



# Reflecting on our work about water management



Photo acknowledgement:  
Michal Klajban

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# Auditor-General's introduction

*E ngā mana, e ngā reo, e ngā karangarangatanga maha o te motu, tēnā koutou.*

Managing New Zealand's water resources is, by their nature, challenging. It includes providing safe and secure drinking water, providing effective wastewater and stormwater services, allocating and managing freshwater resources, and balancing the wide range of interests in our marine environment.

As we said when we introduced our programme of work on water management:

*The interconnectedness of the water cycle, the relationship between land use and water quality, and the place that water plays in our physical, economic, social, and cultural well-being are at the heart of the challenges associated with water management.<sup>1</sup>*

To manage water resources, public organisations in central and local government need to work in the short and long term with competing interests, often with limited information and resourcing. These challenges will become only more difficult as climate change and other pressures on our water resources become more significant.

The management of the country's water resources is of deep significance and concern to New Zealanders. People expect the water from their taps to be clean and safe, wastewater and stormwater to not pollute the environment, and our rivers, lakes, and oceans to be healthy ecosystems that are safe to swim in and to gather kai moana from. Failure to meet these expectations can cause lasting damage to the public's trust and confidence in public organisations.

For that reason, the work under our water theme during the last two years looked at how well public organisations are managing water resources and delivering water-related services for the benefit of New Zealanders now and in the years to come.

Given the significance of water issues, we expected to find:

- clear national strategies, objectives, and priorities that are reflected in regional and local strategies and planning documents;
- coherent work programmes that logically and consistently prioritise resources and activities, and improve collaboration between local and central government and non-governmental organisations;
- robust systems at national, regional, and local levels for gathering information and reporting on water management issues that are used to deliver continuous improvement;
- resourcing, planning, and strategic risk management that reflect the complexity, scale, and time frame of the issues that need to be addressed; and
- strong engagement models with communities of interest and, in particular, Māori.

<sup>1</sup> Office of the Auditor-General (2017), *Introducing our work programme – Water management*, page 8.

We found that, although much good work is being done, all of these elements were not in place. What we saw were public organisations trying to do the right thing while working with the resources they have, within the limits of their own roles and responsibilities, and in a context of increasing complexity and uncertainty.

What we did not see was clear agreement across central and local government about the vision for New Zealand's water resources – the issues, objectives, and priorities for water management over the long term that all organisations, public and private, should seek to address. For public organisations to manage water well, they need to know what they are trying to achieve and to monitor progress towards those goals.

The lack of clarity about what the issues are, how to address them, and who will deliver programmes of work increases the risk that public organisations are not directing their efforts towards the same outcomes. It also means that some organisations might carry out work that conflicts with or duplicates that of other organisations, and that investment and policy decisions are not targeted to address the greatest risks or achieve the greatest benefits.

We found that public organisations sometimes make decisions without reliable information about water resources and the infrastructure that delivers water-related services. This is consistent with findings in a recent report by the Parliamentary Commissioner for the Environment about New Zealand's environmental reporting system. That report noted that "Ours has been a passive system that has harvested whatever data is there and done the best it can to navigate what's missing ... when we try to find out what's happening on our land or what's happening to our water, there are huge gaps."<sup>2</sup>

For some time, we have reported that public organisations need better information about the condition and performance of assets, including water, wastewater, and stormwater assets. Because of gaps in this information, those responsible for managing the assets that deliver water-related services are often limited in their ability to make well-informed decisions. It also limits the ability to have informed conversations with communities about the risks they are willing to accept, such as the level of flood risk they might be exposed to.

I acknowledge the work under way to address water management challenges – in particular, the *Action for Healthy Waterways* and the *Three Waters Review*. However, my overall view is that, outside of those two work programmes, there remains a need for greater national leadership. What is required is agreement on a shared vision that sets out the strategic objectives and priorities for water management more generally and how public organisations and others will collectively deliver this. This is particularly important when multiple and

2 Parliamentary Commissioner for the Environment (2019), *Focusing Aotearoa New Zealand's environmental reporting system*, Wellington, page 4.

competing economic, environmental, social, and cultural outcomes are sought. Developing a vision also requires considering the capacity of public organisations that will be involved in its delivery, particularly in local government, and how to build community agreement in an often contested area.

I thank the many organisations and individuals involved in supporting this report and our work on water.

Nāku noa, nā

A handwritten signature in black ink, appearing to read 'JMR Ryan', with a stylized flourish at the end.

