

Water 2050: **Quality** Review of the framework for water quality

A discussion paper prepared for LGNZ

May 2018



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This paper has been prepared by Allen + Clarke

**We are.
LGNZ.**

Foreword

Foreword



LGNZ is building on our earlier 3 Waters work through Water 2050 which proposes that an integrated water policy framework is needed. There are five components; allocation, water quality, infrastructure, governance and cost/ funding. This report explores the issues with the framework for water quality and the opportunities for improvement.

LGNZ is building on our earlier 3 Waters project through Water 2050 which proposes that an integrated water policy framework is needed. What this means is that when new standards are set for water quality we need to understand what the costs are to meet these, how will they be paid for, can communities afford them, do they have the tools they need to pay for them and how should water be managed into the future. We are pleased to be working with the Government on this project.

This report focuses on the regulatory framework for water quality and is part of the “water quality” workstream.

Framework for water quality

Our regulatory framework addresses two key issues: the quality of freshwater through environmental standards and protecting the quality of our drinking water through specific health-related standards. This report confirms that the framework for water quality is very complex. It explores the issues with the framework for water quality and the opportunities for improvement, and identifies three key issues with the framework for quality.

They are:

- Limited understanding of cost to local authorities due to lack of information – the true costs of implementing new standards and ensuring ongoing compliance are ignored within Cost Benefit Analyses;
- Incoherent framework due to lack of alignment between goals and responsibilities – it is increasingly difficult for councils to balance competing priorities and expenditure pressures; and
- Lack of cohesion in the collection and use of water quality data due to a lack of strategic coordination – it is unclear how information should be gathered and used.

Key opportunities for change:

- Partnership between central and local government to set priorities – we need an all- of – government position on priorities;
- Adopting a collaborative approach to addressing costs – we need alternative funding mechanisms for infrastructure;
- Adopting a collaborative approach to understanding costs and benefits – we need a partnership to enable more comprehensive cost benefit analyses when new standards are introduced;
- Strategic coordination of objectives for water quality monitoring – greater coordination is needed to direct monitoring efforts; and
- Improve the process for issuing non-regulatory guidance – non-regulatory guidance is an important part of the framework and needs attention.

Only when the framework for water quality is right, will we achieve the water quality that our communities want. The current system lacks coherence and this inevitably means there are gaps and overlaps. Most critical is that we need to understand the true costs of new standards or new methodologies. Only when we fully understand the true costs can we test our communities’ ability to pay and whether this is in fact a realistic expectation. As pressure mounts on our water resources this becomes more urgent.

A handwritten signature in black ink, which appears to read "Dave Cull". The signature is fluid and cursive, written over a white background.

Dave Cull
President
LGNZ

Executive summary

Executive summary

Local authorities play a fundamental part in protecting the quality of water in New Zealand – both in terms of management of freshwater in the environment and providing safe drinking water to consumers. The framework for water quality is multi-faceted and complex, with multiple regulatory and non-regulatory requirements that aim to safeguard water quality and influence or inform decision making by local authorities. The framework for water quality addresses two key areas; the quality of freshwater through environmental standards and protecting the quality of drinking water through specific health-related standards.

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By design, the framework provides flexibility to allow local authorities to make decisions that best meet the needs of the communities they represent. However, there are several factors within the framework that place additional burdens on councils, communities and ratepayers, that reduce the overall efficiency and effectiveness of the framework.

The issues within this report identify opportunities for local and central government to work together to strengthen outcomes for New Zealanders by improving the framework for water quality. Local authorities are dedicated to improving New Zealand's freshwater sources, so their value for drinking water, recreation and cultural ties are protected.

This report also provides a foundation for future projects being undertaken by LGNZ under the wider Water 2050 work. These include workstreams which will focus on the governance of water, working toward a fit-for-purpose and affordable infrastructure which meets community needs, and funding and financing the infrastructure and standards for water.

Key issues with the framework

This report discusses the issues that arose as part of the Review of the Framework for Water Quality undertaken as part of LGNZ's Water 2050 project. Our review identified the following three key issues with the framework for quality:

1. Limited understanding of cost to local authorities due to lack of information

The true costs of implementing new standards and ensuring ongoing compliance are ignored within central government cost benefit analyses (CBAs). It is often understood that costs to regional councils would be largely "administrative" in nature, and often do not consider longer-term impacts of changing standards, such as for additional consultation requirements and upgrading infrastructure to support them.

The ability of communities to pay for territorial authority infrastructure improvements required to meet increased standards is another key issue that should receive greater consideration as part of the assessment of implementation costs of new standards.

2. Incoherent framework due to lack of alignment between goals and responsibilities

It is increasingly difficult for local authorities to balance competing priorities, and competing expenditure pressures, because different pieces of legislation and different Government priorities are not always consistent with each other. This is exacerbated by the current process for issuing non-regulatory guidance, which is slow and does not provide a comprehensive, integrated view of the different standards that local authorities must meet.

3. Lack of cohesion in the collection and use of water quality data due to a lack of strategic coordination

Currently, local government collects and reports on a large range of data to support its work in improving water quality under the Act. These monitoring and reporting activities are supported by a range of guidance and direction from central government; however, there is an opportunity for central government to

partner with local government and work to continue to improve this guidance and instruction. Further work could be done to ensure the collection and use of data is fit-for-purpose, efficient and adequately resourced to support local government efforts to improve water quality.

These three issues identify some of the main challenges local authorities face in their decision making processes and implementation of the water quality framework. These challenges are further compounded by cross-cutting issues faced by local authorities, which include; a growing need for infrastructure improvements and maintenance to ensure water quality now and into the future; pressure from competing interests, such as different prioritisation of environmental protection compared to urban growth, and difficulty in funding initial and ongoing compliance with new or amended requirements and standards for water quality. These cross-cutting issues sit underneath and alongside the themes identified in this report and will be analysed in more depth in future workstreams under the Water 2050 project on cost, infrastructure and governance.

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Further to the review of the framework, this report also identified key opportunities for changes to the framework:

1. Partnership in priority setting

Local authorities and central government need to partner together to develop an all-of-government position on how environmental health priorities can be set and implemented to protect freshwater quality itself, and to improve drinking water and human health outcomes, with consideration for affordability of the standards, implications for infrastructure needs, cost and impact to communities, and additional pressures on water quality such as land use, urban development, economic growth, agriculture and tourism.

2. Adopting a collaborative approach to addressing cost issues

Local authorities and central government need to partner together to develop and implement policy for alternative funding mechanisms for infrastructure, by embedding cost considerations for local authorities in policy development processes within MfE, DIA, MBIE, MoH and other central government agencies. This partnership needs to occur from the earliest policy development stages to ensure options that are developed are fit-for-purpose and meet the needs of local government and communities now and into the future. Alternative funding mechanisms can alleviate issues of affordability and capacity which limit the ability for local authorities to meet ongoing and additional requirements for protecting freshwater quality, such as high-cost infrastructure improvement needs and ongoing costs to implement and meet new standards for water quality.

