Draft interim Regulatory Impact Statement: proposed amendments to the NES-DW

Coversheet

Purpose of document	
Decision sought:	The release of a discussion document on changes to the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 (NES-DW)
Advising agencies:	Ministry for the Environment
Proposing Ministers:	Minister for the Environment, Associate Minister for the Environment
Date interim RIS finalised for consultation:	25 November 2021

Problem definition

The NES-DW 2007 was intended to provide specific recognition of the need for protection and management of drinking water sources within the resource management system. In 2017, the Havelock North Inquiry identified several 'significant' problems with the NES-DW and recommended a comprehensive review to ensure they achieved their intended purpose. A Ministry for the Environment review in 2017 concurred with these findings and found implementation was nationally inconsistent.

The NES-DW is limited in its scope and application, is complex and technically challenging to apply, is not consistently applied, and does not align with aspects of the National Policy Statement for Freshwater Management 2020 (NPS-FM) and the Water Services Act 2020 (WSA).

Executive summary

The NES-DW is one component of the regulatory system for drinking water, and one of three instruments of national direction for freshwater management. The NES-DW is intended to protect drinking water sources – our rivers, lakes and groundwaters – from contamination, but issues with drafting, scope and implementation meant it has not achieved its purpose.

The objectives of this policy problem are to strengthen and align national direction for protection and management of source water, while considering improvements to:

a. how at-risk areas for source water are delineated

b. how activities that pose risk to source water are regulated or managed

c. which water supplies are protected.

Approaches identified to meet these objectives, and for consideration against retaining the NES-DW in its current form (status quo), are:

1. Amending the NES-DW to address the identified problems.
2. Strengthening source water protections as part of Resource Management System Reform, via the Spatial Planning Act and the National Planning Framework, expected to be operational by 2024 at the earliest.
3. Repealing the NES-DW and strengthening guidance relevant to source water as featured in existing instruments (NPS-FM, WSA) through non-regulatory interventions.

To support regulatory requirements in the NPS-FM and WSA, the preferred option is to address the required improvements through amending the current NES-DW. While freshwater and drinking water management through the WSA and NPS-FM strengthen recognition of the hazards and associated risks to source water, there remains a need to explicitly ensure plan rules and resource consents address those risks in a nationally consistent manner. Otherwise, the current situation will continue where resource use may adversely impact source water, risking environmental damage and harm to communities.

In parallel the new water services regulator Taumata Arowai requires a strong regulatory framework under the RMA through which it can exercise its functions under the WSA. Non-regulatory interventions are not considered to provide adequate direction and risk being overlooked. Delaying work to amend the NES-DW so it aligns with Resource Management System Reform could risk not providing appropriate and timely support for the inclusion of source water protection and management provisions in new freshwater regional plans (due by 31 December 2024). It also risks not being available to inform water suppliers' Source Water Risk Management Plans (under the WSA) in a timely manner.

The amended NES-DW would prescribe how at-risk areas would be delineated (while providing for bespoke approaches), restrict the highest-risk activities, ensure effects on source water are considered and addressed appropriately and consistently with the involvement of water suppliers, and protections would apply to all registered drinking water supplies.

There is support for amending the NES-DW from agencies involved in Three Waters Reform – the Department of Internal Affairs (DIA), Taumata Arowai and Ministry of Health. Regional councils have been generally supportive of improved clarity and consistency, while water suppliers have generally welcomed the improved protections and involvement in consent processes.

Primary sector groups have expressed some concerns over the potential for additional regulatory restrictions on resource users[1], particularly with the inclusion of 75,000-130,000 small supplies protected by the restrictions of the NES-DW. Consultation is intended to help refine the proposal, and consequently this RIA, and engagement with Ministry for Primary Industries will continue to ensure national direction and any consequent regulatory restrictions are well-targeted, well-aligned with other regulation, and justified.

[1] Landowners, land occupiers and others who undertake activities under the RMA

Limitations and constraints on analysis

Proposed amendments to the NES-DW are part of a suite of changes to drinking water regulation agreed by Cabinet in July 2019 in relation to its Three Waters Review. A Regulatory Impact Assessment (RIA) was prepared by DIA to inform Cabinet decisions[2], and this interim RIA for the NES-DW builds upon some of the data and assumptions underpinning that document.