John Ryan  
Controller and Auditor-General

12 February 2020

# 1

## Our work on water management

- 1.1 New Zealanders have a right to expect that the public sector – local and central government – is managing the country’s water resources well, both now and into the future.
- 1.2 How public organisations carry out their governance and management responsibilities, how transparently they make decisions about water, and the reliability of the information that they use to make their decisions, significantly influence the future state of our water resources and the public’s trust and confidence that the public sector is managing water well.
- 1.3 In our October 2017 report *Introducing our work programme – Water management*, we said that we would consider how well organisations are carrying out their water management responsibilities to understand how New Zealand is positioned for the future.
- 1.4 During 2018 and 2019, we looked at elements of the management of drinking water, freshwater, stormwater, and the marine environment.
- 1.5 Our water management work focused on:
- the role of information;
  - innovation and good practice;
  - how organisations balance competing interests and priorities;
  - how organisations make investment decisions;
  - how organisations work together, with Māori, and with others; and
  - the capacity and capability of the public sector to address water management challenges.<sup>3</sup>
- 1.6 We completed seven performance audits looking at these issues. We published the results of those audits in the following reports:
- *Monitoring how water is used for irrigation* (May 2018);
  - *Managing the supply of and demand for drinking water* (September 2018);
  - *Sea Change – Tai Timu Tai Pari: Creating a marine spatial plan for the Hauraki Gulf* (December 2018);
  - *Managing stormwater systems to reduce the risk of flooding* (December 2018);
  - *Using different processes to protect marine environments* (June 2019);
- We intend to provide independent assurance to Parliament, the organisations that we audit, and New Zealanders about the state of water management. We will highlight any improvements that are needed in the public management of water and in the accountability and transparency of organisations for their decision-making and performance.*
- Office of the Auditor-General (2017), *Introducing our work programme – Water management*, page 4.



- *Managing freshwater quality: Challenges and opportunities* (September 2019); and
- *Crown investment in freshwater clean-up* (September 2019).

1.7 In this report, we highlight the issues we saw that influence whether water is being managed well. We also discuss the main areas we consider that the Government needs to prioritise to improve how water is managed. We have organised these issues under three headings:

- setting strategic direction;
- the role of information; and
- how public organisations work together and with others.

1.8 We have drawn from our seven water performance audits and our audit work more generally, with a particular focus on our audits of councils' 2018-28 long-term plans. We have also considered our relevant past reports and the relevant work of other agencies.

# 2

## A more strategic and integrated approach to water management is needed

- 2.1 In our view, a more strategic and integrated approach is needed to address New Zealand’s water management challenges. Developing and applying such an approach is complex because roles and responsibilities for water management are spread throughout the public sector.
- 2.2 Public organisations are established for a defined purpose and are limited by what their enabling legislation allows them to do.
- 2.3 Māori organisations, communities, and the private sector also play an important part in addressing New Zealand’s water management challenges.
- 2.4 A strategic and integrated approach to water management needs to provide a framework that promotes collaboration. It needs to build consensus on the main issues, and develop and implement responses and actions that work together towards a common goal over the long term.
- 2.5 The Government is proposing new ways in which agencies can work together. It has introduced the Public Service Legislation Bill to provide a legislative framework for achieving a more adaptive and collaborative public service.
- 2.6 The Government wants a public service that can better respond to complex issues and deliver better outcomes and better services to New Zealanders. The Public Service Legislation Bill provides for “... a more flexible set of options for organisational arrangements to support the public service in better responding to priorities and joining up more effectively ...”.<sup>4</sup>
- 2.7 In our work on water, we saw that many public organisations’ water management priorities and work programmes conflicted with or duplicated those of other public organisations. We also observed that changes to policies and standards for water management created uncertainty. This made it challenging for public organisations to plan, make investment decisions, and sustain efforts over the long term.
- 2.8 Meeting new and changing water standards also incurs significant costs. This has been highlighted in several reports, including two reports commissioned by the Department of Internal Affairs about costs to meet drinking water standards and the National Policy Statement for Freshwater Management as they relate to water and wastewater treatment plants.<sup>5</sup>

4 Public Service Legislation Bill, Explanatory note, page 2.

5 Beca Limited (2018), *Cost Estimates for Upgrading Water Treatment Plants to Meet Potential Changes to the New Zealand Drinking Water Standards*. GHD and Boffa Miskell (2018), *Three Waters Review: Cost Estimates for Upgrading Wastewater Treatment Plants to Meet Objectives of the NPS Freshwater – Final Report*. See also Beca Limited (November 2019), *Additional Analysis on Drinking Water Costs for Compliance*.

