-principle expense transfer to continue the work in 2017/18.

Non-departmental Output Expense: Water Science and Economics

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Expenses					
Water science and economics	530	4,200	2,000	1,358	4,320

At Main Estimates, the 2016/17 budget for this output class was \$4.200 million. During the year, this output class decreased by \$2.200 million to \$2 million for 2016/17 due to an expense transfer of funding to 2017/18. The transfer is due to the delays caused by limited capacity in the research sector to carry out the required level of research. The Ministry has also sought an in-principle expense transfer to continue the work in 2017/18.

Performance information for the appropriation

PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
Technical quality of advice papers (assessed by a survey with a methodical robustness of 100%)	65%	70%	67% (see page 82 for aggregated results)

Developing and Implementing Treaty Settlements and Environmental Accords Policy Advice

This category is intended to achieve policy advice to Ministers in relation to negotiating and implementing Treaty settlements and environmental accords to ensure that settlements provide appropriate redress while remaining consistent with existing natural resources policy objectives.

Number of negotiations supported	12	5	10
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Marine Environment Policy Advice

This category is intended to achieve policy advice to Ministers in relation to the regulatory framework that protects New Zealand's marine environment while enabling economic growth in a sustainable way.

Provide advice on marine protected areas policy to Minister	New measure	30 March 2017	Achieved
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Resource Management Implementation

This category is intended to achieve the provision of assistance to Ministers with their statutory functions under the Resource Management Act 1991; and support improvements to the resource management framework through effective implementation, including providing advice, guidance and training to support legislative reform and improving environmental reporting.

Number of domain and synthesis reports published under the environmental reporting regime	One synthesis report - <i>Environment Aotearoa 2015</i>	Two domain reports	Achieved (Marine: October 2016; Fresh water: April 2017)
Percentage of local authorities that submit information for the National Monitoring System to support publicly available monitoring and evaluation across the environmental management system	100% of councils reported data during 2015/16 for the National Monitoring System (on their implementation of the RMA in 2014/15)	100%	100%
Conduct a preliminary survey of end users and local authorities to determine satisfaction with Ministry information and engagement practices	New measure	30 June 2017	Achieved (in August 2016)

PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
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Resource Management Policy Advice

This category is intended to achieve the provision of policy advice to Ministers in relation to improving the resource management framework.

Provide advice to the Minister on draft proposed amendments to the Resource Legislation Amendment Bill (via Departmental reports)	New measure	30 December 2016	Achieved. Departmental reports are available on the New Zealand Parliament website .
Number of national direction workstreams out for public consultation	Five: <ul style="list-style-type: none"> National Policy Statement for Freshwater Management amendments New stock exclusion regulations Pest control regulations National Policy Statement on Urban Development Capacity National Environmental Standard on Plantation Forestry 	Five	Achieved. Six: <ul style="list-style-type: none"> National Environmental Standard for Assessing and Managing Contaminants in Soils to Protect Human Health (September–October 2016) National Policy Statement for Freshwater Management amendments (March–April 2017) Stock Exclusion Regulations (February–April 2017) proposed National Environmental Standard for Aquaculture (June–July 2017) proposed National Environmental Standard for Plantation Forestry consultation on permitted activity monitoring (May–June 2017) proposed National Environmental Standard for the Outdoor Storage of Tyres (June–August 2017)

PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
Provide ongoing policy advice to the Minister on the process for developing the National Planning Standards	New measure	31 March 2017	Achieved

Water Management Implementation

This category is intended to achieve support for improvements to the freshwater management framework through effective implementation, including the provision of tools, guidance, and support to councils to ensure high quality water plans are in place by 2030.

Report on the progress each council has made to progress the implementation of the National Policy Statement for Freshwater Management in their region	New measure	Achieved	The review of the progress of each regional council in implementing the National Policy Statement for Freshwater Management was completed in 2016/17 and advice provided to the Minister.
Establish the Freshwater Improvement Fund in accordance with agreed funding criteria	New measure	30 June 2017	Achieved. The first funding round closed on 13 April 2017. We received 77 eligible applications requesting \$156 million towards total project costs of \$419 million.

Water Management Policy Advice

This category is intended to achieve policy advice to Ministers to ensure the system for managing within quality and quantity limits maximises the value of freshwater resources, both now and in the future, while ensuring iwi/hapū rights and interests are addressed.

Provide policy advice on the regulation and legislative changes required as a result of the national consultation process (including advice on iwi/hapū and regional council freshwater arrangements)	New measure	30 June 2017	Achieved. We have consulted with the public and provided advice to Ministers on: <ul style="list-style-type: none"> • long-term targets for swimmable rivers and lakes (moving to 90% swimmable by 2040) • stock exclusion regulations • proposed amendments to the National Policy Statement for Freshwater Management.
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PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
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Non-departmental output expenses

Water Science and Economics

This category is intended to build science and economics knowledge and capability through the development of the science which underpins the attributes for the National Objectives Framework, and the understanding of the economic impacts associated with setting limits for these attributes.

Progress attributes to support two values in the National Policy Statement for Freshwater Management	New measure	30 June 2017	Work progressed on development of attributes for sediment, heavy metals, and benthic cyanobacteria.
Commence development of attributes for two values	New measure	30 June 2017	Work began on developing attributes for estuaries and cultural.

Mitigating Environmental Hazards and Waste Multi-Category Appropriation

This appropriation is intended to achieve policy advice on managing chemical and biological hazards and waste to protect people and the environment without unnecessarily constraining economic growth.

Departmental Output Expense: Environmental Hazards and Waste Policy Advice

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	1,665	1,665	1,265	1,265	1,265
Departmental	20	20	27	8	20
Other	16	11	17	6	11
Total revenue	1,701	1,696	1,309	1,279	1,296
Total expenses	1,612	1,696	1,309	1,215	1,296
Net surplus (deficit)	89	-	-	64	-

At Main Estimates, the 2016/17 budget for this output class was \$1.696 million. During the year, this output class decreased by \$387,000 to \$1.309 million for 2016/17. This decrease was due to a reprioritisation of \$400,000 to Departmental Output Expense: Domestic Climate Change Programme Policy Advice for progressing work on climate change related work programmes, including the New Zealand Emissions Trading Scheme review.

Total expenditure for this output class was lower than the revised budget. This represents cost savings.

Departmental Output Expense: Waste Management and Minimisation

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	585	585	585	585	585
Departmental	17	19	25	35	19
Other	23	18	23	14	18
Total revenue	625	622	633	634	622
Total expenses	525	622	633	477	622
Net surplus (deficit)	100	-	-	157	-

Total expenditure for this output class was lower than the revised budget. This represents cost savings.

Performance information for the appropriation

PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
Technical quality of advice papers (assessed by a survey with a methodical robustness of 100%)	71%	70%	50% (see page 82 for aggregated results)

Environmental Hazards and Waste Policy Advice

This category is intended to achieve quality policy advice to Ministers in relation to the hazardous substance management regime to help New Zealand businesses be safe, sustainable and successful.

Number of Environmental Protection Authority (EPA) notices developed and associated regulations amended or revoked	One EPA notice developed (however, commencement of Health and Safety at Work legislation delayed until 1 July 2017)	Four EPA notices developed	Two notices approved (nine more notices will come into force when the Health and Safety at Work (Hazardous Substances) Regulations comes into force in December 2017).
Number of case studies into the potential benefits of new organisms to New Zealand	New measure	Four	One case study was undertaken on rye grass.

Waste Management and Minimisation

This category is intended to achieve quality advice to Ministers to ensure Crown's obligations under the Waste Minimisation Act are met.

Secretariat functions for the Waste Advisory Board are undertaken in accordance with the Board's terms of reference	Achieved	Achieved	The Waste Advisory Board has met three times and a new Board inducted. The Board has been satisfied with the Secretariat functions.
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Environmental Management Obligations and Programmes Multi-Category Appropriation

This appropriation is intended to achieve solutions to environmental problems through community involvement and international cooperation.

Departmental Output Expense: Domestic Obligations and Programmes

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	1,626	1,628	1,528	1,528	1,528
Departmental	37	17	24	18	17
Other	16	15	15	8	15
Total revenue	1,679	1,660	1,567	1,554	1,560
Total expenses	1,645	1,660	1,567	1,301	1,560
Net surplus (deficit)	34	-	-	253	-

At Main Estimates, the 2016/17 budget for this output class was \$1.660 million. During the year, this output class decreased by \$93,000 to \$1.567 million for 2016/17. This decrease was due to a reprioritisation of \$100,000 to Departmental Output Expense: Marine Environment Policy Advice for progressing work on marine protected areas.

Total expenditure for this output class was lower than the revised budget. This represents cost savings.

Departmental Output Expense: International Obligations and Institutions Policy Advice

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	1,830	1,830	1,830	1,830	1,830
Departmental	9	70	70	22	70
Other	19	7	24	15	7
Total revenue	1,858	1,907	1,924	1,867	1,907
Total expenses	1,878	1,907	1,924	1,841	1,907
Net surplus (deficit)	(20)	-	-	26	-

Performance information for the appropriation

PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
Technical quality of advice papers (assessed by a survey with a methodical robustness of 100%)	27%	70%	50% (see page 82 for aggregated results)

Domestic Obligations and Programmes

This category is intended to achieve the efficient administration of grant schemes through which parties can seek funding to achieve environmental objectives.

Stage 1 ²³ of the Community Environment Fund is completed in under 12 weeks (standard term: 60 working days)	Achieved	Achieved	Not achieved. Due to a larger number of applications being received than expected Stage 1 took slightly longer than anticipated; it was completed in 61 working days.
The Contaminated Sites Remediation Fund Priority List is reviewed by the Ministry and approved by the Minister for the Environment	Achieved	30 June 2017	Achieved. The Contaminated Sites Remediation Fund Priority List was reviewed by the Ministry in November 2016 and May 2017 and approved by the Minister for the Environment in May 2017.
Stage 1 ²⁴ of the Freshwater Improvement Fund is completed in under 60 working days	New measure	Achieved	Achieved

23 Stage 1 ends once the assessment of applications is complete and funding recommendations are provided to the Minister.

24 Stage 1 begins when applications to the Fund close, and ends once assessment of applications is complete and funding recommendations are provided to the Minister.

PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
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International Obligations and Institutions Policy Advice

This category is intended to achieve cooperation with other countries to promote action on international environmental issues and to ensure that New Zealand's interests are protected and advanced, and obligations met.

Implement the Ministry's new international engagement strategy	New measure	30 June 2017	Ongoing implementation including supporting the OECD's review of New Zealand's environmental performance and other international engagement on the Montreal Protocol, and the Basel, Rotterdam, Stockholm Conventions (strategy reviewed and updated during 2016/17).
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Waste Minimisation Administration

This appropriation is intended to achieve the effective and efficient administration of the functions required under the Waste Minimisation Act 2008.

Departmental Output Expense: Waste Minimisation Administration

	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Revenue					
Crown	1,714	1,714	2,500	2,500	2,500
Departmental	-	-	-	-	-
Other	-	-	-	-	-
Total revenue	1,714	1,714	2,500	2,500	2,500
Total expenses	1,690	1,714	2,500	1,922	2,500
Net surplus (deficit)	24	-	-	578	-

At Main Estimates, the 2016/17 budget for this output class was \$1.714 million. During the year, this output class increased by \$786,000 to \$2.500 million for 2016/17 due to a fiscally neutral transfer of funding from the Non-departmental Output Expense: Contestable Waste Minimisation Fund. This increase in funding is for researching new projects that would reduce waste deposited in landfills and better manage and monitor existing projects funded through the Contestable Waste Minimisation Fund.

Total expenditure for this output class was lower than the revised budget. Under the Waste Minimisation Act, there is no provision for the return of a year-end surplus from the Waste Minimisation Fund to the Crown. Any year-end surplus must be retained within the Fund.

The Ministry is working on the ways subsequent funding rounds could deliver high quality projects to reduce waste.

Performance information for the appropriation

PERFORMANCE MEASURE	2015/16 PERFORMANCE	2016/17 TARGET	2016/17 PERFORMANCE
Administration costs of the Waste Disposal Levy (including levy collection, administration of Waste Minimisation Fund projects, and payments to territorial authorities) are not more than \$1.714 million	Achieved	No more than \$1.714 million	Not achieved. This appropriation increased by \$786,000 to \$2.5 million for 2016/17 because funding from the contestable Waste Minimisation Fund was transferred to it. This increase in funding is for researching new projects that would reduce waste deposited in landfills and better manage and monitor existing projects funded through the Contestable Waste Minimisation Fund.
Percentage of instances when action is taken against disposal facility operators who have outstanding levy payments (over 120 days)	100%	100%	No disposal facility operator has had an outstanding levy payment of over 120 days. The levy collector ensures payment schedules are maintained. We have a comprehensive compliance programme in place to ensure payments are made.

Capital Expenditure

This appropriation is intended to achieve the renewal, upgrade and/or redesign of assets in support of the delivery of the Ministry for the Environment's service.