A limitation in the DIA RIA was (and continues to be) available data on small water suppliers. It is proposed to expand the application of the NES-DW from registered suppliers servicing >500 people, to all registered supplies[3] under the WSA. This policy was originally based on data suggesting that the number of unregistered water suppliers was roughly 5,000. Taumata Arowai now estimates there are 75,000-130,000 small suppliers that will need to be registered under the WSA. These supplies have been provided four years to register, and until they are registered there is no certainty over the number and location of these small supplies. This has implications for the evidence base used to develop the proposals in this RIS, the costs of the proposed amendments, and how changes might be implemented.

Preferred solutions to amend the NES-DW are limited to the scope provided to national direction instruments under sections 43 and 43A of the RMA. Any overriding policy direction or merging of freshwater national direction instruments will be considered as part of Resource Management System Reform.

Water quality is a complex issue due to the interconnectedness of land, surface water and groundwater, timeframes, and distances. It is also inherently difficult to accurately quantify environmental and public health costs and benefits. It is often easier to quantify the economic cost of a policy intervention to an individual, yet harder to quantify the environmental and public health benefits in the same terms.

It is challenging to estimate financial costs and benefits of national direction accurately due to variability in the quality of current RMA plans and consent frameworks. There is also no easy way of predicting how regional councils will exercise their discretion in consent decisions, and what mitigation measures regional councils will require from resource users to manage risks to source waters.

Consultation is intended to help refine the proposal to amend the NES-DW, and consequently this RIA.

[2] Regulatory Impact Assessment: Strengthening the regulation of drinking water, wastewater and stormwater

[3] Other than domestic self-suppliers

Responsible manager(s)
Jo Gascoigne *Director* *Water and Land Use Policy* *Ministry for the Environment*      *25 November 2021*

Quality assurance	
Reviewing agency:	Ministry for the Environment
Panel Assessment & Comment:	The Regulatory Impact Statement (RIS) is assessed as partially meets on the grounds that it is interim and recognises that the consultation process will be used to gather further information. The RIS adequately sets out the context and general rationale for the proposals. The RIS assesses the merits of the approaches to implementing the options, but assessment of alternative options is limited. There are several areas where the limited assessment of costs and benefits may impact on the quality of feedback.

Section 1: Problem definition and objectives

What is the context behind the problem?

Background

1 Provision of safe drinking water requires proactive risk management at every stage of the supply process. This 'multi-barrier' approach ensures protections are in place from the catchment where water is taken through to delivery to individual customers ('source to tap'). The 'first barrier' is protecting the source water – our rivers, lakes and groundwaters – from contamination. The Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 (NES-DW) are intended to fulfil this role.

2 Protection of source water is important, not only because improving water quality is consistent with New Zealand's freshwater management framework, but because it is not always possible to remove contaminants through treatment processes. Source water protection is also important for giving effect to Te Mana o te Wai (see paragraph 10.1), as it addresses first and foremost, the health of the water bodies from which drinking water is extracted.

3 A Government review of the 'three waters'[4] regulatory system was initiated following an incident in Havelock North in August 2016, where drinking water contaminated with campylobacter resulted in four deaths and an estimated 5,500 contracting gastroenteritis. The subsequent Inquiry identified various issues with the current regulatory regime, including 'significant problems' with the NES-DW and the protection of source water[5]. In particular, the NES-DW is complex and difficult to interpret and apply, it doesn't cover the full range of activities that can pose a risk to source water, nor provide adequate protection for water supplies serving less than 500 people.

4 The Three Waters Review has resulted in the establishment of a new dedicated regulator, Taumata Arowai, and the new Water Services Act 2020 (WSA), which sets requirements that water suppliers must meet to ensure they provide safe drinking water. Freshwater protections continue to be provided for under the Resource Management Act 1991 (RMA).

5 Since the Havelock North Inquiry, other changes have been made to freshwater management through the Essential Freshwater programme. While current and impending freshwater and drinking water regulations such as the National Policy Statement for Freshwater Management (NPS-FM) and the WSA are designed to strengthen consideration of source water risks, there remains a need to explicitly ensure that plan rules and resource consents address those same risks in a nationally consistent manner. Otherwise, the current situation will continue where resource use may impact source water, and consequently community it serves.