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3. Adopting a collaborative approach to understanding costs and benefits

Local authorities and central government need to partner together to enable more comprehensive cost-benefit analyses to identify the end-to-end costs of changes before new standards are set for water quality. Adopting a collaborative approach can support central government to understand the current and future cost burden on local authorities and their communities. Local authorities need to partner with central government to ensure considerations of affordability, capability, and capacity of local government, and options for funding necessary infrastructure or implementation needs, are included.

4. Strategic coordination of objectives for water quality monitoring

Local authorities should work with central government to ensure that the objectives, ownership, and responsibility for water quality monitoring and data collection under the framework are clear and aligned. To achieve this, central government should partner with local authorities in the earliest stages of designing or amending standards to ensure local authority considerations are embedded. Additionally, clarity is needed to ensure that the resourcing of data collection and monitoring is adequate. This may involve having discussions around who benefits most from data, who owns it, and how its collection is funded.

5. Improve the process for issuing non-regulatory guidance

Government-issued non-regulatory guidance is a crucial part of the process for implementing standards to ensure that there is national consistency in how local authorities give effect to the regulatory requirements. Processes for developing and issuing guidance must be responsive and ensure that considerations for how local authorities implement the standards is central. Adopting a proactive and collaborative approach within the guidance development process can allow for more accessible and timely guidance to support improvements to the cohesion of the framework for water quality.

1

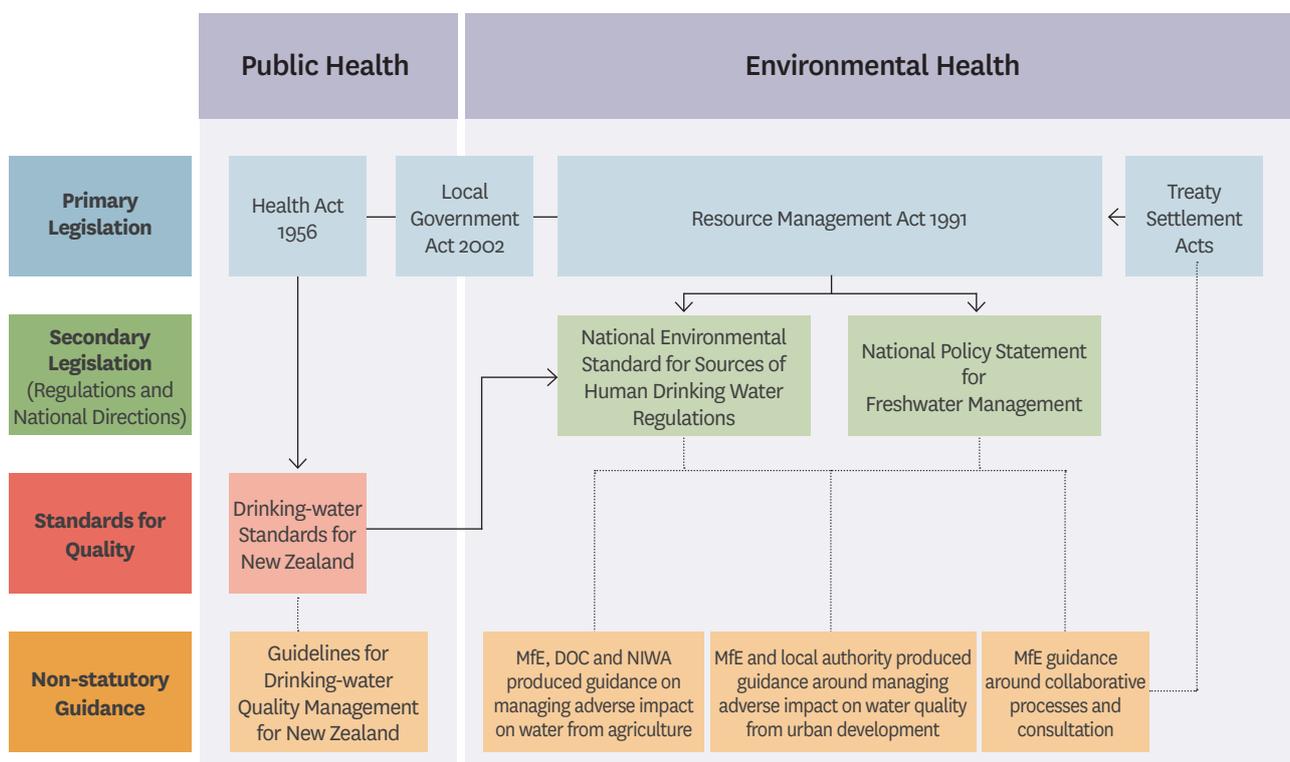
Overview of framework for water quality

Overview of framework for water quality

The diagram below summarises the various pieces of legislation, regulation and guidance for protecting and supporting freshwater and drinking water, and how they interact with each other to form a framework for ensuring quality of water.

A more detailed overview of the framework for water quality, including a summary of the responsibilities and requirements for local authorities, is in **Appendix 1**.

An overview of supporting non-statutory guidance, as well as guidance for good practice and voluntary measures, is available in **Appendix 2**.



Key:

- Bolded lines indicate a relationship between legislation.
- Lines with arrows indicate where pieces of the framework created through primary legislation provide additional details or requirements.
- Dotted lines indicate where pieces of the framework provide non-statutory guidance for the implementation of the framework.

2

Findings

Findings

A review of the framework for water quality was undertaken in 2017 to identify how each piece contributes to an overall framework for water quality. Our review of the framework included examination of relevant legislation, regulation and key supporting guidance. A Reference Group, made up of local government stakeholders, was created to provide input into this review and to assist with the identification of key issues facing local authorities, and better understand how local authorities experience working within the framework for water quality. This included identifying gaps and key challenges for local government.

Following our review of the framework for water quality, three key issues were identified with how the individual pieces within the framework work with each other to manage water quality in New Zealand. These three issues, which will be discussed in detail below, are:

- 1. Limited understanding of cost to local authorities due to lack of end-to-end analysis;**
- 2. Incoherent framework due to lack of alignment between competing goals and responsibilities; and**
- 3. Lack of cohesion in the collection and use of water quality data due to a lack of strategic coordination**

Each issue has its own section in the report, with specific examples and context identified underneath each one.

ISSUE 1: Limited understanding of cost to local authorities due to lack of information

Cost-benefit analyses are undertaken as part of the development of national directions for water quality for both freshwater management and drinking water. Our review of the framework included cost-benefit analyses from regulatory impact statements (RISs) drafted by the Ministry for the Environment (MfE). A 'section 32' evaluation for the National Policy Statement for Freshwater Management (NPSFM) undertaken under the Resource Management Act (RMA)¹ by a third party (commissioned by MfE) was also included.