## The Government is responding to the need for a more strategic and integrated approach to water management

- 2.9 The Government's freshwater and drinking water reform programmes demonstrate its desire for a more strategic and integrated approach to water management. The 2018 publication *Essential Freshwater: Healthy Water, Fairly Allocated* states that "To achieve the Government's goal of healthier waterways and freshwater ecosystems, New Zealand needs a coherent policy framework that will lead and drive widespread change in behaviour."<sup>6</sup>
- 2.10 On 5 September 2019 the Government announced its *Action for Healthy Waterways* and began consultation on a package of proposals to support a material improvement in freshwater quality. Submissions were accepted until 31 October 2019. These proposals are a new National Policy Statement for Freshwater Management, a National Environmental Standard for freshwater, the concept of national standards for wastewater discharges and overflows, amendments to the national environmental standards for protecting sources of human drinking water, and regulations to keep stock away from waterways.
- 2.11 An independent advisory panel will provide ministers with a report recommending how to respond to submissions received and whether to proceed with proposals.
- 2.12 On 30 September 2019, the Government agreed to establish a new drinking water regulator as an independent Crown entity. This is one of the main decisions resulting from the Government's review of the regulation and supply arrangements of drinking water, wastewater, and stormwater (the three waters). It is an acknowledgement of the need for greater national oversight of the provision of safe drinking water.<sup>7</sup>
- 2.13 The challenge in seeking to achieve multiple outcomes for water management is ensuring that government policies, objectives, and priorities are clear and aligned. If they are not, the risk of conflicting actions and/or duplication of effort by public organisations and of making investment decisions that are not targeted to where the greatest benefits can be achieved will remain.
- 2.14 The Government is aware of this issue. It notes in its Cabinet paper on consultation on the *Essential Freshwater* reform proposals that "The Three Waters programme is proceeding in tandem with the *Essential Freshwater* work

6 Ministry for the Environment and Ministry for Primary Industries (2018), *Essential Freshwater: Healthy Water, Fairly Allocated*, Wellington, page 21.

7 Department of Internal Affairs (2019), *Three Waters Review*, at [www.dia.govt.nz](http://www.dia.govt.nz).

programme, and together they are designed to create a cohesive system to better manage urban and rural water issues”<sup>8</sup>

## A strategic and integrated approach would support targeting of investment decisions

- 2.15 Public organisations and others, including iwi, non-governmental organisations, and communities, invest significant time and money in managing water and delivering water-related services. It is important to use taxpayer and ratepayer funding effectively and efficiently to target where the risks are and where the greatest benefits can be achieved.
- 2.16 Our work on how well the Ministry for the Environment (the Ministry) funds the clean-up of freshwater bodies highlighted the issues associated with the lack of a national strategy for clean-up investment. The Ministry’s ability to effectively manage freshwater investment has been limited because there is no national freshwater clean-up framework to guide clean-up efforts throughout New Zealand.
- 2.17 We found that the Ministry cannot yet demonstrate the overall effectiveness of its freshwater clean-up funds. This makes it difficult to tell whether the money invested has been targeted as effectively as it could have been. It is also difficult to assess the effect of specific freshwater clean-up projects.
- 2.18 A more complementary and integrated national approach to cleaning up freshwater bodies would support funding being directed and prioritised more strategically. It would also ensure that projects complement each other and build towards achieving long-term, integrated environmental goals.
- In our view, improving collaboration between local and central government and non-government funders would lead to better co-ordination of funded projects. This means that funders need to align national and regional priorities and synchronise individual project timings with funding availability. This could help increase the effective and efficient use of available funds.*
- Office of the Auditor-General (2019), Crown investment in freshwater clean-up, page 20.*

## A stronger focus on implementation is needed when setting strategy

- 2.19 It is one thing to set objectives and priorities, to be clear on the outcomes being sought, and to establish targets. It is another to translate this into programmes of work in a way that co-ordinates that work within and between public organisations.

<sup>8</sup> Paper to Cabinet Business Committee, 2 September 2019, *Essential Freshwater – Public Consultation on a National Direction for Freshwater Management*, page 6, at [www.mfe.govt.nz](http://www.mfe.govt.nz).

- 2.20 When we looked at the development of a marine spatial plan for the Hauraki Gulf (Sea Change – Tai Timu Tai Pari), we found that the plan was not easy for central and local government agencies to implement.<sup>9</sup> This shows the importance of having a strong focus on implementation when setting strategic objectives and priorities, and planning how to deliver these over the long term.
- 2.21 We identified that developing an appropriate scope when the project was first set up would have made implementing the plan easier. It would also have helped for agencies to have planned how they would implement the plan, including how they would work together with other organisations and stakeholders, and the role of mana whenua in implementation.