Current regulatory framework

6 Activities in source water catchments that could impact water quality or quantity are regulated under the RMA. Drinking water supplies and suppliers are regulated under the

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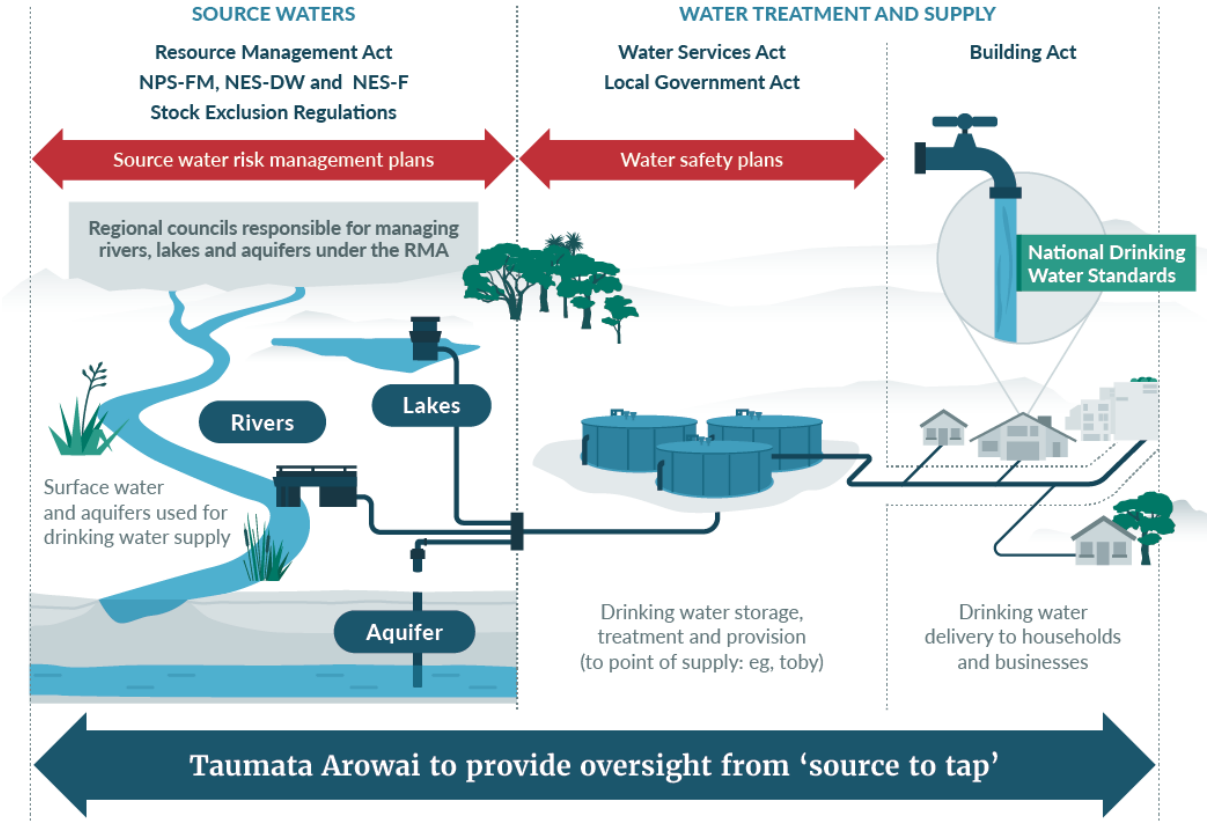
4 Drinking water, wastewater and stormwater networks

5 Detailed in the Stage 1 report (https://www.dia.govt.nz/vwluResources/Report-Havelock-North-Water-Inquiry-Stage-1/$file/Report-Havelock-North-Water-Inquiry-Stage-1.pdf) and Stage 2 report (https://www.dia.govt.nz/diawebsite.nsf/Files/Report-Havelock-North-Water-Inquiry-Stage-2/$file/Report-Havelock-North-Water-Inquiry-Stage-2.pdf) of the Havelock North Drinking Water Inquiry

WSA (and where public, the Local Government Act 2002), and private water connections are regulated by the Building Act 1991, as shown in Figure 1.

Figure 1 – regulatory framework for drinking water and source waters



National direction under the RMA

7 The NES-DW was introduced in 2007 to provide first barrier protection to drinking water sources, alongside the introduction of drinking water regulations to the Health Act (Part 2A). They were intended to fill a legislative gap in the resource management regime that had no express recognition of the need for protection and management of drinking water sources.