Our review of the framework for ensuring water quality identified that there were some gaps in both the detail and scope in the cost benefit analyses (CBAs) undertaken during the development of the National Environmental Standard for Sources of Human Drinking Water (NESDW), NPSFM and its amendments. The lack of detail means that the cost impact to local authorities from implementing or complying with the requirements of the framework is not always fully understood. Additionally, the type of costs assessed as part of the cost benefit are normally narrow in scope, meaning that it is often understood that the upfront costs to regional councils would be largely "administrative" in nature. This narrow approach to cost benefit analyses ignores the true costs of implementing new standards and ensuring ongoing compliance for regional councils, especially longer-term costs from the ongoing implementation, monitoring, scientific analysis, and enforcement required to give effect to national direction. Further, the flow-on costs to territorial authorities to upgrade or replace infrastructure to meet new standards are not always identified.

A further issue identified is that when CBAs and impact statements are prepared, they include a range of assumptions that are used to quantify benefits, including relying on other regulatory changes being made. However, the scenarios predicted in the assumptions do not always come to pass, meaning that the estimated benefits of the changes are not always realised.

The intended benefits for local authorities of investing significant time and resources in implementing a collaborative approach to implement the NPSFM were based on the estimated reductions in costs by taking away appeal rights in specific circumstances. However, the 2017 changes to the RMA retained the appeal process even if a collaborative process was used. This meant the benefits identified in the assessment were not realised.

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Narrow focus of CBAs limiting scope of costing

Central government CBAs focus on the impact of the proposed initiative beyond the status quo. For local authorities, this means that only the direct costs of implementing a new standard, such as the expense from changing regional plans, is considered within a central government CBA. The broader cost implications for regional councils are not generally identified due to this narrow focus. This can mean costs for regional councils to meet standards and undertake new responsibilities, in addition to their current legislative obligations, are much higher than what was considered within the CBA. During the implementation of a new or amended standard, regional councils must consider what they are currently doing and either adapt their current approach to minimise cost or abandon their current approach to fully comply. Regardless of the direction undertaken by a regional council, consultation and adoption of a collaborative approach, as encouraged under the framework, is an immense expense that is not acknowledged or explored in CBAs. Regional councils are in a position where they must ensure local communities have input into target-setting, which includes managing community expectations.

¹ Resource Management Act 1991, s 32.

Additionally, the introduction of a new or updated standard for water quality involves more than just implementation costs for territorial authorities, who must also engage their local communities to set long term plans in place to fund and maintain infrastructure required to comply with new standards for both environmental water quality and treating drinking water. Regional councils' plans will inevitably create new costs for territorial authorities, as higher standards create greater infrastructure costs required to achieve compliance.

CBAs generally do not consider the wider issues related to infrastructure, which underpins much of the work undertaken by territorial authorities to support population and economic growth and ensure water quality. There is an opportunity for CBAs to more fully consider what infrastructure upgrades are necessary for territorial authorities to meet the higher standards for water quality set by regional councils as part of the assessment of the capacity of local government to meet new standards. Further, the expense incurred outside of local government, such as to the agriculture industry and other land owners/users to meet standards imposed by regional councils, is not normally accounted for in costings.

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Central government CBAs acknowledge limitations due to the difficulty in estimating total cost due to the complexity of the water quality framework and in predicating what the precise impact of new or amended standards will be for regional councils and territorial authorities. The difficulty associated with assessing the impact is identified within these CBAs as being largely due to the large degree of discretion afforded to regional councils in how to apply the standards, the extent of community consultation and collaboration, and immense regional variation in geography, hydrology, population, and water quality.

² Waikato, Canterbury and Southland. MfE RIS on NPSFM amendments (2011), pg. 31
³ Approximately \$0.6 million nationally. (MfE RIS on NES (2006), pg. 4)

The 2014 RIS for the NPSFM amendment, undertaken by MfE, included case studies of three regional councils². Having only three case studies limited the ability of the RIS to accurately anticipate costings. The RIS identified that extrapolating these costs nationally would be impossible due to unique hydrological conditions and current land use within each regional council's area. These limitations were due to a wide degree of regional council discretion in the implementation of the standards. The RISs estimated some costings for the councils should they set standards for certain freshwater bodies; for example, the standards Waikato was anticipated to set under the new requirements for the Lake Taupo catchment was costed to be \$11 million over 10 years. These costs were based on additional consultation, updating and monitoring regional policy statements, strategies and plans. Other ongoing costs such as upskilling staff, changing tack to meet the new requirements, and other indirect costs are not included in the analysis.

Regional councils are required to undertake their own CBAs of their planned interventions; however, it is difficult for the local government sector to upskill existing, or hire new, staff to acquire the skillsets required to understand the potential cost implications of new or proposed standards. Undertaking cost benefit analyses of proposed or amended standards for water quality is highly complex and varied; and the ability for regional councils to attract and retain these skills within their organisation can be challenging, especially in smaller councils. Coupled with a lack of scope or understanding within central government CBAs, there is no "end-to-end" understanding of cost. Without this comprehensive understanding of the costs, the true impact that new or amended standards for water quality has on regional councils and territorial authorities is likely to be unknown until they are implemented.

Lack of detail in costing information

Often, CBAs cannot identify what the costs borne by regional councils and territorial authorities would look like in practice. CBAs often consider costs to regional councils as being "administrative", as it is assumed that regional councils would need to only change existing policy and strategy to implement the new standards. These costs then often impose new infrastructure costs on territorial authorities and other users, such as land owners/users. CBAs assume that

the costs borne by regional councils will largely comprise marginal changes to existing processes and systems. However, such a narrow view within CBAs does not adequately consider the extent of change required within regional councils to give effect to the changes, and for territorial authorities to comply.

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The RIS prepared by MfE for the NESDW did not identify what costs or benefits would directly apply to territorial authorities. While it did include analysis of the impact on drinking water suppliers, which are often territorial authorities, this was not made explicit. The RIS identified minor cost increases for territorial authorities due to additional consultation with regional councils. Overall, there was an anticipated net saving to suppliers⁴ as freshwater source quality is expected to improve, thereby requiring less treatment due to an anticipated decrease in e. coli load. However, the RIS did not include a breakdown of these anticipated costs or benefits, nor a timeframe for when they were anticipated to occur.

What is anticipated to be a marginal cost to regional councils in a CBA, is often a significant change within regional councils in practice due to a need to overhaul existing systems to ensure the new standards can be understood in the local context so they can be implemented. These additional costs include data collection, scientific and economic analysis, upskilling of staff, integrating new standards into council processes and systems, public consultation, and redevelopment of regional and district plans. The effect of these additional costs is cumulative: what is “administrative” inevitably requires additional spending on relatively fixed income.