### Long-term thinking is needed when setting a strategic and integrated approach

- 2.22 As well as turning strategy into action, sustaining that action over the long term is also a challenge. As we noted in our report *Introducing our work programme – water management*:
- Addressing ... adverse effects [on our water resources] and delivering outcomes that could take generations is challenging to achieve in short political cycles, and when multiple organisations are working to deliver these outcomes.<sup>10</sup>*
- 2.23 This is important if taxpayer and ratepayer funding is to be effectively and efficiently used now and in the future.
- 2.24 In our work, we saw the value that applying a long-term approach to water management challenges can bring. We looked at the approaches that Horowhenua District Council, Kāpiti Coast District Council, Manawatu District Council, and Palmerston North City Council took in addressing the challenges they face in supplying drinking water to their communities.<sup>11</sup>
- 2.25 We found that three of these councils took a supply management approach (focusing on increasing supply to meet demand). The other, Kāpiti Coast District Council, applied a demand-management approach that took a long-term view, focusing on water conservation and efficiency. This enabled it to defer significant investment in new water supply infrastructure.
- 2.26 In our view, councils that take a more comprehensive and long-term approach to providing drinking water by balancing supply and demand management tools are in a better position to respond to future challenges such as demographic and climate changes.

9 Office of the Auditor-General (2018), *Sea Change – Tai Timu Tai Pari: Creating a marine spatial plan for the Hauraki Gulf*, pages 32-33.

10 Office of the Auditor-General (2017), *Introducing our work programme – Water management*, page 9.

11 Office of the Auditor-General (2018), *Managing the supply of and demand for drinking water*.

- 2.27 Our work on the funding of the clean-up of freshwater bodies<sup>12</sup> included looking at how the Waikato River Authority manages projects. We did this to improve our understanding of common challenges with, and lessons about, freshwater clean-up.
- 2.28 We observed that the Waikato River Authority's vision and strategy provides guidance and a plan to ensure that longer-term considerations inform funding decisions. The vision and strategy are complemented by a 5-year to 15-year clean-up Restoration Strategy.
- 2.29 In our view, this helps freshwater clean-up projects to be integrated, prioritised, and co-ordinated. In turn, this means that they are likely to have a long-term and cumulative effect on freshwater quality. We consider that, in the Waikato region, this will ultimately increase the overall effectiveness of clean-up funding.

## Understanding of water resources needs to improve

- 3.1 To effectively manage water resources, good information is essential. By good information, we mean information that is relevant, reliable, timely, accessible, and, ideally, comprehensive. Good information supports effective governance, engagement, and accountability.
- 3.2 During our work, we saw incomplete information about the state of our freshwater resources at a national level. This led to limitations in understanding where the risks lie and so where to target regulatory intervention and investment.
- 3.3 The Ministry for the Environment and Statistics New Zealand are responsible for environmental reporting at the national level. Their report *Environment Aotearoa 2019*, along with commentary from the Parliamentary Commissioner for the Environment,<sup>13</sup> highlighted the gaps in our knowledge of several environmental issues, including the effects of water pollution on human health and of land use on water quality.
- 3.4 The Parliamentary Commissioner for the Environment recently reported his findings on New Zealand’s environmental reporting system. The report noted that “Ours has been a passive system that has harvested whatever data is there and done the best it can to navigate what’s missing ... when we try to find out what’s happening on our land or what’s happening to our water, there are huge gaps.”<sup>14</sup>
- 3.5 This builds on points the Parliamentary Commissioner for the Environment made in his *Commentary on Our Land 2018*, in which he noted the lack of a requirement to collect information on the state, trend, or functioning of the environment at the national level:
- ... there is a distinct lack of obligation for management agencies to systematically collect information on the state, trend, or functioning of the environment. Individual agencies collect the information they require to carry out their functions, but there is no overarching requirement to collect information at the national level.*<sup>15</sup>
- 3.6 In addition, we have previously reported concerns that public organisations that provide water-related services have limited information about the assets they own.<sup>16</sup> We also found that these organisations often have limited information about the risks of those services being compromised. This leads to high levels of uncertainty when developing sustainable responses to water-management

13 Parliamentary Commissioner for the Environment (2019), *Commentary on Environment Aotearoa 2019*.

14 Parliamentary Commissioner for the Environment (2019), *Focusing Aotearoa New Zealand’s environmental reporting system*, page 4.

15 Parliamentary Commissioner for the Environment (2018), *Commentary on Our Land 2018*, page 3.

16 Office of the Auditor-General, *Matters arising from our audits of the 2018-28 long-term plans*, page 5; *Getting the right information to effectively manage assets: Lessons from local authorities*, page 5; and *Managing stormwater systems to reduce the risks of flooding*, page 5.

challenges, as well as making decisions about what, when, and where to invest and when to engage with communities and stakeholders.