8 The various requirements of regulations within the NES-DW are shown below:

The NES-DW applies (at least in part) to approximately 2,400 drinking water supplies registered under the Health Act. There are three components to the NES-DW:

8.1 **Regulations 7 and 8:** A regional council cannot grant water or discharge permits upstream of a source water abstraction point if the activity is likely to impact a water supplier's ability to meet the New Zealand Drinking-Water Standards 2005 (Revised 2018) (NZDWS) after that water has been treated.

8.2 **Regulation 10:** A regional council cannot permit certain activities upstream of a source water abstraction point if the activity is likely to impact a water supplier's ability to meet the NZDWS after that water has been treated. Those

activities include use of land, and river and lake beds, as well as those relating to water and discharges.

8.3 **Regulation 12:** Any consent authority[6] must, where any activity could significantly impact source water quality through an emergency event, impose a condition on the consent requiring the water supplier is notified.

Regulations 7, 8 and 10 only afford protections to water supplies servicing over 500 people. Regulation 12 applies to any water supply servicing over 25 people. These supplier sizes aligned with categories from the recently repealed Part 2A of the Health Act.

9 At the time it was made, the NES-DW was the sole national direction instrument for freshwater. However, it is now one of four national direction instruments aimed at improving freshwater management. The NPS-FM was first made in 2011 and further updated in 2020 as part of the Essential Freshwater programme, an initiative that has sought to stop further degradation of freshwater resources and reverse past damage.

10 Essential Freshwater also resulted in the making of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-F), and the Resource Management (Stock Exclusion) Regulations 2020, and sought public feedback on high-level proposals to amend the NES-DW (see paragraph 26). Of relevance to source water, Essential Freshwater:

10.1 Establishes Te Mana o te Wai as the cornerstone of New Zealand's freshwater management system. Te Mana o te Wai refers to the fundamental importance of water and recognises that by protecting the health and well-being of our freshwater, we protect the health and well-being of our people and environments.

10.2 Prescribes how regional councils must manage the cumulative effects of all activities that can affect freshwater through the NPS-FM. Drinking water supply is a compulsory value in source water catchments and the regional council must identify attributes to assess this value, set target states and identify limits on resource use, prepare an action plan or impose resource consent conditions to achieve those target states. Amended regional plans must be notified before 2025.

10.3 Aims to reduce nutrient and sediment inputs from farming activities to water and improves bacterial loadings in water due to stock through the making of the National Environmental Standard for Freshwater 2020 and Stock Exclusion Regulations 2020.

Source water provisions of the WSA

11 The WSA has replaced Part 2A of the Health Act and it requires everyone who has functions, powers, and duties under that Act to give effect to Te Mana o Te Wai. All drinking water suppliers other than domestic self-suppliers must register with Taumata Arowai and prepare Source Water Risk Management Plans (SWRMPs) to identify, manage and monitor risks to source water. Regional councils are required to contribute information to SWRMPs, annually publish information about source water quality and

[6] Including city and district councils, as well as regional councils

quantity and report to Taumata Arowai, and they must assess the effectiveness of their interventions every three years.

12 The WSA provides 12 months for currently registered drinking water suppliers to re-register and submit SWRMPs. It allows four years for unregistered drinking water suppliers to register and seven years to submit SWRMPs, unless an acceptable solution is adopted, or a general exemption granted. Taumata Arowai may issue an acceptable solution to provide an alternative approach for certain types of smaller water supplies, who do not have the capability or capacity to undertake comprehensive risk management planning (including SWRMPs).

13 The WSA has amended the RMA requiring resource consent decision makers to consider risks and effects on source water for registered water supplies (new section 104G). New national standards for drinking water and operational compliance rules are also proposed, which will replace the NZDWS.

How is the status quo expected to develop if no action is taken?

14 Despite wider changes to freshwater and drinking water regulation, the source water protection problems identified by the Havelock North Inquiry will remain unresolved. Current activities, changes in activities, or intensification of existing activities, and new activities may introduce new contaminants or increase the concentration of existing contaminants in source water, and those effects may not be adequately or consistently addressed though RMA processes.