The section 32 evaluation of the initial NPSFM (and its subsequent amendments) identified that the costs of implementation would be borne largely by regional councils^{4,5}. This was expected to be largely due to required changes in regional and district planning and policy-setting processes. Although these changes were anticipated to be large due to the broad scope of the NPSFM, precise breakdowns were not included in the evaluation. Similarly, the RIS for the 2017 NPSFM amendment identified only minimal changes in costings from the amendments, as the changes largely clarified existing intent and definitions within the NPSFM. However, the RIS ignores the actual costs related to implementing these changes – both initial and ongoing.

When redeveloping or amending existing regulations or standards, further requirements on territorial authorities place extra stresses on already tight budgets. Although CBAs often identify some savings for territorial authorities, a pressing issue is the funding of maintenance and upgrades to water infrastructure. With revenue limited to the rating base, territorial authorities are essentially operating in an environment whereby they face increasing expenditure with relatively fixed revenue, due to public resistance to increasing rates and lack of viable alternative funding streams.

Nelson City Council allocates \$400k per year for project Maitai, a collaborative river improvement project. Project Maitai was well-received by the local community and has seen success in improving water quality for the Mahitahi River and engaging local communities with environmental protection. The cost of individual projects such as Maitai pale in comparison to the ongoing issue of infrastructure costs. It is estimated that millions of dollars will be required to fix issues related to infrastructure and affordability becomes a key question.

⁴ Between approximately \$33-\$49 million for regional councils; \$7-\$10 million for territorial authorities.

⁵ Harrison Grierson s 32 Evaluation (2011), pg. 89

ISSUE 2: Incoherent framework due to lack of alignment between goals and responsibilities

As outlined within the RMA and national directions, the framework for environmental water quality is set up so that regional councils can determine how they achieve the various outcomes for water quality. This is appropriate for a complex topic such as water quality because regional councils are best placed to balance the wishes of their community, environmental concerns, and the management of freshwater sources.

Although regional councils want to work toward improving water quality for local communities, it is increasingly difficult for them to balance competing priorities and expenditure pressures faced by themselves and territorial authorities. Balancing competing priorities is exacerbated by different pieces of legislation, different government priorities, and different government departments all setting goals and responsibilities that are not always consistent with each other but all impact on regional councils and territorial authorities, often simultaneously. This can be an issue in situations where regional councils and territorial authorities must make decisions that involve trade-offs, such as balancing increased demand for housing and the environmental and infrastructure impacts of these developments. This issue is symptomatic of a framework where there is often a lack of alignment between the goals and funding requirements of different components with limited guidance on the relative importance of each area. The framework for water quality does not operate in isolation; considerations for water quality occur within a wider context which includes urban planning, agriculture and land management, tourism and other economic and recreational concerns.

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Development pressures

A key challenge facing regional councils and territorial authorities under the framework is the competing pressure to protect environmental quality, whilst also ensuring enough development to meet growing population demand in New Zealand. Additional housing places stress on the environment and existing infrastructure. For example, housing developments increase pressure on storm and waste water infrastructure and can increase the likelihood of infiltration, leaks, and overflows within the existing networks that can lead to environmental impacts. Fixing these issues requires long-term upgrade and replacement of networks in addition to the cost of building new infrastructure to service the new developments. Although regional councils (and territorial authorities by extension) are required under the framework to protect water quality, there is simultaneous pressure for increased housing supply through providing suitable land for development. Compounding these pressures is the issue of limited resourcing, which can create situations where territorial authorities face uncertainty in how they must allocate limited resources to improve infrastructure to support population growth or invest in initiatives to protect environmental quality.

High growth councils, such as Auckland Council, must balance the sometimes-competing demands of providing sufficient land supply and/or capacity within existing urban areas while ensuring and protecting environmental outcomes, including water quality. The National Policy Statement on Urban Development Capacity (NPSUDC) requires high growth councils to plan for sufficient land supply to cater for urban growth. Those territorial authorities also have goals and responsibilities to set and implement standards aimed at protecting environmental quality under the NPSFM. In areas such as Auckland there is pressure to meet those land supply targets through an ever-expanding urban area. Urban expansion into rural areas brings with it challenges such as the cost of providing new infrastructure to service such areas and different management regimes to avoid or mitigate the impact of urbanisation on water quality. The priorities and requirements of these two National Policy Statements do not appear to recognise the potential conflict and costs that implementation of them can bring to territorial authorities.

(Penny Pirrit, Auckland Council)

Regional councils and territorial authorities are also grappling with the emerging issue of climate change and more frequent extreme weather events. More frequent extremes place additional stress on existing infrastructure. Large storms and extreme king tides can overwhelm stormwater and wastewater infrastructure in some locations, in turn threatening the security of freshwater supplies should they overflow and cause flooding. As there is growing demand for urbanisation and housing development, infrastructure becomes pushed to the limits, leaving it less able to cope with extreme weather events. As extreme weather events are becoming more frequent, territorial authorities are faced with a need to invest in improvements to infrastructure.

In Nelson and Tasman, events such as heavy storms or king tides strain wastewater infrastructure. This can lead to wastewater overflows (from infrastructure failures such as at pump stations and inflow or filtration issues) which adversely impact on waterbodies and coastal areas.

(Clare Barton, Nelson City Council)

Complex decision making processes

Under the NESDW, territorial authorities consult with iwi, hapū, and community groups to help set goals and targets for water quality which align with community needs and wishes. While these processes are designed to ensure that diverse local perspectives are considered as part of any decision making, it nonetheless introduces competing interests in how water should be managed which territorial authorities must balance when protecting water quality. Decisions regarding the use of water involve competing interests (such as economic vs. environmental vs cultural considerations) and the results of these consultative process can place more stringent controls on water quality that place further strain on territorial authorities' infrastructure. For example, best practice implementation of the RMA per MfE guidance envisions that territorial authorities set up community-based group to inform or take on the decision making processes regarding the management of their local water bodies. These community groups would ensure an integrated approach to freshwater management is adopted so that community and tāngata whenua values are considered alongside economic and scientific evidence.

On the other hand, local stakeholders may use the consultation process to push for lower standards than should otherwise be set based on the best available evidence. This can create pressures for regional councils to override community wishes to ensure they meet their responsibilities to protect water quality.

The implementation of best practice consultation around decision making for water use adds another layer of cost and time to the process of setting standards and limits, additional cost for the resulting infrastructure upgrades generally required to meet standards, and another layer of complexity to the process with costs that cannot be estimated in advance (and which are not identified or are under-valued in the central government impact assessments or cost benefit analyses – as outlined in Issue 1 in this paper).