Expenses	2015/16 Actual \$000	2016/17 Budget \$000	2016/17 Revised budget \$000	2016/17 Actual \$000	2017/18 Unaudited forecast \$000
Expenditure is in accordance with the Ministry's capital asset management plan					
Property, plant and equipment	243	1,362	3,390	2,541	9,813
Intangibles	73	220	903	330	20
Total	316	1,582	4,293	2,871	9,833

At Main Estimates, the 2016/17 budget for this output class was \$1.582 million. During the year, this output class increased by \$2.711 million to \$4.293 million for 2016/17. This increase included further investment of:

- \$1.200 million of costs related to the Ministry's involvement in the Wellington Accommodation Project
- \$800,000 investment in laptops to maintain operations following the Kaikōura earthquake
- \$300,000 for an upgrade to document management system software
- \$175,000 for an upgrade to geospatial software
- \$150,000 investment in backup infrastructure as part of an ongoing work programme on business continuity.

The remainder covers other improvements in the Ministry's IT systems.

Total expenditure in this output class was lower than the revised budget due to delays in progressing work on the upgrade of the document management system; upgrade to geospatial software; and costs related to the Ministry's involvement in the Wellington Accommodation Project.



03

Our finances

In part three we report on the financial resources we have used to deliver our services. This part also includes an independent audit report on our annual report.

Key topics

- 108 Financial statements for the Ministry for the Environment for the year ended 30 June 2017

- 135 Non-departmental statements and schedules for the year ended 30 June 2017

- 152 Statement of expenses and capital expenditure for the year ended 30 June 2017

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- 162 Appendix: Implementation requirements for the New Zealand Business Number

Financial statements for the *Ministry for the Environment*

for the year ended 30 June 2017

Performance indicators for the year ended 30 June 2017*

	Unit	2016/17 Actual	2016/17 Revised Budget**
Operating results			
Revenue: Crown	\$000	62,705	62,705
Revenue: Departmental and other	\$000	1,125	1,600
Output expenses	\$000	60,164	64,305
Gain on sale of assets	\$000	-	5
Net surplus	\$000	3,666	5
Working capital			
Net current assets	\$000	3,744	2,549
Current ratio	Ratio	1.33	1.24
Resource utilisation			
Plant and equipment			
Plant and equipment at year end	\$000	2,735	3,625
Value per employee	\$000	8.3	10.6
Additions as % of plant and equipment	%	92.9	93.5
Plant and equipment as % of total assets	%	14.4	19.8
Intangible assets			
Intangible assets at year end	\$000	1,055	1,563
Value per employee	\$000	3.2	4.6
Additions as % of intangible assets	%	31.4	57.8
Intangible assets as % of total assets	%	5.5	8.5
Taxpayers' funds			
Level at year end	\$000	5,992	5,992
Level per employee	\$000	18.2	17.5
Net cash flows			
Surplus/(deficit) from operating activities	\$000	5,226	5,052
Surplus/(deficit) from investing activities	\$000	(2,554)	(858)
Surplus/(deficit) from financing activities	\$000	(3,818)	(3,818)
Net increase/(decrease) in cash held	\$000	(1,146)	376
Human resources			
Staff turnover	%	19.8	20.8
Average length of service	Years	3.6	3.8
Total staff	No.	329	342

* This statement of performance indicators is not part of the audited financial statements. For a full understanding of the financial position and performance of the Ministry, refer to the audited financial statements on pages 110-134.

** The statement of accounting policies provides explanations of these figures which are not subject to audit.

Statement of comprehensive revenue and expense for the year ended 30 June 2017

	Notes	2015/16 Actual \$000	2016/17 Budget* \$000	2016/17 Actual \$000	2017/18 Forecast* \$000
Revenue					
Funding from the Crown		62,414	58,161	62,705	62,035
Other revenue	2	1,045	955	1,125	955
Gains		–	5	–	5
Total revenue		63,459	59,121	63,830	62,995
Expenses					
Personnel costs	3	32,178	32,706	33,627	35,674
Depreciation and amortisation expense	8, 9	643	646	751	1,107
Capital charge	4	479	479	389	389
Finance cost	5	281	37	38	35
Other operating expenses	6	26,060	25,248	25,359	25,785
Total expenses		59,641	59,116	60,164	62,990
Net surplus and total comprehensive revenue and expense		3,818	5	3,666	5

* The statement of accounting policies provides explanations of these figures which are not subject to audit.

Explanations of significant variances against budget are detailed in note 18.

Statement of financial position as at 30 June 2017

	Notes	2015/16 Actual \$000	2016/17 Budget* \$000	2016/17 Actual \$000	2017/18 Forecast* \$000
Assets					
Current assets					
Cash and cash equivalents		5,221	2,063	4,075	4,050
Receivables**	7	12,358	10,894	10,746	100
Pre-payments		293	300	423	300
Total current assets		17,872	13,257	15,244	4,450
Non-current assets					
Plant and equipment	8	782	1,961	2,735	12,856
Intangible assets	9	982	1,297	1,055	1,058
Total non-current assets		1,764	3,258	3,790	13,914
Total assets		19,636	16,515	19,034	18,364
Liabilities					
Current liabilities					
Payables**	10	6,127	7,231	5,476	8,315
Return of operating surplus	11	3,818	5	3,666	5
Provisions	12	-	-	51	-
Employee entitlements	13	1,992	1,737	2,307	2,272
Total current liabilities		11,937	8,973	11,500	10,592
Non-current liabilities					
Employee entitlements	13	1,002	854	800	1,003
Provisions	12	705	696	742	777
Total non-current liabilities		1,707	1,550	1,542	1,780
Total liabilities		13,644	10,523	13,042	12,372
Net assets		5,992	5,992	5,992	5,992
Equity					
Taxpayers' funds		5,992	5,992	5,992	5,992
Total equity		5,992	5,992	5,992	5,992

* The statement of accounting policies provides explanations of these figures which are not subject to audit.

** PBE IPSAS 1.88 requires in the statement of financial position that separate line items be presented for receivables from non-exchange transactions, receivables from exchange transactions, taxes and transfers payable, and payables under exchange transactions. The Ministry considers that it will be rare that this analysis will provide material information. Therefore, due to the current uncertainties about whether some transactions are exchange or non-exchange, the Ministry has chosen to focus on providing a meaningful breakdown in the notes.

Explanations of significant variances against budget are detailed in note 18.

Statement of changes in equity for the year ended 30 June 2017

	Notes	2015/16 Actual \$000	2016/17 Budget* \$000	2016/17 Actual \$000	2017/18 Forecast* \$000
Balance at 1 July		5,992	5,992	5,992	5,992
Comprehensive revenue and expense					
Surplus for the year		3,818	5	3,666	5
Total comprehensive revenue		3,818	5	3,666	5
Return of operating surplus to the Crown	11	(3,818)	(5)	(3,666)	(5)
Balance at 30 June		5,992	5,992	5,992	5,992

* The statement of accounting policies provides explanations of these figures which are not subject to audit.

Statement of cash flows for the year ended 30 June 2017

	2015/16 Actual \$000	2016/17 Budget* \$000	2016/17 Actual \$000	2017/18 Forecast* \$000
Cash flows from operating activities				
Receipts from the Crown	64,035	58,161	64,340	71,708
Receipts from other revenue	837	955	1,156	955
Payments to suppliers	(25,892)	(25,248)	(26,222)	(25,785)
Payments to employees	(31,826)	(32,706)	(33,463)	(35,674)
Payments for capital charge	(479)	(479)	(389)	(389)
Goods and services tax (net)	201	-	(196)	-
Net cash flow from operating activities	6,876	683	5,226	10,815
Cash flows from investing activities				
Receipts from sale of plant and equipment	-	5	-	5
Purchase of plant and equipment	(349)	(1,362)	(2,283)	(9,813)
Purchase of intangible assets	(73)	(220)	(271)	(20)
Net cash flow from investing activities	(422)	(1,577)	(2,554)	(9,828)
Cash flows from financing activities				
Return of operating surplus	(2,112)	(5)	(3,818)	(5)
Net cash flow from financing activities	(2,112)	(5)	(3,818)	(5)
Net increase/(decrease) in cash	4,342	(899)	(1,146)	982
Cash at the beginning of the year	879	2,962	5,221	3,068
Cash at the end of the year	5,221	2,063	4,075	4,050

* The statement of accounting policies provides explanations of these figures which are not subject to audit.

The GST (net) component of operating activities reflects the net GST paid and received with the Inland Revenue Department. The GST (net) component has been presented on a net basis, as the gross amounts do not provide meaningful information for financial statement purposes and to be consistent with the presentation basis of the other primary financial statements.

Statement of cash flows (continued) for the year ended 30 June 2017

Reconciliation of net surplus to net cash from operating activities

	2015/16 Actual \$000	2016/17 Actual \$000
Net surplus	3,818	3,666
Add/(less) non-cash items:		
Depreciation and amortisation expense	643	751
Restoration costs	84	37
Total non-cash items	727	788
Add/(less) items classified as investing or financing activities:		
(Gains)/losses on disposal of plant and equipment	-	94
Add/(less) movements in statement of financial position items:		
(Increase)/decrease in debtors and other receivables	1,559	1,612
(Increase)/decrease in pre-payments	(34)	(130)
Increase/(decrease) in creditors and other payables ²⁵	453	(968)
Increase/(decrease) in provisions	(50)	51
Increase/(decrease) in employee entitlements	403	113
Total net movement in working capital items	2,331	678
Net cash flow from operating activities	6,876	5,226

The accompanying accounting policies and notes form part of these financial statements.

²⁵ Creditors and accruals for capital expenditure are excluded when calculating this increase or decrease.

Statement of commitments as at 30 June 2017

Capital commitments

Capital commitments are the aggregate amount of capital expenditure contracted for the acquisition of plant, and equipment and intangible assets that have not been paid for or not recognised as a liability at balance date.

Non-cancellable operating lease commitments

The Ministry leases plant and equipment in the normal course of its business. The majority of these are for premises and photocopiers in Wellington and Auckland, which have a non-cancellable leasing period ranging from one to six years.

The Ministry's non-cancellable operating leases have varying terms, escalation clauses, and renewal rights. There are no restrictions placed on the Ministry by any of its leasing arrangements.

The total amount of future sub-lease payments expected to be received under non-cancellable sub-leases at the balance date are \$188,661 (2015/16, \$7,031).

	2015/16 Actual \$000	2016/17 Actual \$000
Capital commitments		
Fit-out at Charles Fergusson Tower	-	1,892
Intangible assets	-	192
Total capital commitments	-	2,084
Operating leases as lessee		
The future aggregate minimum lease payments to be paid under non-cancellable operating leases are as follows:		
Not later than one year	1,928	2,475
Later than one year but not later than five years	-	4,185
Later than five years	-	-
Total non-cancellable operating lease commitments	1,928	6,660
Total commitments	1,928	8,744

Statement of contingent liabilities and contingent assets as at 30 June 2017

Contingent liabilities

There are no contingent liabilities as at 30 June 2017 (2015/16: \$nil).

Contingent assets

The Ministry has one non-quantifiable contingent asset relating to an insurance claim for material damage and business interruption as a consequence of the November 2016 Kaikoura earthquake.

There were no other contingent assets as at 30 June 2017 (2015/16: \$nil).

Notes to the financial statements

1. Statement of accounting policies for the year ended 30 June 2017

Reporting entity

The Ministry for the Environment (the Ministry) is a government department as defined by section 2 of the Public Finance Act 1989 and is domiciled and operates in New Zealand. The relevant legislation governing the Ministry's operations includes the Public Finance Act 1989 and the Environment Act 1986. The Ministry's ultimate parent is the New Zealand Crown.

In addition, the Ministry has reported on Crown activities, which it administers.

The primary objective of the Ministry is to provide advice to the Government on the New Zealand environment and international matters that affect the environment. The Ministry does not operate to make financial returns. Accordingly, the Ministry has designated itself as a public benefit entity (PBE) for the purpose of financial reporting.

The financial statements of the Ministry are for the year ended 30 June 2017. The financial statements were authorised for issue by the Chief Executive of the Ministry on 29 September 2017.

Basis of preparation

The financial statements have been prepared on a going concern basis, and the accounting policies have been applied consistently throughout the period.

Statement of compliance

These financial statements have been prepared in accordance with the requirements of the Public Finance Act 1989, which includes the requirement to comply with the New Zealand generally accepted accounting practices (NZ GAAP) and Treasury instructions. They comply with Tier 1 Public Benefit Entity (PBE) accounting standards and other applicable financial reporting standards, as appropriate for public benefit entities.

Measurement base

The financial statements have been prepared on the basis of historical cost.

Function and presentation of currency

The financial statements are presented in New Zealand dollars and all values are rounded to the nearest thousand dollars (\$000) unless otherwise stated. The functional currency of the Ministry is New Zealand dollars.

Accounting policies

There have been no changes in accounting policies during the year.

The accounting policies set out below have been applied consistently to all periods presented in these financial statements.

The accrual basis of accounting has been used unless otherwise stated.

Accounting standards and interpretations issued but not yet effective and not early adopted:

Standards and amendments, issued but not yet effective that have not been early adopted, and which are relevant to the Ministry are:

Financial instruments

In January 2017, the External Reporting Board issued PBE IFRS 9 Financial Instruments. This replaces PBE IPSAS 29 Financial Instruments: Recognition and Measurement. PBE IFRS 9 is effective for annual periods beginning on or after 1 January 2021, with earlier application permitted. The main changes under the standard are:

- new financial asset classification requirements for determining whether an asset is measured at fair value or amortised cost
- a new impairment model for financial assets based on expected losses, which may result in the earlier recognition of impairment losses
- revised hedge accounting requirements to better reflect the management of risks.