15 The NES-DW is likely to continue to be sporadically and inconsistently applied. It is expected there will be variability in RMA plan frameworks and how resource consents that pose a risk to source water are considered. Effects of some high-risk activities – both new and existing - may not be addressed. Small supplies will not enjoy the same protections as larger supplies. Water suppliers may not be considered as affected parties to consent applications, nor notified of unintended events that could impact their supplies. However, where consents are required, RMA section 104G serves as a reminder that consenting authorities must consider the impacts on source water for registered water supplies in decision-making.

16 Under the new freshwater regime, regional councils will continue to develop their freshwater regional plans to be consistent with the NPS-FM and drinking water values should be identified in appropriate catchments. It is uncertain how much focus source water will be given in the regional freshwater planning process, as source water is one of many values, and it is uncertain whether drinking water values would be identified in catchments with only very small supplies. There is unlikely to be consistency between regions in how source water risk is managed. However, to achieve the objective of the NPS-FM degradation of freshwater must be addressed through regional plans by 2025.

17 The inconsistency of the NES-DW with the NPS-FM, in that the key water quality considerations relate to drinking water after treatment (the DWSNZ), may cause uncertainty and confusion in both the consenting and freshwater planning process.

18 Costs for addressing source water issues will lie largely with the water supplier, as a strong reliance on treatment remains. While some supplies have advanced water treatment plants, others may have minimal or no treatment processes in place. Changing water treatment processes or moving the location from where water is sourced (where possible), can be difficult and costly and are generally not recoverable from the person(s) responsible for the contamination. Some contaminants are also not removable by conventional treatment processes, or the costs of treatment are such that the supply of drinking water becomes financially unsustainable.

19 Registered water suppliers will monitor source water and prepare SWRMPs. Regional councils are required to report on source water quality and quantity, and the effectiveness of interventions to Taumata Arowai. They will also be required to undertake 'appropriate actions' to address source water risks or hazards. There may not be consistency between regions to the timeframes or actions required.

20 Overall, freshwater management and source water awareness will improve, but source water considerations may get overlooked or not be addressed in a timely manner. Some water suppliers may continue to be excluded from consent processes.

What is the policy problem or opportunity?

21 The Havelock North Inquiry considered what happened and causes of the outbreak (Stage 1 Report), then lessons learned and recommendations to reduce the likelihood of such an outbreak occurring again (Stage 2 Report). They considered failures under the RMA including of the Act itself, regional plans, rules and consents, and the content of the NES-DW and its effectiveness in promoting first barrier protection.

22 The findings of the Inquiry are provided below. In sections relevant to the NES-DW, the Inquiry emphasised "*a comprehensive review is required. This should start with a 'clean sheet'. The Inquiry considers that mere 'tinkering' will not suffice to address the issues and concerns raised.*"

23 A Ministry for the Environment (Ministry) 2017 review of the NES-DW[7] concurred with the Inquiry findings in relation to the NES-DW and found variable implementation across New Zealand. Most notably, regional councils had been considering source water risks to some degree, but there was no discernible impact on source water quality. The implementation by territorial authorities was potentially very low. It is acknowledged the Ministry developed a NES-DW Draft User Guide in 2009 that was never finalised.

24 Overall, application of the NES-DW requires subjective, individual, and potentially costly case-by-case determination, leaving room for interpretation, error, and inconsistency across regions. The Inquiry recommended addressing "*the various risks in a straightforward and comprehensive manner*" so that the NES-DW is simple and easy to interpret and apply. Their findings (summarised in the box below) illustrate the complex drafting of the NES-DW.

Determining at-risk source water areas

- Regulations 7, 8 and 10 apply 'upstream' of an 'abstraction point'. There are challenges applying this terminology to groundwater takes, and some activities downstream (or for groundwater, downgradient) of an abstraction point can impact source water. In catchments where 'upstream' is a substantial area, there is no guidance to narrow down the area of interest.
- There is also no accurate database of registered drinking water supplies to inform councils and resource users, and to support complete and consistent application of the NES-DW[8].

[7] For full report see https://environment.govt.nz/assets/Publications/Files/Review-of-the-Drinking-Water-NES-Summary-Report-final.pdf

[8] Accurate locations of where source water is taken will be provided as water suppliers register or re-register with Taumata Arowai under the WSA.

- Coupling of Regulations 7, 8 and 10 to drinking water quality after treatment (DWSNZ) requires knowledge of existing water quality issues and treatment processes for individual supplies. This approach potentially allows degradation that is inconsistent with the NPS-FM and it inappropriately emphasises reliance on treatment processes as a barrier to contamination.