### **A national picture of the state of freshwater quality would support a more strategic and integrated approach**

- 3.7 In our work on managing freshwater quality,<sup>17</sup> we noted that there are difficulties in using data collected by regional councils to build a national-level picture of freshwater quality. Although the four regional councils that we looked at measure a common set of variables, there are differences in how they measure those variables. Data collected through these different approaches cannot easily be combined and has resulted in a national-level picture that lacks detail.
- 3.8 We consider that the Government and New Zealanders need a detailed national picture of freshwater quality to help develop national-level freshwater quality policy and to monitor the effects of that policy over time.
- 3.9 No public organisation has accountability for developing a strategy to address shortfalls in information about our freshwater quality at the national level, to consider how it will be funded, and to decide what systems and tools are needed to collect quality data.
- 3.10 We acknowledge that work is under way to improve the quality of national data about our freshwater resources and how information about freshwater is reported and used. For example, regional councils and the Ministry for the Environment are working on the Environmental Monitoring and Reporting project (the EMaR project).
- 3.11 The EMaR project is exploring the standardisation of methods for collecting and sharing data, as well as management and exchange protocols to allow regional data to be interpreted at a national level. The aim of the EMaR project is to use Land, Air, Water Aotearoa (LAWA) to make environmental data collected by regional councils more widely available.<sup>18</sup>
- 3.12 Regional councils have also been leading work to bring greater consistency to environmental monitoring. Recent work on the National Environmental Monitoring Standards programme is an example of regional councils working with the Ministry for the Environment to measure, process, and archive environmental monitoring data consistently on a national scale.

<sup>17</sup> Office of the Auditor-General (2019), *Managing freshwater quality: challenges and opportunities*.

<sup>18</sup> LAWA is a web-based platform that displays state and trend information for freshwater monitoring sites throughout New Zealand.



## Information gaps can limit the ability to make well-informed decisions

- 3.13 While we need to understand the gaps in information at a national level, it is also important that public organisations understand what gaps there are in their own information, whether those gaps need to be filled, and, if so, what plans they have to fill them.
- 3.14 We looked at how three councils (Dunedin City Council, Porirua City Council, and Thames-Coromandel District Council) manage their stormwater systems to protect people and their property from the effects of flooding.<sup>19</sup>
- 3.15 We found that, to date, the three councils have had an incomplete understanding of the flood risk in their districts. They have based much of their assessment of flood risk on information collected after a flood, rather than on what might happen in the future under different scenarios.
- 3.16 The three councils also had gaps in their understanding of the current state of their stormwater systems. For some time, we have reported that local authorities need to do more to formally identify their most important assets so they can prioritise gathering information about them.
- 3.17 These gaps limit their ability to make well-informed and deliberate decisions about how to manage those systems and what to invest in managing them. This means that the councils are unlikely to have had informed conversations with their communities about the potential risk of flooding and the cost of reducing that risk.
- 3.18 The three councils were already aware of some of the issues we identified and are at varying stages of making improvements in their understanding of the state of their stormwater systems and their flood risk. However, all three have more to do.

*... high-quality information is essential to making good decisions. However, public organisations not only have to make good decisions but also demonstrate to the public that they have made good decisions. This is important to promote transparency, as well as trust and confidence in the public sector.*

Office of the Auditor-General (2018), *Reflecting on our work about information*, page 24.

## Information needs to be understandable both to decision-makers and to those holding them to account

- 3.19 Communities need good information on the state of our freshwater resources and water-related services, and on how public organisations have performed water-management roles and responsibilities, so they can hold those organisations to account. The information held on our freshwater resources can be highly

<sup>19</sup> Office of the Auditor-General (2018), *Managing stormwater systems to reduce the risk of flooding*.

technical, making it challenging to present the information in a way that those making decisions and those holding them to account can readily understand.

- 3.20 In our report *Sea Change – Tai Timu Tai Pari: Creating a marine spatial plan for the Hauraki Gulf*, we noted that some project participants suggested that it might have been more effective to have them sit with the Stakeholder Working Group representatives and help frame and talk through the issues rather than having scientists and technical specialists respond to requests for scientific information.<sup>20</sup>
- 3.21 In our work on managing the effects on freshwater quality,<sup>21</sup> we looked at how four regional councils inform their communities about freshwater quality more broadly. In particular, we wanted to know how they communicate their body of technical knowledge to a general or non-technical audience.
- 3.22 This type of reporting is needed for readers to fully appreciate the implications of the information, to support action needed to protect and improve freshwater quality, and to hold agencies to account for their performance.
- 3.23 We found that the four regional councils attempt to keep the public well informed about freshwater quality developments. However, they could improve the balance in the information they report – it is important that councils do not just report the “good news” stories. Balance is critical in building and maintaining trust with the community.