The timing of the Ministry adopting PBE IFRS 9 will be guided by the Treasury's decision on when the Financial Statements of Government will adopt PBE IFRS 9. The Ministry has not yet assessed the effects of the new standard.

Impairment of Revalued Assets

In April 2017, the XRB issued Impairment of Revalued Assets, which now clearly scopes in revalued property, plant, and equipment into the impairment accounting standards. Previously, only property, plant, and equipment measured at cost were scoped into the impairment accounting standards.

Under the amendment, a revalued asset can be impaired without having to revalue the entire class of asset to which the asset belongs. The timing of the Ministry adopting this amendment will be guided by the Treasury's decision on when the Financial Statements of Government will adopt the amendment.

Significant accounting policies

Budgeting and forecasting figures

The budget figures are those included in the Estimates of Appropriations (Budget) for the year ending 30 June 2017 (the Budget is 2016 Budget Economic and Fiscal Update (BEFU 2016) out-year 1 figures) and were published in the 2015/16 annual report.

The budget figures have been prepared in accordance with NZ GAAP, using accounting policies that are consistent with those adopted in preparing these financial statements and are based on PBE accounting standards.

The forecast figures are those included in the Estimates of Appropriations for the year ending 30 June 2018 (the Forecast is 2017 Budget Economic and Fiscal Update (BEFU 2017) out-year 1 figures).

The forecast figures are unaudited and have been prepared in accordance with the requirements of the Public Finance Act 1989, and comply with Tier 1 PBE accounting standards and other applicable financial reporting standards, as appropriate for public benefit entities. They are to be used in the future for reporting historical general purpose financial statements.

The forecast figures contained in these financial statements reflects the Ministry's purpose and activities and are based on a number of assumptions on what may occur during the year 2017/18. Events and circumstances may not occur as expected. Factors that could lead to material differences between the forecast financial statements and the 2017/18 actual financial statements include changes to the baseline forecast through new initiatives, or technical adjustments.

Significant assumptions – forecast figures

The forecast figures have been compiled on the basis of existing government policies and Ministerial expectations at the time the BEFU 2017 was finalised.

The main assumptions were as follows:

- The Ministry's activities will remain substantially the same as the previous year focusing on the Government's priorities. These priorities include the reform of the Resource Management Act, implementation and operation of the Emissions Trading Scheme, improving New Zealand's freshwater management, improving the Hazardous Substances and New Organisms framework, and the management of the Exclusive Economic Zone.
- Personnel costs were based on 355 full time equivalent staff, which takes into account staff turnover.
- Operating costs were based on historical experience and various other factors that were believed to be reasonable under the circumstances.
- The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revisions and future periods if the revision affects both current and future periods.
- Costs associated with the Ministry's involvement in the Wellington Accommodation Project are assumed to be capital costs.
- Estimated year-end information for 2016/17 was used as the opening position for the 2017/18 forecasts.

These assumptions were adopted as at 21 April 2017.

Expenses

Cost allocation

The Ministry derives the cost of outputs using a cost allocation system. Direct costs are charged directly to the Ministry's outputs. Indirect costs are charged to outputs based on a primary cost driver of salaried full-time equivalents. There were no material changes to the cost allocation model during the 2016/17 year.

Direct costs are those costs directly attributed to an output. Indirect costs are those costs that cannot be directly associated with a specific output. For the year ended 30 June 2017, direct costs accounted for 51 per cent of the Ministry's costs (2015/16: 51 per cent) and indirect costs accounted for 49 per cent of the Ministry's costs (2015/16: 49 per cent).

Foreign currency

Transactions in foreign currencies are initially translated at the foreign exchange rate at the date of the transaction.

Monetary assets and liabilities denominated in foreign currencies at balance date are translated to New Zealand dollars at the foreign exchange rate at balance date. Foreign exchange gains or losses arising from translation of monetary assets and liabilities are recognised in the statement of comprehensive revenue and expense.

Cash and cash equivalents

Cash and cash equivalents include cash on hand and funds on deposit with banks.

The Ministry is only permitted to expend its cash and cash equivalents within the scope and limits of its appropriations.

Statement of cash flows

Cash means cash balances on hand and cash held in bank accounts.

Operating activities include cash received from all income sources of the Ministry and the cash payments made for the supply of goods and services.

Investing activities are those activities relating to the acquisition and disposal of non-current assets.

Financing activities comprise capital injections by, or repayment of capital to, the Crown.

Goods and Services Tax (GST)

All items in the financial statements, including appropriation statements, are stated exclusive of GST, except where otherwise stated. Receivables and payables in the statement of financial position are stated inclusive of GST. Where GST is not recoverable as an input tax, then it is recognised as part of the related asset or expense. The GST payable or receivable at balance date is included in payables or receivables in the statement of financial position.

Income tax

The Ministry is a public authority and consequently is exempt from the payment of income tax. Accordingly, no provision has been made for income tax.

Critical accounting estimates and assumptions

The preparation of financial statements in conformity with PBE accounting standards requires judgements, estimates and assumptions that affect the application of policies and reported amounts of assets, liabilities, revenue and expenses.

The estimates and associated assumptions are based on historical experience and other factors that are considered to be reasonable under the circumstances. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised, if the revisions affect only that period, or in the period of the revisions and future periods if the revisions affect both current and future periods.

Judgements that have a significant effect on the financial statements and estimates with a significant risk of material adjustments in the next year are discussed in the notes to the financial statements.

Note 13 provides the key assumptions used in determining the estimates for long service leave and retirement gratuities.

Commitments

Commitments are future expenses and liabilities to be incurred on contracts that have been entered into at balance date. Information on non-cancellable capital and lease commitments are reported in the statement of commitments.

Contingencies

Contingent liabilities and contingent assets are reported at the point at which the contingency is evident or when a present liability is unable to be measured with sufficient reliability to be recorded in the financial statements (unquantifiable liability). Contingent liabilities, including unquantifiable liabilities, are disclosed if the possibility that they will crystallise is not remote. Contingent assets are disclosed if it is probable that the benefits will be realised.

Comparatives

When presentation or classification of items in the financial statements is amended or accounting policies are changed voluntarily, comparative figures are restated to ensure consistency with the current year.

2. Revenue

Accounting policy

Revenue Crown

Revenue from the Crown is measured based on the Ministry's funding entitlement for the reporting period. The funding entitlement is established by Parliament when it passes the Appropriation Acts for the financial year. The amount of revenue recognised takes into account any amendments to appropriations approved in the Appropriation (Supplementary Estimates) Act for the year and certain other unconditional funding adjustments formally approved prior to balance date.

There are no conditions attached to the funding from the Crown. However, the Ministry can incur expenses only within the scope and limits of its appropriations.

The fair value of Revenue Crown has been determined to be equivalent to the funding entitlement.

Revenue other

The Ministry derives revenue through the provision of services to third parties. Such revenue is recognised when earned and is reported in the financial period to which it relates.

Breakdown of other revenue

	2015/16 Actual \$000	2016/17 Actual \$000
Departmental	496	661
Other	549	464
Total other revenue	1,045	1,125

3. Personnel costs

Accounting policy

Salaries and wages

Salaries and wages are recognised as an expense as employees provide services.

Superannuation schemes

Defined contribution schemes

Employee contributions to the State Sector Retirement Savings Scheme, KiwiSaver, and the Government Superannuation Fund are accounted for as defined contribution superannuation schemes and are expensed in the surplus or deficit as incurred.

Breakdown of personnel costs

	2015/16 Actual \$000	2016/17 Actual \$000
Salaries and wages	30,250	32,085
Employer contributions to defined contribution plans	974	993
ACC Levy	106	(46)
Net employee entitlements	799	555
Other	49	40
Total personnel costs	32,178	33,627

4. Capital charge

Accounting policy

The capital charge is recognised as an expense in the financial year to which the charge relates.

Further information

The Ministry pays a capital charge to the Crown on its equity as at 30 June and 31 December each year. The capital charge rate for the year ended 30 June 2017 was 7% from 1 July 2016 to 31 December 2016 and then 6% from 1 January 2017 (2016: 8%).

5. Finance costs

	2015/16 Actual \$000	2016/17 Actual \$000
Discount unwind on provisions (note 12)	281	37
Other	-	1
Total finance costs	281	38

6. Other expenses

Accounting policy

Operating leases

An operating lease is a lease where the lessor does not transfer substantially all the risks and rewards of ownership of an asset. Lease payments under an operating lease are recognised as an expense in a systematic manner over the term of the lease.

Lease incentives received are recognised evenly over the term of the lease as a reduction in rental expense.

Grants/subsidies

Where grants and subsidies are discretionary until payment, the expense is recognised when the payment is made. Otherwise, the expense is recognised when the specified criteria have been fulfilled and notice has been given to the recipient.

Other expenses

Other expenses are recognised as goods and services are received.

Breakdown of other expenses and further information

	2015/16 Actual \$000	2016/17 Actual \$000
Audit fees for the financial statement audit	196	202
Operating lease expenses	2,284	3,033
Advertising and publicity	328	474
Contributions and sponsorship	818	604
External resources:		
Advisory groups	1,082	598
Services provided by other government agencies	3,946	3,224
Data/imagery	395	223
Annual outsourced specialist services	2,910	3,414
Other professional consulting fees	6,413	6,470
Contracted research	850	934
General and administration	3,345	2,798
Net loss on disposal of property, plant and equipment	-	94
Other expenses	3,493	3,291
Total other operating expenses	26,060	25,359

7. Receivables

Accounting policy

Receivables are initially measured at fair value and subsequently measured at amortised cost using the effective interest rate, less impairment changes.

Breakdown of receivables and further information

	2015/16 Actual \$000	2016/17 Actual \$000
Receivables from non-exchange transactions		
Debtor Crown	12,173	10,537
GST refund	-	54
Total receivables from non-exchange transactions	12,173	10,591
Receivables from exchange transactions		
Debtors other	185	155
Total receivable from exchange transactions	185	155
Total receivables	12,358	10,746

The aging profile of receivables at year end is detailed below.

	Gross \$000	2015/16 Impairment \$000	Net \$000	Gross \$000	2016/17 Impairment \$000	Net \$000
Not past due	12,314	-	12,314	10,661	-	10,661
Past due 1 - 30 days	2	-	2	20	-	20
Past due 31 - 60 days	14	-	14	12	-	12
Past due 61 - 90 days	28	-	28	44	-	44
Past due > 91 days	-	-	-	9	-	9
Total	12,358	-	12,358	10,746	-	10,746

The carrying value of debtors and other receivables approximates their fair value.

As at 30 June 2017 and 2016, all overdue receivables have been assessed for impairment. No provision has been made for doubtful debts as there were no indications at balance date that any of these debtors are impaired.

8. Plant and equipment

Accounting policy

Plant and equipment consists of leasehold improvements, furniture and office equipment, and computer hardware. Plant and equipment are recognised and disclosed at cost less accumulated depreciation and impairment losses.

Additions

Individual assets, or group of assets, are capitalised if their cost is greater than \$1,500. The value of an individual asset that is less than \$1,500 and is part of a group of similar assets is capitalised.

Work in progress is recognised at cost less impairment and is not depreciated.

Disposals

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount of the asset. Gains and losses arising from disposal of plant and equipment are recognised in the statement of comprehensive revenue and expense in the period in which the transaction occurs. Any balance attributable to the disposed asset in the asset revaluation reserve is transferred to retained earnings.

Depreciation

Depreciation is provided on a straight-line basis on all plant and equipment, at a rate that will write off the cost (or valuation) of the assets, over their useful lives. The depreciation charge for each period is recognised in the statement of comprehensive revenue and expense. The useful lives and associated depreciation rates of major classes of assets have been estimated as follows:

Asset class	Useful life (years)	Depreciation rate (%)
Furniture and fittings	2–13	8.39–20.0
Office equipment	2–5	20.0
Computer hardware	2–4	25.0–33.33

Leasehold improvements (included in furniture and fittings) are capitalised and depreciated over the unexpired period of the lease or the estimated remaining useful lives of the improvements, whichever is shorter. Items classified as furniture and fittings but not deemed to be part of leasehold improvements are depreciated over their useful lives.

Breakdown of property, plant, and equipment and further information

	Furniture and fixtures \$000	Office equipment \$000	Computer hardware \$000	Total \$000
Cost				
Balance at 1 July 2015	2,422	301	2,013	4,736
Additions	7	47	428	482
Add: Closing work in progress	-	-	-	-
Less: Opening work in progress	-	-	(239)	(239)
Disposals	-	-	-	-
Balance at 30 June 2016	2,429	348	2,202	4,979
Balance at 1 July 2016	2,429	348	2,202	4,979
Additions	-	-	843	843
Add: Closing work in progress	1,698	-	-	1,698
Less: Opening work in progress	-	-	-	-
Disposals	-	-	(675)	(675)
Balance at 30 June 2017	4,127	348	2,370	6,845
Accumulated depreciation and impairment losses				
Balance at 1 July 2015	2,017	263	1,610	3,890
Depreciation expense	104	23	180	307
Balance at 30 June 2016	2,121	286	1,790	4,197
Balance at 1 July 2016	2,121	286	1,790	4,197
Depreciation expense	127	27	340	494
Elimination on disposal	-	-	(581)	(581)
Balance at 30 June 2017	2,248	313	1,549	4,110
Carrying amounts				
At 1 July 2015	405	38	403	846
At 30 June / 1 July 2016	308	62	412	782
At 30 June 2017	1,879	35	821	2,735

Work in progress

Closing work in progress includes \$1.698 million of development costs associated with the Charles Fergusson Tower project. As at balance date the Ministry was responsible for the tenant fit-out and furnishing of this building. However, Cabinet decided on 14 August 2017 to transfer the lead agency role to the Ministry for Primary Industries. Refer to note 16 – Events after the balance date for more information on this event.