Greater Wellington Regional Council has established Whaitua committees to set water quality and quantity limits in streams and rivers in its draft natural resources plan. These Whaitua drive decision making within their catchments to give effect to the NPSFM. While these Whaitua empower community-driven decision making, they do generally seek additional requirements and set higher standards. This adds an additional layer of complexity for territorial authorities within greater Wellington, including a need for territorial authorities to fund their three waters infrastructure to meet more stringent levels from the outcomes of recommendations from the catchment based Whaitua. Additional funds are invested in these consultation processes to establish and service these community Whaitua groups to support the community to be a central part of decision making processes. This could include the provision of science, policy and economic advice to inform them on their journey alongside the local territorial authority, Wellington Water Ltd and staff capacity to create suitable consultation documents which are accessible and in plain English. This takes additional time and resources.

(Jenny Brash, Greater Wellington Regional Council)

Having community input can have further flow-on effects for councils. Increasing costs to ensure compliance with standards adopted through local community group input can have significant impacts on regional councils, territorial authorities and other parties (such as land owners/users) should existing water infrastructure not meet newly-set standards which are more rigorous. Adopting standards recommended by community groups which are stricter than the minimum requirements of the NPSFM places further pressure on territorial authority resources through the need for infrastructure upgrades or replacement to meet the required caps or limits. Alternatively, adopting standards based on community wishes that are below what would otherwise be best practice would put regional councils at risk of not performing their duties to protect water quality.

Due to additional requirements around discharges into local waterways being set by regional councils in natural resource plans, there are concerns within territorial authorities that wastewater treatment plants and networks may not receive resource consents after current consents expire. The additional requirements to gain a discharge permit considering additional water quality requirements would involve significant investment in treatment plants to bring them up to modern standards, representing significant cost to territorial authorities. This raises an issue of how territorial authorities must fund infrastructure upgrades to ensure water quality goals can be met under new standards.

An example of this issue is emerging in Canterbury, where Christchurch City Council has applied for a resource consent for stormwater discharge. Current infrastructure may not be adequate to meet strict water quality requirements, potentially requiring Christchurch City Council to make a significant investment in water treatment infrastructure.

(Jenny Brash, Greater Wellington Regional Council; Iaeen Cranwell, Environment Canterbury)

< This lack of clear alignment can mean that territorial authorities may not be able to fully understand how environmental quality has a direct impact on human health with regards to water, as freshwater and drinking water concerns are often considered in isolation from each other. >

To guide regional councils in protecting freshwater, the NPSFM includes drinking water as an “additional value” that regional councils can choose to include in their setting of standards⁷. However, as this is an additional value rather than a compulsory value, regional councils may instead prioritise resources toward meeting compulsory national values (which focus on health of ecosystems and recreation). In turn, this can risk regional councils setting standards which may not align with the responsibilities of territorial authorities (as suppliers within the Health Act) to supply quality drinking water. The Government Inquiry into Havelock North Drinking Water identified a lack of alignment between Hawke’s Bay Regional Council (HBRC) and Hastings District Council (HDC) as a contributing factor to the incident. The Stage 1 report found that HBRC did not adequately protect the freshwater source used by the district council for drinking water; at the same time, the report found that HDC and HBRC were not collaborative in their working style, which resulted in a lack of coordination to ensure freshwater sources were suitable for drinking water.

Goals for water quality

The Health Act outlines detailed requirements for drinking water to protect human health⁶. Regarding the quality of the environment itself, the Resource Management Act and Local Government Act outline goals and requirements. Exactly how these two considerations (human health and environmental quality) are linked to achieve overall water quality is not apparent. This lack of clear alignment can mean that territorial authorities may not be able to fully understand how environmental quality has a direct impact on human health with regards to water, as freshwater and drinking water concerns are often considered in isolation from each other. In practice, this often means that a territorial authority, in its capacity as a supplier, must work to ensure that the regional council, as guardian for freshwater sources, is maintaining water quality. Should the freshwater quality decrease, territorial authorities are ultimately responsible for ensuring that water is compliant with the Drinking Water Standards.

⁶ Health Act 1956, Part 2A
⁷ NPSFM pg. 26

Responsibilities for water quality

The RMA and the NESDW require regional councils to consider health quality criteria⁸ prior to granting a permit for discharge upstream of a drinking water abstraction point⁹. Notably, these regulations apply only to drinking water sources that serve more than 501 people¹⁰. Under the NESDW, it is not clear how sources of drinking water for communities of fewer than 501 people must be protected, as there is no connection to other requirements or standards for smaller communities. In the absence of any set criteria for small communities, regional councils may be placed in a difficult position whereby discharge permits can be approved for economic reasons to the detriment of smaller communities and their water quality.

Under the Local Government Act (LGA), territorial authorities must assess from a health perspective the water services provided to the public.¹¹ While the purpose of these assessments is to ensure the adequacy of water supply from a public health perspective, the LGA does not include a set standard aligned with those within the Health Act and the Drinking Water Standards. Furthermore, exactly how the requirement to assess water services is aligned to territorial authorities' duties as a supplier under the Health Act is not made clear. This lack of alignment between the LGA and the Health Act can complicate how territorial authorities work within the framework.

In some cases, the framework can result in an overlap of responsibilities which complicate implementing the framework. Additional legislation, such as Acts introduced as part of Treaty of Waitangi settlements, can require regional councils and territorial authorities to develop separate but overlapping plans and strategies for managing waterways. This creates situations where the same waterway has two different, but overlapping, governance processes working toward outcomes for both the relevant Settlement Act and the NPSFM. For regional councils and territorial authorities this is another source of conflict and inconsistency within the framework.

In the Bay of Plenty, the Tapuika Claims Settlement Act 2014 requires the regional council to develop two sets of objectives for the Kaituna River. This has created an issue whereby the regional council is obligated to undertake two separate processes to achieve the same outcome, representing an inefficient use of resources.

⁸ NES regulation 4 (refers to the Drinking Water Standards)

⁹ NES regulations 7 and 8

¹⁰ NES regulation 6

¹¹ Local Government Act 2002, s 125.

ISSUE 3: Lack of cohesion in the collection and use of water quality data due to a lack of strategic coordination

In undertaking activities within the framework, regional councils and territorial authorities must gather and use data to inform their decision making and monitor water quality. Within the framework, data is the key measure of success against the standards for quality, which in turn measure progress toward meeting national quality goals for regional councils. This progress is reported in annual reports by local government, central government agencies, and by the Government Statistician (as empowered by the Environmental Reporting Act 2015). This data is also essential to protecting water quality through informing effective resource consenting and planning activities.

As part of data collection, regional councils share monitoring data on environmental quality through Land Air Water Aotearoa (LAWA). To guide data collection and monitoring, the National Environmental Monitoring Standards (NEMS) provide technical guidance and standards on data collection requirements and methodology to achieve national consistency for reporting and comparison purposes. Regional councils also provide this data to the public, government agencies, Audit New Zealand, and for government inquiries as required. The provision of data to a wide range of audiences involves significant expense in collating, analysing and presenting collected data in numerous ways to suit the need.