### Good information depends on collecting quality data

- 3.24 Good information is underpinned by quality data. It provides an evidence base for setting strategic objectives and priorities, developing regulatory responses, better targeting investment decisions, monitoring and reporting on performance, and evaluating whether activities are achieving intended outcomes.
- 3.25 Part of managing any natural resource effectively and efficiently is knowing how much of it is being used. Large quantities of freshwater are currently used for irrigation in the agriculture and horticulture industries. About 65% of water permits are allocated to irrigation. This accounts for about 51% of the freshwater permitted for use.
- 3.26 In 2010, the Government introduced regulations that required the people and organisations that use large quantities of freshwater to measure how much they take. This was done with water meters. Councils were required to oversee the installation of these water meters.

20 Office of the Auditor-General (2018), *Sea Change – Tai Timu Tai Pari: Creating a marine spatial plan for the Hauraki Gulf*, page 24.

21 Office of the Auditor-General (2019), *Managing freshwater quality: challenges and opportunities*.

- 3.27 We looked at how Northland Regional Council, Hawke's Bay Regional Council, Otago Regional Council, Marlborough District Council, Bay of Plenty Regional Council, and Environment Canterbury tracked and measured freshwater used for irrigation. Our work included considering the quality of data collected from water meters, how the data was used, and whether this was leading to positive changes in the way water is used.<sup>22</sup>
- 3.28 We found that the quality of data collected from water meters can be poor, particularly when the data is collected manually. In our view, it is important for councils to have high-quality and timely data to ensure that water permit holders are complying with their permits. High-quality data can also help councils and the water permit holders to identify how they could use freshwater more efficiently.

### There will always be some uncertainty

- 3.29 There will always be some uncertainty in understanding the state of water resources. Complexities in the systems and science of water mean that public organisations must sometimes make decisions based on the best available information. One of the main issues is "lag times". This is explained in the Ministry for the Environment report *Our Freshwater 2017* from New Zealand's Environmental Reporting Series:
- It can sometimes take decades, or even longer, for water (and any contaminants it contains) to cycle from the earth's surface through the ground to aquifers, and back to surface-water systems – this delay is referred to as lag time ... This means some effects we see today are legacies of past activities, and the impact of our activities today, both positive and negative, may not be seen in our waters for decades.*<sup>23</sup>
- 3.30 Public organisations managing water resources must find a way to carry out their roles and responsibilities with incomplete and imperfect information. This could be about current states and trends, such as the quality of freshwater and the views of communities, the condition of three waters assets, or the effects that future scenarios such as climate change might have on both natural and infrastructure assets.
- 3.31 Public organisations must also grapple with changes to risks over time and in the different values and preferences of current and future generations.
- 3.32 Our work on how councils addressed resilience and climate change matters in their 2018-28 long-term plans (LTPs)<sup>24</sup> highlighted the challenges councils face when grappling with limited information and increasing uncertainty. We found

22 Office of the Auditor-General (2018), *Monitoring how water is used for irrigation*.

23 Ministry for the Environment, *Our Freshwater 2017*, from New Zealand's Environmental Reporting Series, page 23.

24 Office of the Auditor-General (2019), *Matters arising from our audits of the 2018-28 long-term plans*.

that most councils are deferring making decisions about how to respond to the effects of climate change because there is too much uncertainty.

- 3.33 Many councils assumed in their 2018-28 LTPs that, in the next 10 years, the effects of climate change will not significantly affect their communities and that there will be no major natural hazard events.
- 3.34 Our review of councils' 30-year infrastructure strategies found that councils have a limited understanding of the risks posed by natural hazards and how climate change could affect their infrastructure assets. In general, councils have a limited understanding of the condition and performance of their assets – in particular, their three waters assets – and have a variable understanding of the likelihood of natural hazard events occurring.
- 3.35 This means that councils are limited in their ability to advise their elected members of these risks, communicate the risks to their communities, and make informed decisions about how to manage their assets in response and what it will cost to do so.

# Water management challenges require adaptive ways of working

- 4.1 In our report *Introducing our work programme – water management*, we highlighted the challenges associated with managing water, such as legacy issues and responding to change. People are central to these challenges – in particular, the relationship between the Crown and Māori, the relationship between central and local government, and the structure of the public organisations responsible for water management.
- 4.2 Public organisations, government, Māori, businesses, and communities need to work together to address New Zealand’s water management challenges:
- Across the public sector, there is wide acceptance that complex socio-economic problems can only be solved by multiple agencies – public, private and not-for-profit – combining their resources and expertise. But operating as a network, rather than a traditional public sector hierarchy can prove difficult.*<sup>25</sup>
- 4.3 The main challenge in working together is in striking a balance between competing interests, values, priorities, and mandates, whether when setting strategic priorities, developing policy and regulation, or implementing policy and delivering services.