Restrictions

There are no restrictions over the title of the Ministry's plant and equipment, nor are any plant and equipment pledged as security for liabilities.

9. Intangible assets

Accounting policy

Software acquisition and development

Acquired computer software licenses are capitalised on the basis of the costs incurred to acquire and bring to use the specific software.

Costs that are directly associated with the development of software for internal use by the Ministry are recognised as an intangible asset.

Costs associated with staff training and the maintenance of computer software is recognised as an expense when incurred.

Costs of software updates or upgrades are only capitalised when they increase the usefulness or value of the software.

Costs associated with development and maintenance of the Ministry's website are recognised as an expense when incurred.

Amortisation

The carrying value of an intangible asset with a finite life is amortised on a straight-line basis over its useful life. Amortisation begins when the asset is available for use and ceases at the date the asset is derecognised. The amortisation charge for each period is recognised in the statement of comprehensive revenue and expense.

Typically, the estimated useful lives and associated amortisation rates of intangible assets have been estimated as follows:

Asset class	Useful life (years)	Amortisation rate (%)
Acquired computer software	3–6	16.67–33.33
Acquired computer software licences (Land Use and Carbon Analysis System)	7.5	13.33
Developed computer software	3	33.33

Impairment of non-financial assets

Plant and equipment and intangible assets that have a finite useful life are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised in the statement of comprehensive revenue and expense for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use.

Value in use is depreciated replacement cost for an asset where the future economic benefits or service potential of the asset are not primarily dependent on the asset's ability to generate net cash inflows and where the Ministry would, if deprived of the asset, replace its remaining future economic benefits or service potential.

An intangible asset that is not yet available for use at the balance date is tested for impairment annually.

Critical accounting estimates and assumptions

Useful lives of software

The useful life of software is determined at the time the software is acquired and brought into use and is reviewed at each reporting date for appropriateness. For computer software licences, the useful life represents management's view of the expected period over which the Ministry will receive benefits from the software, but not exceeding the licence term.

For internally generated software developed by the Ministry, the useful life is based on historical experience with similar systems as well as anticipation of future events that may impact the useful life, such as changes in technology.

Breakdown of intangible assets and further information

Movements in the carrying value for each class of intangible asset are as follows:

	Acquired software \$000	Acquired software licences \$000	Internally generated software (others) \$000	Internally generated software (LUCAS) \$000	Total \$000
Cost					
Balance at 1 July 2015	2,557	25	1,429	1,843	5,854
Additions	154	-	-	-	154
Add: Closing work in progress	-	-	-	-	-
Less: Opening work in progress	(81)	-	-	-	(81)
Balance at 30 June 2016	2,630	25	1,429	1,843	5,927
Balance at 1 July 2016	2,630	25	1,429	1,843	5,927
Additions	87	-	-	-	87
Add: Closing work in progress	243	-	-	-	243
Less: Opening work in progress	-	-	-	-	-
Balance at 30 June 2017	2,960	25	1,429	1,843	6,257
Accumulated amortisation and impairment losses					
Balance at 1 July 2015	1,450	25	1,291	1,843	4,609
Amortisation expense	306	-	30	-	336
Balance at 30 June 2016	1,756	25	1,321	1,843	4,945
Balance at 1 July 2016	1,756	25	1,321	1,843	4,945
Amortisation expense	249	-	8	-	257
Balance at 30 June 2017	2,005	25	1,329	1,843	5,202
Carrying amounts					
At 1 July 2015	1,107	-	138	-	1,245
At 30 June / 1 July 2016	874	-	108	-	982
At 30 June 2017	955	-	100	-	1,055

Restrictions

There are no restrictions over the title of the Ministry's intangible assets, nor are any intangible assets pledged as security for liabilities.

10. Payables and deferred revenue

Accounting policy

Creditors and other payables are non-interest bearing and are normally settled within 30 days, therefore the carrying value of creditors and other payables approximates their fair value.

Breakdown of payables and further information

	2015/16 Actual \$000	2016/17 Actual \$000
Payables and deferred revenue under exchange transactions		
Creditors	2,960	3,085
Accrued expenses	3,025	2,391
Total payables and deferred revenue under exchange transactions	5,985	5,476
Payables and deferred revenue under non-exchange transactions		
GST payable	142	-
Total payables and deferred revenue	6,127	5,476

11. Return of operating surplus

	2015/16 Actual \$000	2016/17 Actual \$000
Net surplus	3,818	3,666
Total return of operating surplus	3,818	3,666

The return of the operating surplus to the Crown is required to be paid by 31 October of each year.

12. Provisions

Accounting policy

A provision is recognised for future expenditure of uncertain amount or timing when:

- there is a present obligation (either legal or constructive) as a result of a past event
- it is probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation
- a reliable estimate can be made of the amount of the obligation.

Provisions are not recognised for net deficits from future operating activities.

Provisions are measured at the present value of the expenditure expected to be required to settle the obligation using a pre-tax discount rate based on market yields on government bonds at balance date with terms to maturity that match, as closely as possible, the estimated timing of the future cash outflows. The increase in the provision due to the passage of time is recognised as an interest expense and is included in 'finance costs' (see note 5).

Restructuring

A provision for restructuring is recognised when an approved detailed formal plan for the restructuring has either been announced publicly to those affected, or for which implementation has already begun.

Breakdown of provisions and further information

	2015/16 Actual \$000	2016/17 Actual \$000
Current portion		
Holiday pay	-	51
Total current portion	-	51
Non-current portion		
Restoration costs	705	742
Total provisions	705	793

Movements for each class of provision are as follows:

	Restoration costs \$000	Restructuring \$000	Holiday pay \$000	Total \$000
Balance at 1 July 2015	621	50	-	671
Additional provisions made	-	-	-	-
Discount unwind (note 5)	84	-	-	84
Amounts used	-	(50)	-	(50)
Unused amounts reversed	-	-	-	-
Balance at 30 June 2016	705	-	-	705
Balance at 1 July 2016	705	-	-	705
Additional provisions made	-	-	51	51
Discount unwind (note 5)	37	-	-	37
Amounts used	-	-	-	-
Unused amounts reversed	-	-	-	-
Balance at 30 June 2017	742	-	51	793

Provisions represent:

- restructuring costs: \$nil (2015/16: \$nil)
- restoration costs in respect of the Ministry's leased premises. The Ministry is required at the expiry of the lease term to make good any damage caused to the premises and to remove any signage, fixtures and fittings installed by the Ministry.
- holiday pay costs arising from a review of the application of the Holidays Act 2003 to annual leave payments.

13. Employee entitlements

Accounting policy

Short-term employee entitlements

Employee entitlements that are due to be settled within 12 months after the end of the period in which the employee renders the related service are measured based on accrued entitlements at current rates of pay.

These include salaries and wages accrued up to balance date, annual leave earned but not yet taken at balance date, long service leave, and retirement gratuities expected to be settled within 12 months.

Long-term employee entitlements

Employee entitlements that are due to be settled beyond 12 months after the end of the reporting period in which the employee renders the related service, such as long service leave and retirement gratuities, are calculated on an actuarial basis. The calculations are based on:

- likely future entitlements accruing to staff, based on years of service, years to entitlement, the likelihood that staff will reach the point of entitlement, and contractual entitlements information
- the present value of the estimated future cash flows.

Presentation of employee entitlements

Salaries and wages accrued, annual leave, vested long service leave, and non-vested long service leave and retirement gratuities expected to be settled within 12 months of balance date are classified as a current liability. All other employee entitlements are classified as a non-current liability.

Superannuation schemes

Obligations for contributions to defined contribution schemes such as the State Sector Retirement Savings Scheme, KiwiSaver, and the Government Superannuation Fund are recognised as an expense in the statement of comprehensive revenue and expense as incurred.

Critical accounting estimates and assumptions

Long service leave and retirement gratuities

The measurement of the long service leave and retirement gratuities obligations depends on a number of factors that are determined on an actuarial basis using a number of assumptions. Two key assumptions used in calculating this liability include the discount rate and the salary inflation factor. Any changes in these assumptions will affect the carrying amount of the liability.

Expected future payments are discounted using discount rates derived from the yield curve of New Zealand government bonds. The discount rates used have maturities that match, as closely as possible, the estimated future cash outflows. The rates used range from 1.97 per cent to 3.92 per cent (2015/16: 2.12 per cent to 3.13 per cent) and a long-term salary growth of 3.1 per cent (2015/16: 3.0 per cent) were used. The discount rates and salary inflation factor used are those advised by the Treasury.

If the discount rate were to differ by 1 per cent from the Ministry's estimates, with all other factors held constant, the carrying amount of the liability and the surplus/deficit would be an estimated \$73,000 higher/lower.

If the salary inflation factor were to differ by 1 per cent from the Ministry's estimates, with all other factors held constant, the carrying amount of the liability and the surplus/deficit would be an estimated \$13,000 higher/lower.

Breakdown of employee entitlements

	2015/16 Actual \$000	2016/17 Actual \$000
Current portion		
Salary accruals	115	243
Annual leave	1,690	1,822
Long service leave and retirement gratuities	187	242
Total current portion	1,992	2,307
Non-current portion		
Long service leave and retirement gratuities	1,002	800
Total employee entitlements	2,994	3,107

14. Capital management**Accounting policy**

The Ministry's capital is its equity, which comprise taxpayers' funds, memorandum accounts, and property revaluation reserves. Equity is represented by net assets.

The Ministry manages its revenues, expenses, assets, liabilities, and general financial dealings prudently. The Ministry's equity is largely managed as a by-product of managing revenue, expenses, assets, liabilities, and compliance with the government budget processes, Treasury instructions, and the Public Finance Act.

The objective of managing the Ministry's equity is to ensure that the Ministry effectively achieves its goals and objectives for which it has been established while remaining a going concern.

15. Related party transactions

The Ministry is a wholly owned entity of the Crown. The Government significantly influences the roles of the Ministry as well as being its major source of revenue.

Related party disclosures have not been made for transactions with related parties that are within a normal supplier or client/recipient relationship on terms and condition no more or less favourable than those that it is reasonable to expect the Ministry would have adopted in dealing with the party at arm's length in the same circumstances.

The Ministry enters into transactions with government departments, Crown entities, and state-owned enterprises on an arm's length basis. Transactions with other government agencies are not disclosed as related party transactions when they are consistent with the normal operating arrangements between government agencies and undertaken on the normal terms and conditions for such transactions.

Key management personnel compensation

	2015/16 Actual	2016/17 Actual
Environmental Leadership Team, including the Chief Executive		
Remuneration	\$1,560,947	\$1,500,831
Full-time equivalent staff	5	4.6

The above key management personnel compensation excludes the remuneration and other benefits received by the Minister for the Environment and the Minister for Climate Change Issues. The Ministers' remuneration and other benefits are not received only for their role as a member of key management personnel of the Ministry. The Ministers' remuneration and other benefits are set by the Remuneration Authority under the Civil List Act 1979 and are paid under Permanent Legislative Authority, and not paid by the Ministry.

16. Events after the balance sheet date

After balance date Cabinet decided to transfer the lead agency role for the Charles Fergusson Tower project to the Ministry for Primary Industries. The Kaikoura earthquake that occurred on 14 November 2016 impacted some participating agencies in the Wellington Accommodation Project Tranche Two programme. The Government Property Group reviewed the configuration of certain parts of this programme and recommended this transfer and other changes to the programme. All costs incurred and contractual commitments associated with this project will be transferred to the Ministry for Primary Industries at a date to be confirmed later in 2017.

There have been no other significant events after the balance date.

17. Financial instruments

Financial instrument categories

The carrying amounts of financial assets and financial liabilities in each of the categories are as follows:

	2015/16 Actual \$000	2016/17 Actual \$000
Loans and receivables		
Cash and cash equivalents	5,221	4,075
Receivables	12,358	10,746
Total loans and receivables	17,579	14,821
Financial liabilities measured at amortised cost		
Payables (excluding revenue in advance)	6,127	5,476

Financial instruments' risks

The Ministry's activities expose it to a variety of financial instrument risks, including market risk, credit risk, and liquidity risk. The Ministry has policies to manage the risks associated with financial instruments and seeks to minimise exposure from financial instruments. These policies do not allow any transactions that are speculative in nature to be entered into.

Market risk

Currency risk

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Ministry has no significant exposure to currency risk on its financial instruments. Accordingly, no sensitivity analysis has been completed.

Fair value interest rate risk

Interest rate risk is the risk that the return on invested funds will fluctuate due to changes in market interest rates. Under the Public Finance Act 1989, the Ministry cannot raise a loan without Ministerial approval and no such loans have been raised. Accordingly, there is no interest rate exposure on funds borrowed.