In practice, while the situation has been improving significantly with the passage of the NPSFM and NESDW, there is not always coherent instruction on how information is to be gathered or how it should be used for the purposes of supporting the standards for water quality. Although regional councils engage in a wide range of monitoring activities, a lack of clear guidance within the national directions can result in data being used inconsistently across decision making processes. Inconsistent use of data for purposes of informing evidence-based decision making can result in the national standards having an uneven impact on water quality between regions and districts, or even along different points of the same body of water, despite the targeted efforts by regional councils to improve the collection and sharing of quality data.

Additionally, the framework also does not include any mechanism to ensure that the required collection and use of data is effective overall in improving or maintaining water quality. Regional councils need on the requirements for the collection and use of data to be carefully considered to ensure that the resources invested by regional councils for monitoring are as effective and cost-efficient as possible to ensure that they can achieve the optimal outcomes for water quality.

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There can also be tension between national and regional priorities around where to invest scientific and data collection resources; for example, national directions may prioritise monitoring waterways for effects caused by urban development, which is less likely to be a focus in areas facing low growth but increasingly frequent extreme weather events. These low growth areas may deem it more appropriate to allocate funding to monitoring the effects due to climate change, agriculture and dairy intensification, to have the most impact on improving overall water quality. This lack of alignment is an opportunity for central government to work alongside regional councils to identify how to manage competing priorities and better allocate resources to ensure they are being allocated to suit local needs. Regional councils should continue to work extensively with central government to ensure monitoring requirements do not become overly burdensome while ensuring that progress towards meeting the national standards for water quality are effectively monitored.

Additionally, the impact of standards for water quality often focusses on implications for freshwater monitoring as the impacts on human health from drinking water is a highly visible issue. As such, the impact of the changes for monitoring of drinking water quality, a responsibility often undertaken by territorial authorities who act as a supplier under the Health Act, is not always considered as part of the wider framework.

Lack of guidance around using data for decision making

The NPSFM and NESDW outline specific 'bottom lines' set by central government to signal to regional councils the minimum standards that must be achieved. There is an opportunity for central government to work with regional councils and provide additional support on how regional councils must use information to determine how they set standards within their area. Providing more specific guidance or specification around how regional councils should use this data in their decision making processes can minimise inconsistencies between and within regions and make use of national-level efficiency in analysing data.

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Although there is a broad range of guidance on how territorial authorities, as drinking water suppliers, must use data for decision making regarding management of sources of human drinking water, there is further opportunity to provide more specific guidance on protection of these water bodies. In the wake of the Havelock North Inquiry, the "first barrier protection"¹² principle has become a key issue in managing drinking water quality, particularly for supplies which do not receive disinfection treatment. Central government can work with territorial authorities to better use existing data to inform how they can apply the decision making framework to work through situations where there is ambiguity around pre-existing standards of quality and understanding impacts from decisions.

Ongoing monitoring and data collection

The requirement for ongoing collection and analysis of surveillance data can become burdensome for regional councils. The framework requires monitoring of water quality to ensure minimum targets are met and public health is protected. However, the development of the framework does not embed a process for allowing regional councils to work with central government to consider whether monitoring is generally fit-for-purpose, or whether monitoring is undertaken in a way that can be tailored to suit what is needed. A national requirement to constantly monitor and report on water quality may not always take into consideration seasonal variations in water quality which can mean that water quality appears to be considered non-compliant.

One example of lack of coherency in the use of data can be observed within the NPSFM. Under the NPSFM, regional councils are expected to set standards and limits based on best available information and socioeconomic knowledge¹³. However, the NPSFM does not define the exact nature and quality of scientific and socioeconomic evidence, which can result in standards and types of evidence varying between councils.

Under the NESDW, territorial authorities must not approve discharge activities which will degrade the current standard of freshwater downstream at an abstraction point for drinking water¹⁴. The current standard within the NESDW is loosely defined as being the current level of treatment undertaken by the drinking water supplier¹⁵. It is not specified within the NESDW how territorial authorities determine the current level of treatment and the potential impacts on it. This lack of guidance around the information used in this decision process means that territorial authorities can apply the NESDW inconsistently.

¹² <https://www.dia.govt.nz/Report-of-the-Havelock-North-Drinking-Water-Inquiry---Stage-2>

¹³ NPSFM, pg. 5

¹⁴ NES regulations 7, 8 and 10

¹⁵ NES regulation 4

Under the NESDW, it is not clear whether regional councils must consider the effects of increased compliance costs to drinking water suppliers when deciding to approve a discharge permit. While the regional council may approve a discharge permit on the basis it will not degrade water quality, suppliers may nonetheless have to increase monitoring and surveillance to ensure the safety of drinking water. Lack of guidance around how to factor in the impact to a drinking water supplier may result in suppliers, such as territorial authorities, facing unexpected additional costs from decisions made by regional councils.

It is also not clear within the NESDW how regional councils identify where in a body of water a supplier draws their drinking water from (the abstraction point). Regional councils do not have access to an accurate registry of information about drinking water sources and abstraction points. A lack of guidance for regional councils (as well as applicants for consents) on how to gather such information can hinder their ability to effectively implement the NESDW in their decision making to protect drinking water sources.

An example of inefficiency in monitoring can be observed in cases of water quality issues due to heavy rainfall events. Such heavy rainfall events, although possible all year, are more likely to occur in winter when recreational usage of waterways is lower than in summer where it is known that water will be discoloured for up to 48 hours following an event. During such periods, decreases in water quality due to heavy rainfall will have less impact to the public; nonetheless, territorial authorities are required to monitor water quality the same way throughout the year despite its cost, when it would be much easier to communicate a message to the public for them to avoid swimming for the 48 hours after heavy rainfall.

3

Opportunities for change and next steps

Opportunities for change

Although this review has identified areas where there is a lack of alignment or detail, the framework is nonetheless designed to enable regional councils and territorial authorities to engage with their communities to prioritise and set standards for their water. The three key issues identified from our review present potential opportunities for further action to improve the framework and deliver better outcomes for water quality and local communities. These opportunities include high-level strategic changes to priority setting, funding mechanisms and cost-benefit analyses; and system changes to monitoring processes.

Opportunity 1: Partnership in priority-setting

Local government and central government need to partner together to develop an all-of-government position on how environmental health priorities can be set to protect freshwater quality itself, and to improve drinking water and human health outcomes, with consideration for affordability of the standards, implications for infrastructure needs, cost and impact to communities, and additional pressures which arise from urban development, economic growth, agriculture and tourism.

By introducing an all-of-government position on water quality, central government can coordinate its strategic direction to ensure an aligned and coordinated stance on the management of land and water use to minimise conflicting priorities that can impact on freshwater quality, which in turn has implications for the quality of New Zealand's drinking water.