## Balancing different views and values requires flexible frameworks

- 4.4 Public organisations have a variety of approaches to working together and with others. In our work, we paid particular attention to collaborative models of engagement. The work that we did on water management in the marine environment focused on collaboration.
- 4.5 At present, collaborative models are one of the main ways decisions are made in water management, particularly when trade-offs between competing interests, values, and priorities need to be made.
- 4.6 However, there is an inherent tension in running collaborative processes. Public organisations need to carefully consider whether the time and resources needed are likely to deliver the long-term benefits they seek and who is best placed to make decisions when dealing with complex and, at times, incomplete information.
- 4.7 We carried out two pieces of work on the management of the marine environment. One of these considered how two groups used two different processes that generated advice to Ministers for establishing marine protection, including marine reserves.<sup>26</sup> The two groups were the South-East Marine Protection Forum – Te Roopu Manaaki ki te Toka (the South-East Forum) and Te Korowai o Te Tai ō Marokura, the Kaikōura Coastal Marine Guardians (Te Korowai).

<sup>25</sup> Australia New Zealand School of Government (2019), *Nine ways to achieve successful collaboration*.

<sup>26</sup> Office of the Auditor-General (2019), *Using different processes to protect marine environments*.

- 4.8 Decisions to establish marine reserves, in effect, prioritise access to, and use of, parts of the marine environment. Those decisions need to consider and balance the unique circumstances of different areas, including communities, biodiversity values, and social, cultural, and commercial interests.
- 4.9 We were interested in how inclusive, transparent, and well informed these processes were, so we could identify practical lessons for agencies to take note of to improve future marine protection planning.
- 4.10 We looked at this because marine biodiversity protection is a government priority. However, New Zealand's coastal regions have little or no marine protected areas. Only 0.4% of the territorial sea<sup>27</sup> has marine reserves.
- 4.11 From our work, we formed the view that there needs to be a more flexible way to balance the views and values of those with an interest in the marine environment than current legislation and policy allows. We have encouraged the Department of Conservation and the Ministry for Primary Industries to consider how any reform to marine biodiversity protection legislation, policy, or planning could support greater collaboration between parties.<sup>28</sup>

### Collaboration needs to translate into action

- 4.12 Collaboration does not always translate into public organisations implementing programmes of work that result in improved outcomes for people and the environment. However, our work has shown us that having a clear purpose, clarity about roles and responsibilities, good governance, and timely and efficient processes can offset some of these risks.
- 4.13 In our report *Sea Change – Tai Timu Tai Pari: Creating a marine spatial plan for the Hauraki Gulf*, we noted that the project was a successful example of a stakeholder-led collaborative approach in many ways. It resulted in a completed plan (albeit over an extended time frame), with general support from those who prepared it.
- 4.14 However, the plan is not easy for the agencies to implement, and those involved in the project are frustrated at the lack of progress in implementing the plan. It is important to allow enough time for collaboration between representatives, so they can effectively discuss, negotiate, and agree on complex issues.
- 4.15 The plan contains more than 180 inter-related recommended actions. The public organisations that have the mandate for delivering these actions are responsible for preparing a Government Response Strategy on how to best deliver the plan's aspirations.

<sup>27</sup> New Zealand's territorial sea is the area extending from the coast to the 12-nautical-mile limit.

<sup>28</sup> Office of the Auditor-General (2019), *Using different processes to protect marine environments*, pages 4-5.

- 4.16 We identified aspects of the Sea Change – Tai Timu Tai Pari project that would have made implementing the plan easier if they had been done better. The agencies were not as involved in developing the marine spatial plan as they could have been. There needed to be a balance between giving the stakeholder-led collaborative group enough independence and the right amount of involvement from the agencies, which might be responsible for large parts of the implementation.
- 4.17 As we note in Part 2 of this report, our work on the Sea Change – Tai Timu Tai Pari project highlights the importance of public organisations considering how they can work with each other and with Māori when developing strategy and plans using a collaborative model. This can support more effective implementation of those plans.
- 4.18 A Ministerial Advisory Committee was appointed in July 2019 tasked with providing expert advice over a 12-month period to help the Government shape its response to the conservation- and fisheries-related proposals in the marine spatial plan for the Hauraki Gulf. It is too early to tell what effect this Committee will be able to have.<sup>29</sup>