The Ministry has no significant exposure to interest rate risk because it has no interest-bearing financial instruments.

Credit risk

Credit risk is the risk that a third party will default on its obligations to the Ministry, causing the Ministry to incur a loss.

In the normal course of its business, credit risk arises from receivables and deposits with banks.

The Ministry is permitted to deposit funds only with Westpac, a registered bank. Westpac bank has a high credit rating of AA- (Standard and Poor's credit rating). For its other financial instruments, the Ministry does not have significant concentrations of credit risk.

The Ministry's maximum credit exposure for each class of financial instrument is represented by the total carrying amount of cash and cash equivalents, and receivables. There is no collateral held as security against these financial instruments, including those instruments that are overdue or impaired.

Liquidity risk

Management of liquidity risk

Liquidity risk is the risk that the Ministry will encounter difficulty raising liquid funds to meet commitments as they fall due.

As part of meeting its liquidity requirements, the Ministry closely monitors its forecast cash requirements with expected cash draw-downs from the New Zealand Debt Management Office. The Ministry maintains a target level of available cash to meet liquidity requirements.

Contractual maturity analysis of financial liabilities, excluding derivatives

The table below analyses the Ministry's financial liabilities that will be settled based on the remaining period at the balance sheet date to the contractual maturity date. The amounts disclosed are the contractual undiscounted cash flows.

	Carrying amount \$000	Contractual cash flows \$000	Less than 6 months \$000	6 months - 1 year \$000	1-5 years \$000	More than 5 years \$000
2017						
Payables (note 10)	5,476	5,476	5,476	-	-	-
2016						
Payables (note 10)	6,127	6,127	6,127	-	-	-

18. Explanations of major variances against budget

Explanations for major variances from the Ministry's original 2016/17 budget figures are as follows:

(i) Statement of comprehensive income

	2016/17 Actual \$000	2016/17 Budget \$000	2016/17 Variance \$000
Crown revenue	62,705	58,161	4,544
Personnel costs	33,627	32,706	921
External resources	14,863	15,704	(841)
Rental and leasing	3,033	2,382	651

Crown revenue: The actual Crown revenue was higher than budget due to:

- a transfer of funding from 2015/16 for progressing work on resource management reforms and water management reforms
- a transfer of funding from 2015/16 to continue with the work on NZ ETS review
- additional funding allocated for progressing work to ratify the Paris Agreement and plan domestic action on climate change
- additional funding allocated through the 'Better Public Service (BPS) Seed Funding' for an Environmental Integrated Data Infrastructure Pilot (e-IDI) project.

Personnel costs and external resources: The actual personnel costs were higher and the external resources costs were lower than the initial budget due to reprioritising resources between the Ministry's current work programmes. The Ministry received additional funding for progressing the resource management reforms and climate change related work programme.

Rental and leasing: Actual expenditure was higher than budget due to additional rental expenditure incurred by the Ministry for its temporary accommodation following the Kaikoura earthquake.

(ii) Statement of financial position

	2016/17 Actual \$000	2016/17 Budget \$000	2016/17 Variance \$000
Cash and cash equivalents	4,075	2,063	2,012
Property, plant and equipment	2,735	1,961	774
Payables	5,476	7,231	(1,755)
Current employee entitlements	2,307	1,737	570

Cash and cash equivalents: The actual cash position was higher than budget largely due to the net operating surplus, offset by lower than forecast year end accruals.

Property, plant and equipment: The actual property, plant and equipment position was higher than budget due to the fit-out work at Charles Fergusson Tower progressing at a faster rate than expected at the time of Budget.

Payables: The actual payables were lower than budget due to lower than expected year-end accruals because a larger number of 2016/17 liabilities being paid out prior to year-end than expected.

Current employee entitlements: The actual outstanding current employee entitlements were higher than budget due to higher than expected leave accruals at year end where annual leave and retirement leave are based on assumptions of staff turnover and discount rates which cannot be projected with accuracy at the time of budgeting.

(iii) Statement of cash flows

	2016/17 Actual \$000	2016/17 Budget \$000	2016/17 Variance \$000
Receipts from the Crown	64,340	58,161	6,179
Payments to suppliers	26,222	25,248	974
Payments to employees	33,463	32,706	757

Explanations for variances in the Statement of cash flows are explained above.

Non-departmental statements and schedules

for the year ended 30 June 2017

The following non-departmental statements and schedules record the revenue, expenses, assets, liabilities, commitments, contingent liabilities, and contingent assets that the Ministry manages on behalf of the Crown.

Schedule of non-departmental revenue for the year ended 30 June 2017

	2015/16 Actual \$000	2016/17 Mains Forecast*	2016/17 Actual \$000	2017/18 Forecast*
Revenue				
Royalties	902	500	784	500
Levies	33,761	36,500	35,826	37,100
Emissions trading	272,106	349,832	444,377	542,507
Emissions Trading Scheme penalty revenue	34	-	117	-
Grants refund	24	-	-	-
Net changes in carbon price of New Zealand units	-	-	72,639	-
Total non-departmental revenue	306,827	386,832	553,743	580,107

* The statement of accounting policies provides explanations of these figures which are not subject to audit.

Explanations of significant variances against budget are detailed in note 8.

Schedule of non-departmental capital receipts for the year ended 30 June 2017

The Ministry on behalf of the Crown has no capital receipts (2015/16: \$nil).

Schedule of non-departmental expenses for the year ended 30 June 2017

	Notes	2015/16 Actual \$000	2016/17 Mains Forecast*	2016/17 Actual \$000	2017/18 Forecast*
Expenses					
Grants and settlements		25,723	59,262	38,215	58,460
Promotions		800	800	800	800
Subscriptions and contributions to international forums		1,080	1,185	1,025	1,185
Crown entity funding		26,117	25,267	25,267	25,267
Levy disbursement		16,875	18,000	17,398	18,000
Allocation of New Zealand Units		163,321	215,786	295,488	482,095
Net changes in carbon price of New Zealand units	5	1,502,530	-	-	58,296
GST input expense		8,539	13,236	9,974	13,988
Other		1,864	4,377	1,498	4,497
Total non-departmental expenses		1,746,849	337,913	389,665	662,588

* The statement of accounting policies provides explanations of these figures which are not subject to audit.

Explanations of significant variances against budget are detailed in note 8.

Schedule of non-departmental assets as at 30 June 2017

	Notes	2015/16 Actual \$000	2016/17 Mains Forecast*	2016/17 Actual \$000	2017/18 Forecast*
Assets					
Current assets					
Cash and cash equivalents		4,977	3,849	5,147	4,297
Receivables	2	8,145	8,500	8,861	8,500
Total current assets		13,122	12,349	14,008	12,797
Non-current assets					
Total non-departmental assets		13,122	12,349	14,008	12,797

* The statement of accounting policies provides explanations of these figures which are not subject to audit.

Explanations of significant variances against budget are detailed in note 8.

In addition, the Ministry monitors the Environmental Protection Authority which is a Crown entity. The investment in this entity is recorded within the Financial Statements of the Government on a line-by-line basis. No disclosure is made in this schedule.

Schedule of non-departmental liabilities as at 30 June 2017

	Notes	2015/16 Actual \$000	2016/17 Mains Forecast*	2016/17 Actual \$000	2017/18 Forecast*
Liabilities					
Current liabilities					
Payables	3	27,283	27,613	34,259	27,803
Provisions	5	2,281,613	1,169,426	2,061,331	2,003,235
Total current liabilities		2,308,896	1,197,039	2,095,590	2,031,038
Non-current liabilities					
Payables	3	120,829	116,689	116,688	114,230
Provisions	5	2,096	-	2,000	-
Total non-current liabilities		122,925	116,689	118,688	114,230
Total non-departmental liabilities		2,431,821	1,313,728	2,214,278	2,145,268

* The statement of accounting policies provides explanations of these figures which are not subject to audit.

Explanations of significant variances against budget are detailed in note 8.

Schedule of non-departmental commitments as at 30 June 2017

The Ministry, on behalf of the Crown, has no non-cancellable capital or lease commitments (2015/16: \$nil).

Schedule of non-departmental contingent liabilities and contingent assets as at 30 June 2017

Unquantifiable contingent liabilities and contingent assets

Environmental liabilities

Under common law and various statutes, the Crown may have responsibility to remedy adverse effects on the environment arising from Crown activities.

Liabilities for contaminated sites are recognised in accordance with PBE IPSAS 19: Provisions, Contingent Liabilities and Contingent Assets. Obligations for the clean up of contaminated sites expressed in announcements or legislation are not recognised where they are executory in nature or have not created a valid expectation in other parties that the Crown will discharge the obligation.

New Zealand Emissions Trading Scheme

Post-1989 forest land

Owners of post-1989 forest land (or those with a registered interest in the forest on the land) may voluntarily become participants in the New Zealand Emissions Trading Scheme (NZ ETS), and in so doing are entitled to receive New Zealand Units (NZUs) for the increase in carbon stock in their forests.

Those landowners who have not yet registered their post-1989 forest land or who have deregistered from the scheme have until the end of 2017 (the second five year period beginning 1 January 2013 to 31 December 2017) to decide whether to re-register and receive NZUs for the period beginning from 1 January 2013. If they do, they can claim NZUs for all the carbon stored in their forest from 1 January 2013 subject to review and approval of their applications.

Participants also have various legal obligations including the surrender of units if the carbon stocks in their registered forest areas fall below a previously reported level (for example, due to harvesting or fire). However, the surrender liability is capped at the amount of units previously received by the participant for that area of forest land (if any).

Assets and liabilities relating to the post-1989 forestry sector have only been recognised in these non-departmental financial statements and schedules to the extent that participants have registered in the scheme at 30 June 2017.

Pre-1990 forest land

Pre-1990 forest land is an area that was forest land on 31 December 1989, and that on 31 December 2007 is still forest land and is covered by predominantly exotic forest species.

Subject to various exemptions, if an area of more than two hectares of pre-1990 forest land is deforested in any five year period from 1 January 2008, the landowner becomes a mandatory participant in the NZ ETS. The landowner must submit an emissions return and either surrender units or pay cash at a rate of \$25 per NZU for emissions resulting from deforestation.

At 30 June 2017, there may be some deforestation which has not yet been reported to the Crown.

The Ministry on behalf of the Crown has no other contingent liability or assets (2015/16: \$nil).

Notes to the non-departmental financial statements

1. Statement of accounting policies for the year ended 30 June 2017

Reporting entity

These non-departmental statements and schedules present financial information on public funds managed by the Ministry on behalf of the Crown.

These non-departmental balances are consolidated into the Financial Statements of the Government. For a full understanding of the Crown's financial position, results of operations, and cash flows for the year, refer to the Financial Statements of the Government for the year ended 30 June 2017.

Basis of preparation

These non-departmental statements and schedules have been prepared in accordance with the Government's accounting policies as set out in the Financial Statements of the Government, and in accordance with relevant Treasury instructions and Treasury circulars.

Measurements and recognition rules applied in the preparation of these non-departmental statements and schedules are consistent with New Zealand generally accepted accounting practice (Tier 1 Public Sector Public Benefit Entity Accounting Standards) as appropriate for public benefit entities.

The accounting policies adopted in these financial statements are consistent with those of the previous financial year.

The accounting policies set out below have been applied consistently to all periods presented in these financial statements.

The following particular accounting policies have been applied:

Significant accounting policies

Budgeting and forecasting figures

The budget figures are those included in the Estimates of Appropriations (Budget) for the year ending 30 June 2017 and the Supplementary Estimates of Appropriations (Revised Budget) for the year ending 30 June 2017 (the Budget is 2016 Budget Economic and Fiscal Update (BEFU 2016) out-year 1 figures and the Revised Budget is SUPPS 2017 out-year 0 figures).

The budget figures have been prepared in accordance with NZ GAAP, using accounting policies that are consistent with those adopted in preparing these financial statements and are based on PBE standards.

The Budget figures used in these financial statements for the New Zealand Emissions Trading Scheme (NZ ETS) surrender of units and allocation of NZUs were valued using market prices per carbon unit at the time of Budget forecast. Similarly, the liability provision for the NZ ETS was valued using market price per carbon unit at the time of Budget forecast. Budget (Main forecast) figure for the appropriation of Allocation of New Zealand Units is based on NZ\$12.50 per carbon unit and the revised forecast figure for appropriation was calculated based on NZ\$25 per carbon unit to mitigate the risk of breaching the appropriation.

The forecast figures are those included in the Estimates of appropriations for the year ending 30 June 2018 (the Forecast is 2017 Budget Economic and Fiscal Update (BEFU 2017) out-year 1 figures) except for the figures used in these financial statements for the NZ ETS surrender of units and allocation of NZUs, these are valued using market prices per carbon unit at the time of the 2017 Pre-election Economic and Fiscal Update (PREFU 2017) forecast. Similarly, the liability provision for the NZ ETS is valued using market prices per carbon unit at the time of PREFU 2017 forecast. Forecast figure for the appropriation of Allocation of New Zealand Units was valued at NZ\$25 per carbon unit.

The forecast figures are unaudited and have been prepared in accordance with the requirements of the Public Finance Act 1989, and comply with Tier 1 PBE accounting standards and other applicable financial reporting standards, as appropriate for public benefit entities. They are to be used in the future for reporting historical general purpose financial statements.