Opportunity 2: Adopting a collaborative approach to addressing cost issues

Local government needs to partner with central government to develop and implement policy for alternative funding mechanisms for infrastructure, by embedding cost considerations for territorial authorities in policy development processes within MfE, DIA, MBIE and all other involved central government agencies. This partnership needs to occur from the earliest policy development stages to ensure options that are developed are fit-for-purpose and meet the needs of local government now and into the future. Alternative funding mechanisms can alleviate issues of affordability and capacity which limit the ability for territorial authorities to meet ongoing and additional requirements for protecting freshwater quality, such as high-cost infrastructure improvement needs and ongoing costs to implement and meet new standards for general water quality.

Territorial authorities are facing large costs to maintain, upgrade or build new infrastructure to meet the needs of a growing population. Infrastructure is critical to ensuring water quality across the three waters is maintained at levels that meet national standards. Funding mechanisms could include allocating additional funding assistance for infrastructure, based on assessed need, re-introduction of subsidy schemes, allowing local government to issue bonds, or requiring Kiwisaver funds to invest in infrastructure via long term loans to territorial authorities.

Opportunity 3: Adopting a collaborative approach to understanding costs and benefits

Local government and central government need to partner together to enable more comprehensive and end-to-end cost-benefit analyses to be undertaken before the development of new standards, or amendment of existing standards begins. Adopting a collaborative approach can support central government to understand the current and future cost burden on regional councils and territorial authorities. Territorial authorities need to be involved in the conversations to ensure that considerations of affordability, capability and capacity of local government, and options for funding necessary infrastructure or implementation needs, are included.

Additionally, central government should also collaborate with regional councils to ensure small and medium-sized regional councils are resourced adequately to undertake their own cost analyses to support efficient implementation of standards.

Cost-benefit analyses undertaken by central government do not contain enough detail to fully understand the impact of change on regional councils or territorial authorities. In addition, there is limited understanding currently of the total costs of the existing system. There is an opportunity for central government and local government to focus on the total costs and benefits of proposed changes to standards for water quality, identify where those costs and benefits will fall, and assess whether councils have the capability and capacity required to effectively implement them. Additionally, central and local government need to collaborate to determine the affordability of proposed changes, as well as opportunities to ensure territorial authorities have the resources to implement and meet the standards in full. This can include supporting smaller regional councils to undertake their own cost-benefit analyses through sharing of common costings, methodology or additional resourcing.

Opportunity 4: Strategic coordination of objectives for water quality monitoring

Local government should work with central government to ensure that the requirements for monitoring and data collection for water quality under the framework have clear objectives, ownership and responsibility to ensure requirements for water quality are being met. To achieve this, central government should partner with regional councils and territorial authorities in the earliest stages of designing or amending standards to ensure local government considerations are embedded and that monitoring requirements support the end goals. Additionally, clarity is needed to ensure that the resourcing of data collection and monitoring is adequate and fit-for-purpose. This

Under the framework, regional councils and territorial authorities are responsible for a large amount of monitoring and data collection to ensure water quality standards are being met. Due to the complex range of activities and requirements, there is an emerging need to review what these requirements are, whether they are fit-for-purpose, and if they can be reformed to enable regional councils and territorial authorities to be more efficient in their monitoring work, especially where new standards would require additional monitoring.

may involve having discussions around who benefits most from data, and where funding should come from.

Opportunity 5: Improve the process for issuing non-regulatory guidance

Government-issued non-regulatory guidance is a crucial part of the process for implementing standards to ensure that there is national consistency in how local authorities give effect to the regulatory requirements. Processes for developing and issuing guidance must be responsive and ensure that considerations for how local authorities implement the standards is central. Adopting a proactive and collaborative approach to developing guidance can allow for more accessible and timely guidance to support improvements to the cohesion of the framework for water quality.

Regional councils are the primary parties responsible for implementing water quality standards, so guidance should be tailored to provide the best opportunity for the standards to be met in a consistent manner across the country. Local authority planning processes require long lead-in times due to a need to undertake comprehensive community consultation and scientific assessment. Therefore, it is crucial that guidance is timely to prevent territorial authorities having to make long-term decisions before robust, fit-for-purpose guidance has been issued.

Next Steps

This report summarises our review of the framework for water quality. The issues and opportunities identified can provide a foundation for future projects being undertaken by LGNZ under the wider Water 2050 project. These include workstreams which focus on the governance of water; working toward fit-for-purpose and affordable infrastructure which meets community needs; and funding and financing the infrastructure and standards for water.

Appendices

Appendix 1: Detailed overview of framework for water quality

The framework for water quality in New Zealand consists of interlinked pieces of legislation with different purposes, as well as a wide range of regulations, standards, and non-regulatory guidance. Together, these pieces create a framework for the protection of freshwater and drinking water quality, governing how local government undertake its activities working across both. While central government plays a role in setting priorities and establishing standards for water quality, local government at both regional and district levels is largely responsible for implementing this framework.

In effect, the legislation empowers regional councils and territorial authorities to protect and manage New Zealand's water through regional and district planning and the resource consent process. Local government is expected to work with its local communities, iwi and hapū to set and enforce these rules. Additionally, local authorities are expected to make decisions based on best available evidence, which requires engaging subject matter experts for scientific and engineering advice.

As the party largely responsible for implementing the framework for water quality, local government is also responsible for the associated implementation costs. These costs include activities related to creating strategic and planning documents, scientific monitoring and surveillance of water quality, and funding infrastructure related to the three waters (drinking water, stormwater and wastewater).

Ultimately, this responsibility places regional councils and territorial authorities at the centre of balancing environmental concerns with costs, as well as mediating the interests of ratepayers, land users and other stakeholders from local communities, within the strategic direction provided by central government.

This section briefly introduces the key parts of the water quality framework and the duties and requirements each part places on local government.

Resource Management Act 1991

The Resource Management Act (RMA) sets requirements for local authorities on how to manage and make decisions around natural resources. Regarding water, the RMA aims to protect freshwater from environmental degradation. Further to the RMA are national directions, which prescribe additional requirements for local authorities.

Under the RMA, local authorities are required to manage actual or potential effects of activities relating to the surface of rivers and lakes. To do so, local authorities must establish, implement and review objectives, policies and methods to manage natural and physical resources of the region.

National Policy Statement for Freshwater Management 2017

The National Policy Statement for Freshwater Management (NPSFM) was introduced to provide further direction to local authorities around how they must action their responsibilities for protecting freshwater. Effectively, the NPSFM sets out bottom lines for water quality that regional councils must set goals toward achieving. Quality measures include ecosystem health, bacteriology, recreational/aesthetic values, and suitability for drinking water.

Regional councils have discretion under the NPSFM in how they set standards within a loosely prescribed framework. Regional councils must set standards in collaboration with local communities and involve iwi and hapū.

National Environmental Standard for Sources of Human Drinking Water Regulations 2007

The Resource Management (National Environmental Standard for Sources of Human Drinking Water) Regulations 2007 (NESDW) are regulations introduced under the RMA to set specific requirements for protecting freshwater bodies that are used as sources for drinking water. In effect, the NESDW introduces drinking water as a consideration within the wider RMA framework.