### More can be done to involve Māori in water management

- 4.19 The relationship between the Crown and Māori enshrined in Te Tiriti o Waitangi is central to water management. Māori are critically important partners for those public organisations managing water resources. This is increasingly recognised in legislation, particularly legislation that gives effect to Treaty settlements. However, many iwi struggle to maintain consistent relationships with public organisations after a treaty settlement.<sup>30</sup>
- 4.20 The current system for managing water and other natural resources is set out in the Resource Management Act 1991. This Act places obligations on all those exercising functions and powers under it, including regional councils, to recognise and provide for the relationship of Māori and their culture and traditions with water, to have particular regard to kaitiakitanga, and to take into account the principles of Te Tiriti o Waitangi.<sup>31</sup>
- 4.21 The Crown, Māori, and local government need to have ways to work together to design effective and enduring solutions to our water management challenges.
- 4.22 Co-governance and co-management arrangements have been established and avenues created for iwi and hapū to contribute to the management of water

29 Press release, 2 July 2019, *New Ministerial Committee established to progress Hauraki Gulf marine plan*, at [www.beehive.govt.nz](http://www.beehive.govt.nz).

30 Kensington Swan, 21 September 2018, *What next for the Government's new agency – Maori Crown Relations: Te Arawhiti?*, at [www.kensingtonswan.com](http://www.kensingtonswan.com).

31 See Part 2 of the Resource Management Act 1991, sections 6(e), 7(a), and 8 respectively.

resources. Although there are enduring benefits for Māori and communities, achieving these can come at a cost for Māori communities and councils.

- 4.23 In our work, we found that the commitment required to establish relationships and processes, and to build and maintain a shared understanding of what everyone is trying to achieve, is significant and often underestimated.
- 4.24 Continued Crown engagement and resourcing is needed for the current and future arrangements that enable Māori involvement in managing water resources to remain effective.
- 4.25 The Waitangi Tribunal released its report into National Freshwater and Geothermal Resources in August 2019, recommending that a national freshwater co-governance body be set up to ensure direct co-governance in freshwater decision-making. The Tribunal also recommended that:
- the Crown provide more funding to restore freshwater bodies and to help Māori participate in the Resource Management Act process;
  - co-designing policy involving Māori interests with Māori be a standard process; and
  - the Crown monitor councils to ensure that they meet their obligations under Te Tiriti o Waitangi.
- 4.26 The Government has yet to respond to this report.

### **Water management challenges require both central and local government response**

- 4.27 Several reviews and proposed reforms are under way that might affect the water management roles and responsibilities of local government. One of the most significant is the Three Waters Review. In October 2019, the Government announced its decision to create a stand-alone Crown entity to regulate drinking water in New Zealand. The Taumata Arowai–Water Services Regulator Bill was introduced in Parliament on 11 December 2019.
- 4.28 Other potential regulatory reform – for example, the review of the Resource Management Act – will play a part in determining the respective roles and responsibilities of central and local government.
- 4.29 The Government announced in October 2018 that it is committed to delivering a noticeable improvement in New Zealand’s water quality within five years.<sup>32</sup> On 5 September 2019, it announced its *Action for Healthy Waterways* and began

<sup>32</sup> Press release by Minister for the Environment, 8 October 2018, *Taking action to improve water quality*, at [www.beehive.govt.nz](http://www.beehive.govt.nz).



consultation on a package of proposals that would place new requirements on councils.<sup>33</sup> Submissions were accepted until 31 October 2019.

- 4.30 Our work highlights that councils are facing capacity (and, in some cases, capability) issues in meeting their water management roles and responsibilities. In particular, increasing standards for freshwater quality have implications for city and district councils' management of stormwater and wastewater networks and drinking water.
- 4.31 In developing and implementing a more strategic and integrated approach to water management, the respective roles and responsibilities of central and local government need to be carefully considered. This includes considering the implications of changing the regulatory settings of the public organisations implementing that approach, how it is funded, and any other resources that might be needed.
- 4.32 Several new agencies have a role in managing water and delivering water-related services, most notably a proposed new drinking water regulator, the new Infrastructure Commission, and the Climate Change Commission. It is important that the strategic objectives and priorities of these new organisations are aligned with each other and that they direct programmes of work that can be implemented effectively and efficiently.

[To improve freshwater quality] multiple actions are needed, requiring partnerships between central and local authorities, iwi, citizens and businesses including farmers.

Gluckman, P (2017), *New Zealand's fresh waters: Values, state, trends and human impacts*, Office of the Prime Minister's Chief Science Advisor, Wellington, page vi.

<sup>33</sup> Ministry for the Environment (2019), *Action for healthy waterways – A discussion document on national direction for our essential freshwater*. See also paragraph 2.10 of this report.



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