The forecast figures contained in these financial statements reflects the Ministry's purpose and activities and are based on a number of assumptions on what may occur during the year 2017/18. Events and circumstances may not occur as expected. Factors that could lead to material differences between the forecast financial statements and the 2017/18 actual financial statements include changes to the baseline forecast through new initiatives, or technical adjustments.

New Zealand Emissions Trading Scheme

The NZ Emissions Trading Scheme (NZ ETS) is New Zealand's primary response to global climate change. It puts a price on greenhouse gases to provide an incentive to reduce emissions, invest in energy efficiency, and plant trees.

The purpose of the scheme is to help reduce New Zealand's emissions to below business-as-usual levels and help New Zealand meet its international obligations under the United Nations Framework Convention on Climate Change and the Kyoto Protocol. This is achieved by establishing a price on emissions, which creates a financial incentive for emitters to reduce their emissions.

In operation since 2008, the mandatory NZ ETS currently covers emissions from forestry, stationary energy, industrial processes and liquid fossil fuels, which are collectively responsible for roughly 50 per cent of New Zealand's emissions. Emissions from waste are covered by the NZ ETS from 2013, while emissions from synthetic gases are covered by the NZ ETS or a levy from 2013. Since 1 January 2012, the agricultural sector has had mandatory reporting obligations under the NZ ETS. The New Zealand Emissions Trading Scheme is the system in which New Zealand Units (NZUs) are traded. Under the NZ ETS, certain sectors are required to acquire and surrender NZUs or other eligible emission units to account for their direct greenhouse gas emissions or the emissions associated with their products.

Detailed information can be found on the Ministry for the Environment's website:

www.mfe.govt.nz/climate-change/reducing-greenhouse-gas-emissions/nz-emissions-trading-scheme.

The Ministry collects forecast information in relation to the allocation and surrender of units from different agencies:

- The Ministry for Primary Industries provides information on Post 89 and PFSI allocation, deforestation and deregistration forecast.
- The Ministry of Business, Innovation and Employment provides information for surrender of units for Liquid fossil fuels and Stationary energy and industrial processes.
- The Environmental Protection Authority provides information on allocation of units to industrial sectors and other removable activities.
- The Ministry for the Environment provides surrender forecast for Synthetic Greenhouse Gases (SGG) and the Waste sectors; and allocation forecast for SGG, Waste sectors and the Negotiated Greenhouse Agreements.

Revenue

The Ministry collects revenue on behalf of the Crown. This revenue includes the Waste Disposal Levy which is legislated under the Waste Minimisation Act 2008, the Synthetic Greenhouse Gas Levy under the Climate Change Response Act 2002, and the Climate Change (Synthetic Greenhouse Gas Levies) Regulations 2013 and from the surrender of units under the New Zealand Emissions Trading Scheme (NZ ETS).

The Waste Disposal Levy revenue is recognised in the month when waste is disposed at landfill.

The Synthetic Greenhouse Gas Levy revenue is recognised in the month when it is collected by the New Zealand Transport Agency.

Revenue (including accruals) arising from the NZ ETS is recognised when a participant makes emissions or a liability to the Crown is incurred.

Expenses

Grant expenditure

Non-discretionary grants are those grants awarded if the grant application meets the specified criteria. They are recognised as expenditure when an application that meets the specified criteria for the grant has been received.

Discretionary grants are those grants where the Ministry has no obligation to award on receipt of the grant application.

For discretionary grants without substantive conditions, the total committed funding over the life of the funding agreement is recognised as expenditure when the grant is approved by the relevant committee or body and the approval has been communicated to the applicant for example, Environmental Legal Assistance.

Grants with substantive conditions are recognised as an expense at the earlier of the grant payment date or when the grants conditions have been satisfied.

Allocation of New Zealand Units (NZUs) under the NZ ETS

Expenses (including accruals) arising from the allocation of NZUs under the NZ ETS is recognised as follows:

- For NZUs issued as one-off compensation (such as the pre-1990 forestry allocation), expenditure is recognised at the point that the participant has provided all relevant information to the Government to show they have met the criteria and rules for the issue of NZUs and are entitled to them under the NZ ETS.
- For NZUs issued for carbon sequestration (such as post-1989 forestry) or as annual compensation for NZ ETS costs (such as the industrial allocation), expenditure is recognised when the carbon is sequestered (based on forecasts of sequestration for registered participants in the scheme at each reporting date) or as the emissions compensated by the industrial allocation occur.

The methodology used to approximate the price at the date of each transaction is the lower of the monthly average NZU price and the spot NZU price at the end of each month.

Settlement expenditure

An expense and an associated provision is recognised for settlement agreements with Waikato River iwi and other iwi on the initialling of the deeds of settlement by the Crown and the relevant iwi.

Foreign exchange

Foreign currency transactions are translated into New Zealand dollars using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of the monetary assets and liabilities denominated in foreign currencies are recognised in the schedule of non-departmental revenue or expenses.

Goods and services tax

All items in the financial statements, including appropriation statements, are stated exclusive of GST, except for receivables and payables, which are stated on a GST inclusive basis. In accordance with the Treasury instructions, GST is returned on revenue received on the behalf of the Crown, where applicable. However, an input tax deduction is not claimed on non-departmental expenditure. Instead, the amount of GST applicable to non-departmental expenditure is recognised as a separate expense and eliminated against GST revenue on consolidation of the Financial Statements of the Government.

Commitments

Future expenses and liabilities to be incurred on non-cancellable contracts that have been entered into at balance date are disclosed as commitments to the extent that there are equally unperformed obligations.

Cancellable commitments that have penalty or exit costs explicit in the agreement on exercising that option to cancel are included in the statement of commitments at the lower of the remaining contractual commitment and the value of that penalty or exit cost.

Contingent liabilities

Contingent liabilities are disclosed at the point at which the contingency is evident.

Critical accounting estimates and assumptions

The preparation of financial statements in conformity with PBE accounting standards requires judgements, estimates and assumptions that affect the application of policies and reported amounts of assets, liabilities, revenue and expenses.

The estimates and associated assumptions are based on historical experience and various other factors that are considered to be reasonable under the circumstances. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised, if the revisions affect only that period, or in the period of the revisions and future periods if the revisions affect both current and future periods.

Judgements that have a significant effect on the financial statements and estimates with a significant risk of material adjustments in the next year are discussed in the notes to the financial statements.

Note 5 provides the key assumptions used in determining the provision for the allocation of NZUs.

2. Receivables

Accounting policy

Receivables are initially measured at fair value and subsequently measured at amortised cost using the effective interest rate, less any provision for impairment.

Breakdown of receivables and further information

	2015/16 Actual \$000	2016/17 Actual \$000
Receivables	6,629	5,931
Fines and penalties receivable	120	4
Accrued revenue	2,553	2,937
Total receivables	9,302	8,872
Less provision for impairment	(1,157)	(11)
Total receivables – non-exchange	8,145	8,861

The carrying amounts of receivables approximates their fair value and are all current.

As at 30 June 2017 and 2016, all receivables have been assessed for impairment. The Ministry has identified one receivable that is not likely to be collected and accordingly it is impaired \$10,836 (2015/16: \$1.157 million).

	Gross \$000	2015/16 Impairment \$000	Net \$000	Gross \$000	2016/17 Impairment \$000	Net \$000
Not past due	8,750	(605)	8,145	8,868	(11)	8,857
Past due 1 – 90 days	136	(136)	-	2	-	2
Past due 90 – 180 days	-	-	-	2	-	2
Past due 180 – 360 days	22	(22)	-	-	-	-
Past due > 360 days	394	(394)	-	-	-	-
Total	9,302	(1,157)	8,145	8,872	(11)	8,861

3. Payables

	2015/16 Actual \$000	2016/17 Actual \$000
Current payables are represented by:		
Waikato River Co-management	5,708	5,708
Waikato River Clean-up Fund	6,906	6,904
GST payable	454	527
Other payables	14,215	21,120
Total current portion	27,283	34,259
Non-current payables are represented by:		
Waikato River Co-management	40,406	38,198
Waikato River Clean-up Fund	80,423	78,490
Total non-current portion	120,829	116,688
Total payables - non-exchange	148,112	150,947

The carrying value of payables approximates their fair value.

Payables are non-interest bearing and are normally settled within 30 days except for the Waikato River Co-management and the Waikato River Clean-up Fund. These payments are settled on the due dates.

Recognition of future discounted cash flows for the Waikato River Funds

	Payables					Total \$000
	2017-2020 \$000	2021-2025 \$000	2026-2030 \$000	2031-2035 \$000	2036-2040 \$000	
Co-management						
Nominal	16,000	25,000	23,000	-	-	64,000
Discount	(1,687)	(7,501)	(10,906)	-	-	(20,094)
Recognised	14,313	17,499	12,094	-	-	43,906
Clean up						
Nominal	21,999	36,665	36,665	36,665	22,008	154,002
Discount	(2,474)	(11,003)	(17,534)	(22,370)	(15,227)	(68,608)
Recognised	19,525	25,662	19,131	14,295	6,781	85,394

The table above reconciles the cash outflows that will occur over the next 21 years.

4. Financial instruments

The carrying amounts of financial assets and financial liabilities in each of the categories are as follows:

	2015/16 Actual \$000	2016/17 Actual \$000
Loans and receivables		
Cash and cash equivalents	4,977	5,147
Receivables (excludes fines and penalties receivable)	8,025	8,857
Total loans and receivables	13,002	14,004
Financial liabilities measured at amortised cost		
Payables	148,112	150,947

Credit risk

Credit risk is the risk that a third party will default on its obligation, causing a loss to be incurred. Credit risk arises from deposits with banks and receivables.

Funds must be deposited with Westpac, a registered bank.

The maximum credit exposure for each class of financial instrument is represented by the total carrying amount of cash and cash equivalents and net receivables. There is no collateral held as security against these financial instruments, including those instruments that are overdue or impaired. Other than Westpac bank, there are no significant concentrations of credit risk.

5. Provisions

Accounting policy

A provision is recognised for future expenditure of uncertain amount or timing when there is a present obligation (either legal or constructive) as a result of a past event, it is probable that an outflow of future economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation. Provisions are not recognised for future operating losses.

Provisions are measured at the present value of the expenditure expected to be required to settle the obligation using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to the passage of time is recognised as a finance cost.

The provision for the allocation of NZUs is remeasured using the current spot price at each reporting date.

	2015/16 Actual \$000	2016/17 Actual \$000
Current portion		
Allocation of New Zealand Units*	2,250,017	2,028,535
Te Awa Tupua Putea	30,000	30,000
Te Awa Tupua Whole of River Strategy	430	430
Te Pou Tupua	591	791
Transitional Support for Local Government and Iwi**	575	1,575
Total current portion	2,281,613	2,061,331
Non-current portion		
Te Pou Tupua	2,096	2,000
Total non-current portion	2,096	2,000
Total provisions	2,283,709	2,063,331

* Allocation of New Zealand Units provisions

** Transitional Support for Local Government and Iwi payments relate to:

- Tauranga Moana Framework Co-management arrangements – \$575,000
- Hauraki Collective: Natural Resources Arrangements – \$500,000
- Ngati Tuwharetoa: Final redress – \$400,000
- Ahuriri Hapu Deed of Settlement Natural Resources Arrangements – \$100,000.

	Te Awa Tupua Putea \$000	Te Awa Tupua Whole of River Strategy \$000	Te Pou Tupua \$000	Transitional Support for Local Government and Iwi \$000	Allocation of New Zealand Units \$000	Total \$000
Balance at 1 July 2015	28,881	414	2,587	554	855,235	887,671
Additional provisions made	1,119	16	100	21	163,321	164,577
Amounts used	-	-	-	-	(271,069)	(271,069)
(Gains)/losses	-	-	-	-	1,502,530	1,502,530
Balance at 30 June 2016	30,000	430	2,687	575	2,250,017	2,283,709
Balance at 1 July 2016	30,000	430	2,687	575	2,250,017	2,283,709
Additional provisions made	-	-	104	1,000	295,488	296,592
Amounts used	-	-	-	-	(444,331)	(444,331)
(Gains)/losses	-	-	-	-	(72,639)	(72,639)
Balance at 30 June 2017	30,000	430	2,791	1,575	2,028,535	2,063,331

Provision for NZ ETS credits

	2015/16 Units in million	2015/16 Amount in \$million	2016/17 Units in million	2016/17 Amount in \$million
Opening provision	125.8	855	126.8	2,250
New provision recognised during the period	12.2	163	17.2	295
Provision used during the period	(11.2)	(271)	(26.0)	(444)
(Gains)/losses	-	1,503	-	(73)
Closing provision	126.8	2,250	118.0	2,028

Recognition of future discounted cash flows for the Whanganui River Funds and Transitional Support for Local Government and Iwi

	Provisions				Total
	2017-2020 \$000	2021-2025 \$000	2026-2030 \$000	2031-2035 \$000	\$000
Te Awa Tupua Putea					
Nominal	30,000	-	-	-	30,000
Discount	-	-	-	-	-
Recognised	30,000	-	-	-	30,000
Te Pou Tupua					
Nominal	1,200	1,000	1,000	800	4,000
Discount	(56)	(266)	(439)	(448)	(1,209)
Recognised	1,144	734	561	352	2,791
Transitional Support for Local Government and Iwi	575	-	-	-	575
Additional provision made	1,000	-	-	-	1,000
Discount	-	-	-	-	-
Recognised	1,575	-	-	-	1,575

The table above reconciles the cash outflows that will occur over the next 20 years.