Under the NESDW, local authorities must not allow discharge activities to occur that can result in community drinking water becoming unsafe following current treatment practices. Local authorities are referred to specific health criteria, in turn based on regulations 4 and 5 of the Drinking-water Standards (see below).

Health Act 1956

The Health Act, through a 2007 amendment, aims to protect human health by improving the quality of water provided to communities as drinking water. The Health Act applies to supplies above a certain size (25 people or more), requiring them to take 'all practicable steps' to comply with the Drinking-water Standards for New Zealand. Additionally, the Health Act requires suppliers to introduce and implement water safety plans, detailing the identified risks and risk management approach used by the supplier to mitigate

them, including steps to protect the source of their drinking water. Supporting the Health Act 1956 is additional regulation through the Drinking-water Standards, and Guidelines for Drinking-water Quality Management.

The Drinking-water Standards for New Zealand (the Standards) are a regulatory tool within the Health Act that sets criteria for how monitoring of drinking water quality is carried out. Additionally, the Standards outline the remedial actions that must be undertaken if there is a public health risk identified for a supply in the event of a breach of the Standards.

The Guidelines for Drinking-water Quality Management for New Zealand (the Guidelines) provide additional support to suppliers working under the Health Act. The Guidelines provide additional detail about measures for quality used in the Standards, ongoing management of water quality, and background information of the concepts and publications which formed the basis for the Standards.

Local Government Act 2002

The Local Government Act (LGA) outlines how local government must function, its purpose, and the powers and responsibilities of local authorities. On its own, the LGA does not prescribe requirements on what standards for quality are, or how they must be met. Rather, it outlines the requirements for local authorities to maintain and improve public health and environmental outcomes through strategic planning. This includes regional plans (for regional councils), district plans (for territorial authorities), infrastructure strategies and financial strategies.

Treaty of Waitangi Act 1975 and Treaty Settlement Acts

Settlement Acts are enacted by parliament to give effect to settlements of treaty claims under the Treaty of Waitangi Act 1975. These Settlement Acts can contain a range of elements regarding land use, ownership and management for specific areas and waterways. In effect, Settlement Acts can include provisions for specific land and resource management by local authorities. As such, standards for water quality can exist in addition to the framework for water quality.

Appendix 2: Detailed overview of non-statutory guidance

Alongside legislation, the framework for water quality includes non-statutory approaches, including guidance and examples of good practice. These tools help local authorities to meet government priorities for water quality, set targets, and use scientific measures. Supporting non-regulatory tools include collaborative governance approaches, good practice on managing and protecting waterways, and scientific research.

Community consultation and engagement

Guidance is available to support local authorities to engage with communities for consultation and collaborative approaches to managing freshwater¹⁶. This guidance helps local authorities to give effect to the RMA and the NPSFM, working with the local community, iwi and hapū, and other stakeholders. This guidance provides advice and examples of good practice in engagement, setting up community-based decision making groups and adopting integrated approaches to managing water bodies. Additional tools that are employed by local authorities include Regional Policy Statements and Regional Plans (mandatory under the RMA), which give effect to national direction and can add additional requirements or standards that go beyond those contained within the RMA and the NPSFM, in a way tailored to suit the region. They may also reflect Treaty of Waitangi Settlement Acts for a region.

Non-statutory integrated approaches to managing catchments, which involve taking a holistic strategy for water quality, include the Bay of Plenty Regional Council's ICM plans. These set out how the regional council will establish co-governance of waterways in a way that integrates its management with other waterways in the region.

Managing impact from agriculture

Guidance available around managing water quality within the agricultural sector focusses on managing land use to minimise the impact on waterways of agriculture on nearby land. This guidance helps local authorities to manage key sources of contamination of waterbodies to better position them to meet the standards set by the framework. This guidance provides tools to local authorities on how to encourage good farming practices within the agricultural sector, including careful land management through riparian planting¹⁷, stock exclusion and effluent management¹⁸.

Additionally, sector-led responses to water quality also support local authorities to undertake their responsibilities under the framework. These initiatives involve self-imposed restrictions and requirements for the purposes of minimising the impact on waterways through agricultural activities. These are in addition to any requirements that local authorities may have in place under the RMA or NPSFM.

The Clean Streams Accord (2003) and the Sustainable Dairying Water Accord (2013) are examples of the agricultural sector working independently of local authorities to improve water quality by setting targets for reducing discharge and improving water quality in neighbouring streams and rivers.

Managing impact from urban development

Urban intensification is a growing area of concern for local authorities, as there is a need to mediate the need for growth with the impact on the environment and water quality. Guidance is available to support local authorities to manage the impact urban development has on water quality. The focus of minimising the impact from urban development is on stormwater and mitigating run-off issues exacerbated by lack of drainage. Examples include guidance to local authorities from MfE, including research to support development strategies¹⁹ and consideration of urban development in local standard-setting and policy development²⁰. Local authorities have also developed guidance documents which set out good practice in designing and maintaining stormwater solutions to protect urban water quality.

¹⁶ Making Collaborative Groups Work A guide for those involved in collaborative processes (MfE, 2015)

¹⁷ Managing waterways on farms: A guide to sustainable water and riparian management in rural New Zealand (MfE, 2001);

Managing Riparian Zones: A contribution to protecting New Zealand's rivers and streams (DOC, 1995).

¹⁸ Standard methods for whole effluent toxicity testing: Development and application (NIWA, 1998).

¹⁹ Research on existing urban growth strategies to support guidance on Future Development Strategies (MfE, 2017)

²⁰ Practical tools and frameworks for Freshwater Policy Development (MfE, 2017)

Auckland Council has developed a manual²¹ on designing stormwater management devices, including building and maintaining swales and filter strips, rain gardens, vegetative filters, protecting and improving wetlands, and ensuring adequate soil drainage in new developments.

Non-statutory interventions

Local authorities also employ a range of interventions in their local communities to encourage improvement in water quality. This can include community education initiatives, clean-ups of streams, introduction of water metering, and physical work on streams to alter their hydrological profiles.

In Waitakere, Project Twin Streams is a large-scale restoration project involving planting of native trees and shrubs along 56km of Waitakere streams. The project involves partnered delivery between Auckland Council and local community organisations.

In Nelson, project Maitai is a 4-year water quality improvement project involving working partnership between Nelson City Council, local iwi and the community to improve the water quality of the Mahitahi River. The Council has a continued commitment to water quality and through the 2018/2028 Long Term Plan will be spending a further \$350K per annum on an ongoing Healthy Streams programmes which will include focus on all catchments including the Mahitahi as well as financial commitment for infrastructure improvement.

²¹ Stormwater Management Devices: Design Guidelines Manual (Auckland Regional Council, 2003).

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