Allocation of New Zealand Units

The New Zealand Emissions Trading Scheme (NZ ETS) was established to encourage a reduction in greenhouse gas emissions. The NZ ETS creates a limited number of tradable units (the NZ Unit) which the Government can allocate freely or sell to entities. The allocation of NZ Units creates a provision. An expense is recognised in relation to the allocation of free units. The provision is reduced, and revenue recognised, as NZ Units are surrendered to the Crown by emitters. Emitters can also use the NZ\$25 price option to settle their emission obligation.

The Ministry has classified the provision for allocation of NZ Units as a current liability, because it does not have an unconditional right to defer settlement of the liability for at least 12 months after the reporting date. Based on forecasts of ETS activity, expected recovery/settlement is expected to occur as follows:

- within 12 months: \$527.180 million (2015/16: \$517.466 million)
- after more than 12 months: \$1,501.355 million (2015/16: \$1,732.551 million).

The carbon price of NZ\$17.20 (2015/16: NZ\$17.75) has been used to value NZ Units. This price is determined based on the current quoted NZ Units spot price at the end of the reporting date published by OM Financial Limited and reported on their CommTrade carbon website.

Details of current climate change policies are listed at: www.mfe.govt.nz/issues/climate/policies-initiatives.

New Zealand's obligation under the Kyoto Protocol

New Zealand has fully complied with its CP1 commitments and met obligations under the Kyoto Protocol with a surplus of 123.7 million units.

New Zealand's CP1 surplus units have no market value as they cannot be traded (2015/16: \$nil). However, New Zealand will recognise these surplus units to meet its 2020 emissions reduction target.

New Zealand's 2020 target under the UNFCCC

On 16 August 2013, the Government announced an unconditional 2020 climate change target of 5 per cent below 1990 emissions. For the period 2013-2020, New Zealand has chosen not to commit to a climate change target under the Kyoto Protocol's second commitment period. Instead, New Zealand has taken its target under the United Nations Framework Convention on Climate Change (UNFCCC). New Zealand will apply the Kyoto Protocol framework of rules to its unconditional 2020 target to ensure that its actions are transparent and have integrity. Because the 2020 target was taken under the UNFCCC it does not place any legally binding fiscal liability on the Crown. Therefore, this does not give rise to an obligation under PBE IPSAS 19: Provisions, Contingent Liabilities, and Contingent Assets.

However, the Ministry continues to report progress towards this target through its [2020 net position web page](#) and in its [biennial reports](#) under the UNFCCC.

New Zealand's 2030 climate change target under the UNFCCC

New Zealand signed the Paris Agreement on 22 April 2016 at a ceremony in New York and ratified the Paris Agreement on 4 October 2016 (New York time).

On 4 October 2016, New Zealand helped make history by depositing an 'instrument of ratification' with the UN Secretary General, therefore agreeing to be bound by the terms of the agreement. The following day, the threshold for the agreement to enter into force was met (when 55 countries responsible for 55 per cent of global emissions ratified the agreement). The agreement entered into force on 4 November 2016, 30 days after the threshold was met.

Though the Paris Agreement has been ratified by 55 countries, the accounting rules for this framework have yet to be finalised. In addition, the target itself does not place any legally binding obligations on the Parties. The fiscal risk that could be imposed is therefore unknown. For more information on the Paris Agreement, refer to the Ministry's [Paris Agreement web page](#).

6. Events after the balance sheet date

No significant events which may impact on the results have occurred between year end and the signing of these financial statements.

7. Memorandum account for the Waste Minimisation Fund

	2015/16 Actual \$000	2016/17 Actual \$000
Provision for statutory information		
Balance at 1 July	29,105	38,997
Revenue from waste levy collection	33,702	34,874
Expenses	(23,810)	(29,813)
Balance at 30 June	38,997	44,058

The memorandum account records the Waste Disposal Levy collected which has not been spent to date. As at 30 June 2017, the Waste Minimisation Fund has \$33.6 million commitments to be paid on delivery of projects. The revenue represents the levy that is collected by waste disposal facilities. The expenses represent the disbursement of the received levy to territorial authorities, the Waste Minimisation Fund, and the administration cost incurred by the Ministry. The disbursements of the levy to territorial authorities and the Waste Minimisation Fund are included as part of the Non-departmental schedules of revenue and expenses.

8. Explanations of major variances against mains forecast

Explanations for major variances from the Ministry's non-departmental main forecast figures are as follows:

(i) Schedule of non-departmental revenue

	2016/17 Actual \$000	2016/17 Mains Forecast \$000	Variance \$000
Emissions trading	444,377	349,832	94,545
Net changes in carbon price of New Zealand units	72,639	-	72,639

Emissions trading: The actual revenue from surrendering units under the New Zealand Emissions Trading Scheme from emitters was higher than mains forecast primarily due to an increase in the price of New Zealand Units. However, this increase was partially offset by lower than forecast units surrendered by the forestry sector.

Net changes in carbon price of New Zealand units: The actual revenue from net changes in carbon price of New Zealand Units relates to the fluctuations in price of carbon unit during the year. These changes are considered to be a remeasurement under the Public Finance Act 1989 and do not require appropriation.

There were no other significant variances to mains forecast.

(ii) Schedule of non-departmental expenses

	2016/17 Actual \$000	2016/17 Mains Forecast \$000	Variance \$000
Grants and settlements	38,215	59,262	(21,047)
Allocations of New Zealand Units	295,488	215,786	79,702
Others	1,498	4,377	(2,879)

Grants and settlements: Expenditure on grants and settlements were lower than mains forecast primarily due to the following:

- **Community Environment Fund:** Expenditure was lower than the mains forecast due to delays in negotiating contracts from the 2016 funding round. The Ministry has sought an expense transfer of funding to 2017/18 and 2018/19 for projects that support the implementation of the freshwater and resource management reforms, and other initiatives. This transfer represents the rephasing of funding to match the expected delivery of project milestones.
- **Contaminated Sites Remediation Fund:** Expenditure was lower than the mains forecast due to delays in progressing work on the remediation of the Kopeopeo Canal project and to support the remediation work for the Calwell Slipway project. The physical works for the Kopeopeo Canal project was delayed as a result of the lengthy consenting process following an appeal to the Environment Court. The delay in the Calwell Slipway project is due to availability of the Contractor to commence physical work. The Ministry has sought an expense transfer of funding to 2017/18.
- **Contestable Waste Minimisation Fund:** Expenditure was lower than the mains forecast due to projects experiencing delays. Further, timing differences between the introduction of the Waste Disposal Levy and the establishment of the Fund means forecast change is completed during baseline updates to match the expected spend over the forecast period.
- **Fresh Start for Fresh Water: Rotorua Te Arawa Lakes Programme** (a multi-year appropriation): Expenditure was lower than the mains forecast due to delays in the delivery of milestones. Funding has been rephased to match the amount with the revised timing of the deliverables of the project.
- **The Freshwater Improvement Fund:** No expenditure was incurred in this appropriation. The Ministry has sought an expense transfer to 2017/18 due to delays in establishing a contestable funding round (including panel assessment). Contract negotiations with successful applicants are likely to occur in the beginning of the 2017/18 financial year.

Allocation of New Zealand Units: Expenditure for Allocation of New Zealand Units was higher than mains forecast primarily due to an increase in the price of New Zealand Units. This increase was partially offset by lower than forecast units allocated to post-1989 forestry and industrial sectors.

Others: Others include expenditure related to Water science and economics and Impairment of debt related appropriations.

Expenditure in the Water science and economics appropriation was lower than mains forecast. The Ministry has sought an expense transfer to 2017/18 to support development of attributes for inclusion in a future revision of the National Policy Statement for Freshwater Management.

(iii) Statement of assets

	2016/17 Actual \$000	2016/17 Mains Forecast \$000	Variance \$000
Cash and cash equivalents	5,147	3,849	1,298

Cash and cash equivalents: The Ministry drew more funding from the Crown in anticipation of payments due to certain grants and settlements, and this has resulted in higher than the forecast cash and cash equivalents.

(iv) Statement of liabilities

	2016/17 Actual \$000	2016/17 Mains Forecast \$000	Variance \$000
Payables	150,947	144,302	6,645
Provisions	2,063,331	1,169,426	893,905

Payables: The actual payables were higher than mains forecast due to higher than anticipated accruals.

Provisions: Provisions include Allocation of New Zealand Units, the Whanganui River funds payment and the Transitional Support for Local Government and Iwi (co-management arrangements payments).

The provision relating to the Allocation of New Zealand Units was higher than mains forecast primarily due to an increase in the price of New Zealand Units.

The provision relating to the Whanganui River funds payment was due to the recognition of an obligation in 2013/14 in net present value terms. The settlement legislation has been enacted in March 2017. These funds will be paid once all the institutions are established.

The provision relating to the Transitional Support for Local Government and Iwi (co-management arrangements payments) is expected to be paid once legislations are enacted.

Statement of expenses and capital expenditure

for the year ended 30 June 2017

The following statements report information about the expenses and capital expenditure incurred against each appropriation administered by the Ministry for the year ended 30 June 2017.

Statement of budgeted and actual expenses and capital expenditure incurred against appropriations for the year ended 30 June 2017

Annual and permanent appropriations for Vote Environment

	2015/16 Expenditure \$000	2016/17 Budget* \$000	2016/17 Revised Budget* ²⁶ \$000	2016/17 Expenditure ²⁷ \$000	2017/18 Forecast* \$000	Location of end-of-year performance information ²⁸
Departmental output expenses						
Ministerial Services	2,130	2,183	2,195	2,111	2,183	1
Waste Minimisation Administration	1,690	1,714	2,500	1,922	2,500	1
Total departmental output expenses	3,820	3,897	4,695	4,033	4,683	
Departmental capital expenditure						
Capital Expenditure – Permanent Legislative Authority under section 24(1) of the PFA	316	1,582	4,293	2,871	9,833	1
Non-departmental output expenses						
Administration of New Zealand Units held on Trust	177	177	177	165	177	4
Community Environment Fund	1,693	3,105	1,805	1,711	2,362	4
Contaminated Sites Remediation Fund	1,227	8,412	6,416	3,364	5,780	2
Contestable Waste Minimisation Fund	5,245	12,583	11,797	10,493	16,797	2
Emissions Trading Scheme	6,692	6,392	6,392	6,392	6,392	3
Environmental Protection Authority: Decision Making functions	-	11,631	12,613	12,613	11,631	3
Environmental Protection Authority: Monitoring and Enforcement functions	-	7,244	6,262	6,262	7,244	3
Environmental Training Programmes	1,900	1,900	1,900	1,900	1,900	4
Fresh Start for Fresh Water: New Initiatives	266	-	-	-	-	
Lake Taupo Protection Programme	3,767	3,767	3,767	3,767	2,950	4
Promotion of Sustainable Land Management	800	800	800	800	800	4
Te Mana o Te Wai – restoring the life-giving capacity of fresh water	329	2,030	2,071	2,020	3,200	4
The Freshwater Improvement Fund	-	2,500	500	-	7,000	4
Total non-departmental output expenses	22,096	60,541	54,500	49,487	66,233	

* The statement of accounting policies provides explanations of these figures which are not subject to audit.

26 This includes adjustments made in the Supplementary Estimates and transfers under the Public Finance Act 1989.

27 Departmental appropriations amounts excludes remeasurement of \$50,809 (2015/16: \$97,137).

28 The numbers in this column represent where the end-of-year performance information has been reported for each appropriation administered by the Ministry, as detailed below:

1. The Ministry's annual report.
2. To be reported by the Minister for the Environment in a report appended to this annual report.
3. To be reported by the Environmental Protection Authority in their annual report.
4. No reporting due to an exemption obtained under section 15D of the Public Finance Act.

	2015/16 Expenditure \$000	2016/17 Budget* \$000	2016/17 Revised Budget**26 \$000	2016/17 Expenditure ²⁷ \$000	2017/18 Forecast* \$000	Location of end-of-year performance information ²⁸
Non-departmental other expenses						
Allocation of New Zealand Units	163,321	224,777	470,523	295,488	680,925	2
Climate Change Development Fund	300	300	300	300	300	4
Environmental Legal Assistance	575	600	600	600	600	4
Exclusive Economic Zone Major Prosecutions Fund	-	-	500	-	-	4
Framework Convention on Climate Change	125	140	140	121	140	4
Fresh Start for Fresh Water: Waikato River Clean-up Fund	5,403	5,398	5,398	5,398	5,302	2
Impairment of Debt relating to Climate Change Activities	1,157	12,200	12,200	11	12,200	4
Impairment of Debt relating to Environment Activities	-	1,500	1,500	-	1,500	4
International Subscriptions	126	152	152	97	152	4
Rotorua Water Supply	-	1,075	1,075	1,075	-	4
Te Awa Tupua Putea	1,118	-	-	-	-	
Te Awa Tupua Whole of River Strategy	16	-	-	-	-	
Te Pou Tupua	100	104	104	104	107	4
Transitional Support for Local Government and Iwi	21	1,500	1,000	1,000	620	4
United Nations Environment Programme	529	593	593	507	593	4
Waikato River Co-governance	1,195	910	910	910	910	4
Waikato River Co-management	2,868	2,793	2,793	2,793	2,664	4
Waste Disposal Levy Disbursement to Territorial Authorities	16,875	18,000	18,000	17,398	18,000	2
Total non-departmental other expenses	193,729	270,042	515,788	325,802	724,013	
Multi-category appropriations						
Climate Change MCA	11,330	9,884	12,714	11,882	12,458	1
Departmental output expenses						
Carbon Monitoring Programme	3,669	2,687	2,708	2,637	2,187	
Domestic Climate Change Programme Policy Advice	4,127	3,537	6,063	5,711	6,496	
International Climate Change Programme Policy Advice	3,489	3,611	3,894	3,487	3,726	
Synthetic Greenhouse Gas Levy	45	49	49	47	49	

	2015/16 Expenditure \$000	2016/17 Budget*	2016/17 Revised Budget* ²⁶ \$000	2016/17 Expenditure ²⁷ \$000	2017/18 Forecast*	Location of end-of-year performance information ²⁸
Environmental Management Obligations and Programmes MCA	3,523	3,567	3,491	3,142	3,467	1
Departmental output expenses						
Domestic Obligations and Programmes	1,645	1,660	1,567	1,301	1,560	
International Obligations and Institutions Policy Advice	1,878	1,907	1,924	1,841	1,907	
Environmental Protection Authority: Regulatory Functions MCA	19,425	-	-	-	-	
Non-departmental output expenses						
Decision Making	13,481	-	-	-	-	
Monitoring and Enforcement	5,944	-	-	-	-	
Improving Environmental Management MCA	39,361	43,650	43,463	40,764	44,784	1
Departmental output expenses						
Developing and Implementing Treaty Settlements and Environmental Accords Policy Advice	946	1,100	2,027	1,721	1,900	
Marine Environment Policy Advice	2,447	2,669	4,014	3,700	4,169	
Resource Management Implementation	10,207	8,818	11,797	11,688	11,912	
Resource Management Policy Advice	8,462	9,596	7,773	7,568	7,066	
Water Management Implementation	5,618	6,205	3,264	3,055	2,805	
Water Management Policy Advice	11,151	11,062	12,588	11,674	12,612	
Non-departmental output expenses						
Water science and economics	530	4,200	2,000	1,358	4,320	
Mitigating Environmental Hazards and Waste MCA	2,137	2,318	1,942	1,692	1,918	1
Departmental output expenses						
Environmental Hazards and Waste Policy Advice	1,612	1,696	1,309	1,215	1,296	
Waste Management and Minimisation	525	622	633	477	622	
Total multi-category appropriations	75,776	59,419	61,610	57,480	62,627	
Total annual and permanent appropriations	295,737	395,481	640,886	439,673	867,389	

Statement of budgeted and actual expenses and capital expenditure incurred against appropriations (continued) for the year ended 30 June 2017

Remeasurement

In 2016/17, the Crown has reported a remeasurement gain of \$73 million in relation to the provision of the allocation of New Zealand Units under the Emissions Trading Scheme (2015/16: the Crown reported a remeasurement loss of \$1,503 million).

The remeasurement of the provisions takes account of the revisions in the prices of emission units. In accordance with section 4(2)(a) of Part One of the Public Finance Amendment Act 2004, changes in assets and liabilities due to remeasurements do not require appropriations.

Details of multi-year appropriations

On 1 July 2015, a multi-year appropriation, Fresh Start for Fresh Water: Rotorua Te Arawa Lakes Programme was established in Vote Environment, non-departmental output expenses for maintaining and improving the water quality of the Rotorua Lakes. This appropriation expires on 30 June 2020.

	2015/16 Actual \$000	2016/17 Revised Budget* ²⁶ \$000	2016/17 Actual \$000
Appropriation for non-departmental output expenses:			
Fresh Start for Fresh Water: Rotorua Te Arawa Lakes Programme**			
Cumulative expenses to 1 July	-	-	-
Current year expenses	-	3,080	3,080
Cumulative expenses to 30 June	-	3,080	3,080
Remaining appropriation	23,000	19,920	19,920
Total appropriation	23,000	23,000	23,000

** The year-end information for the above multi-year appropriation is reported by the Minister for the Environment in a report appended to this annual report.

Statement of expenses and capital expenditure incurred without, or in excess of, appropriation or other authority for the year ended 30 June 2017

In the 2016/17 financial year there were no instances of expenses, and capital expenditure incurred without, or in excess of, appropriation or other authority, or outside of the scope of appropriation (2015/16: \$nil).

Statement of departmental capital injections for the year ended 30 June 2017

The Ministry did not have any capital injections for the year ended 30 June 2017 (2015/16: \$nil).

Statement of departmental capital injections without, or in excess of, authority for the year ended 30 June 2017

The Ministry has not received any capital injections during the year without, or in excess of, authority.

Statement of responsibility

I am responsible, as Chief Executive of the Ministry for the Environment (the Ministry), for:

- the preparation of the Ministry's financial statements, and statements of expenses and capital expenditure, and for the judgements expressed in them
- having in place a system of internal control designed to provide reasonable assurance as to the integrity and reliability of financial reporting
- ensuring that end-of-year performance information on each appropriation administered by the Ministry is provided in accordance with sections 19A to 19C of the Public Finance Act 1989, whether or not that information is included in this annual report
- the accuracy of any end-of-year performance information prepared by the Ministry, whether or not that information is included in the annual report.

In my opinion:

- the financial statements fairly reflect the financial position of the Ministry as at 30 June 2017 and its operations for the year ended on that date
- the forecast financial statements fairly reflect the forecast financial position of the Ministry as at 30 June 2018 and its operations for the year ending on that date.



Vicky Robertson
Chief Executive

29 September 2017

Independent Auditor's Report

AUDIT NEW ZEALAND
Mana Arotake Aotearoa

To the readers of the Ministry for the Environment's annual report for the year ended 30 June 2017

The Auditor-General is the auditor of Ministry for the Environment (the Ministry). The Auditor-General has appointed me, Chrissie Murray, using the staff and resources of Audit New Zealand, to carry out, on his behalf, the audit of:

- the financial statements of the Ministry on pages 110 to 134, that comprise the statement of financial position, statement of commitments, statement of contingent liabilities and contingent assets as at 30 June 2017, the statement of comprehensive revenue and expense, statement of changes in equity, and statement of cash flows for the year ended on that date and the notes to the financial statements that include accounting policies and other explanatory information;
- the performance information prepared by the Ministry for the year ended 30 June 2017 that comprises the long-term outcome measures on pages 54 to 55, 58, 61 to 62, 65 to 67, 70, 74 and 77, and the Measuring Our Performance section on pages 80 to 105;
- the statements of expenses and capital expenditure of the Ministry for the year ended 30 June 2017 on pages 153 to 157;
- the schedules of non-departmental activities which are managed by the Ministry on behalf of the Crown on pages 136 to 151 that comprise:
 - the schedules of assets; liabilities; commitments; and contingent liabilities and assets as at 30 June 2017;
 - the schedules of expenses; and revenue for the year ended 30 June 2017; and
 - the notes to the schedules that include accounting policies and other explanatory information.

Opinion

In our opinion:

- the financial statements of the Ministry:
 - present fairly, in all material respects:
 - its financial position as at 30 June 2017; and
 - its financial performance and cash flows for the year ended on that date; and
 - comply with generally accepted accounting practice in New Zealand in accordance with Public Benefit Entity Standards;
- the performance information of the Ministry:
 - presents fairly, in all material respects, for the year ended 30 June 2017:
 - what has been achieved with the appropriation; and
 - the actual expenses or capital expenditure incurred compared with the appropriated or forecast expenses or capital expenditure; and
 - complies with generally accepted accounting practice in New Zealand;
- the statements of expenses and capital expenditure of the Ministry are presented fairly, in all material respects, in accordance with the requirements of section 45A of the Public Finance Act 1989; and
- the schedules of non-departmental activities which are managed by the Ministry on behalf of the Crown present fairly, in all material respects, in accordance with the Treasury Instructions:
 - the assets, liabilities, commitments, and contingent liabilities and assets as at 30 June 2017; and
 - expenses and revenue for the year ended 30 June 2017.

Our audit was completed on 2 October 2017. This is the date at which our opinion is expressed.

The basis for our opinion is explained below. In addition, we outline the responsibilities of the Chief Executive and our responsibilities relating to the information to be audited, we comment on other information, and we explain our independence.

Basis for our opinion

We carried out our audit in accordance with the Auditor-General's Auditing Standards, which incorporate the Professional and Ethical Standards and the International Standards on Auditing (New Zealand) issued by the New Zealand Auditing and Assurance Standards Board. Our responsibilities under those standards are further described in the Responsibilities of the auditor section of our report.

We have fulfilled our responsibilities in accordance with the Auditor-General's Auditing Standards.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of the Chief Executive for the information to be audited

The Chief Executive is responsible on behalf of the Ministry for preparing:

- financial statements that present fairly the Ministry's financial position, financial performance, and its cash flows, and that comply with generally accepted accounting practice in New Zealand;
- performance information that presents fairly what has been achieved with each appropriation, the expenditure incurred as compared with expenditure expected to be incurred, and that complies with generally accepted accounting practice in New Zealand;
- statements of expenses and capital expenditure of the Ministry, that are presented fairly, in accordance with the requirements of the Public Finance Act 1989; and
- schedules of non-departmental activities, in accordance with the Treasury Instructions, that present fairly those activities managed by the Ministry on behalf of the Crown.

The Chief Executive is responsible for such internal control as is determined is necessary to enable the preparation of the information to be audited that is free from material misstatement, whether due to fraud or error.

In preparing the information to be audited, the Chief Executive is responsible on behalf of the Ministry for assessing the Ministry's ability to continue as a going concern. The Chief Executive is also responsible for disclosing, as applicable, matters related to going concern and using the going concern basis of accounting, unless there is an intention to merge or to terminate the activities of the Ministry, or there is no realistic alternative but to do so.

The Chief Executive's responsibilities arise from the Public Finance Act 1989.

Responsibilities of the auditor for the information to be audited

Our objectives are to obtain reasonable assurance about whether the information we audited, as a whole, is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit carried out in accordance with the Auditor-General's Auditing Standards will always detect a material misstatement when it exists. Misstatements are differences or omissions of amounts or disclosures, and can arise from fraud or error. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of readers, taken on the basis of the information we audited.

For the budget information reported in the information we audited, our procedures were limited to checking that the information agreed to the Statement of Intent 2016-2020 and Estimates and Supplementary Estimates of Appropriations 2016/17, and the 2016/17 forecast financial figures included in the Ministry's 2015/16 Annual Report.

We did not evaluate the security and controls over the electronic publication of the information we audited.

As part of an audit in accordance with the Auditor-General's Auditing Standards, we exercise professional judgement and maintain professional scepticism throughout the audit. Also:

- We identify and assess the risks of material misstatement of the information we audited, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- We obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Ministry's internal control.

- We evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Chief Executive.
- We evaluate the appropriateness of the reported performance information within the Ministry's framework for reporting its performance.
- We conclude on the appropriateness of the use of the going concern basis of accounting by the Chief Executive and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Ministry's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the information we audited or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Ministry to cease to continue as a going concern.
- We evaluate the overall presentation, structure and content of the information we audited, including the disclosures, and whether the information we audited represents the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the Chief Executive regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Our responsibilities arise from the Public Audit Act 2001.

Other information

The Chief Executive is responsible for the other information. The other information comprises the information included on pages 4 to 6, 35 to 53, 158 and 162, but does not include the information we audited, and our auditor's report thereon.

Our opinion on the information we audited does not cover the other information and we do not express any form of audit opinion or assurance conclusion thereon.

Our responsibility is to read the other information. In doing so, we consider whether the other information is materially inconsistent with the information we audited or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on our work, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

The Statement of Intent 2017-2021 that is appended to the Department's annual report is not part of the Department's annual report. The Public Finance Act 1989 does not require the information in the Statement of Intent to be audited and we have performed no procedures over this information.

Independence

We are independent of the Ministry in accordance with the independence requirements of the Auditor-General's Auditing Standards, which incorporate the independence requirements of Professional and Ethical Standard 1 (Revised): Code of Ethics for Assurance Practitioners issued by the New Zealand Auditing and Assurance Standards Board.

In addition to the audit we have carried out an engagement to provide assurance and probity advice for the Ministry's Science and Research Panel, which is compatible with those independence requirements. Other than the audit and the assurance and probity advice engagement, we have no relationship with or interests in the Ministry.



Chrissie Murray
 Audit New Zealand
 On behalf of the Auditor-General
 Wellington, New Zealand

Appendix 1

Implementation requirements for the New Zealand Business Number

New Zealand Business Number Act 2016

The Ministry is required to report on its progress to give effect to and have regard to requirements under the provisions of the New Zealand Business Number Act 2016. As a Tier 3 agency where NZBNs are concerned, we are required to have regard to requirement 1 by 31 December 2018; and to have regard to requirements 2 – 6 by 31 December 2020. We maintain links with agencies in tiers 1 and 2 to learn from the way they implement the requirements and will give them due consideration.



Ministry for the

Environment

Manatū Mō Te Taiao

New Zealand Government

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