Plan rules and consenting challenges

- Regulations 7 and 8 are limited to water and discharge permits, which do not allow other activities that could impact source water to be considered. In particular, land use activities pose significant risks to groundwater and both unconsented earthworks and insecure bores were identified as risks in the Havelock North incident, where ultimately the source water contaminated with sheep faeces entered drinking water system though insecure bores.
- Regulations 7 and 8 only apply to prospective applications and do not retrospectively apply to existing consents and activities that may be adversely affecting source water.
- Regulation 10 applies restrictions to rules in regional plans, but activities controlled by rules in city and district plans can also pose a high risk to source water.
- Source water impacts cannot be considered in rules where discretion is controlled or restricted unless source water is listed as a matter of discretion.
- There is no express requirement under the NES-DW for water supplier (or drinking water regulator) involvement consent applications, or in developing plan rules.
- Regulation 12 emergency notification provisions after an accident or event has occurred does not advocate a proactive and preventative approach to risk.
- There has been variable implementation, and a potential lack of awareness, and a potential belief that applying the NES-DW is a regional council function.

Extending protections to all registered drinking water supplies

- The size of a water supply should not determine the level of first barrier protection, and there are challenges in coupling the regulations to population serviced.
- The NES-DW does not align with the WSA, which regulates all drinking water suppliers (other than domestic-self suppliers).

25 In response to the HNI and the Ministry review of the NES-DW, the Government established the Essential Freshwater work programme, which developed and consulted on a series of high-level amendments to the NES-DW. Its goals included stopping freshwater degradation with immediate improvements and reversing past damage.

Public consultation through Essential Freshwater

26 As part of the Essential Freshwater programme, the Action for Healthy Waterways consultation document was released for public consultation in September 2019. The

document sought feedback on high-level proposals for strengthening obligations on councils for managing source water risk by amending the NES-DW, alongside proposals to amend the NPS-FM and develop the NES-F.

27 Since then, details on the proposed amendments to the NES-DW have been refined through technical advice, analysis and engagement with regional councils, water suppliers, iwi/Māori, and other organisations.

Stakeholder views

28 The engagement to date has indicated general support for the proposed amendments to the NES-DW. A summary of feedback received from stakeholders and iwi is presented in Table 1.

Table 1: High-level feedback from iwi partners and stakeholders

Group	Overview of feedback provided
Post-Settlement Governance Entities & iwi	• Amendments to the NES-DW must give effect to Te Mana o te Wai. This includes allowing iwi direct involvement in the implementation of the proposed amendments. • An amended NES-DW must not hamper customary activities (eg, it will not preclude rāhui and is likely to enhance manaakitanga and mahinga kai). • Pre-existing governance settlements with iwi must not be affected by an amended NES-DW. • Water quality and quantity are part of the same equation for Māori. It is important to consider connections between the NES-DW, water allocation and Māori rights and interests. • Emphasised need to engage with tangata whenua during the implementation phase of any amendments.
Regional councils	• Generally supportive of the proposed amendments. • Noted that some regional councils have experience delineating source water risk management areas. • Stressed the importance of aligning the amendments with other current and planned policies. • Noted the amended NES-DW in relation to the on-going wave of reforms and point to some implementation and cost issues.
Territorial authorities	• Generally supportive of the amendments. • Noted the importance of amending the ‘upstream’ definition in the NES-DW. • Stressed the importance of investing in modelling to effectively delineate source water risk management areas efficiently. • Highlighted the importance of resource management reforms in relation to drinking water source management. • Regulating activities in source water risk management areas must account for real risks to source waters. • Some concerns about: - technical details not being clearly defined

Group	Overview of feedback provided
	- impacts of on community use of land - how monitoring/enforcing regulations might hinder community resilience/innovation for water supplies. • Support inclusion of mātauranga Māori.
Water service providers	• Generally supportive of the inclusion water providers servicing communities smaller than 500 people. • Emphasised the importance of the NES-DW encouraging communication between consent applicants and water service providers. • Highlighted the role of the NES-DW in the regional spatial strategies under the new resource management system. • Generally supportive of risk management areas along with prescribed delineation methodologies.
Water industry groups	• Generally supportive of the amendments. • Generally supportive of a risk management approach for source protection.
Primary sector groups	• General agreement that source water needs to be protected. • In rural areas, not all water use requires the same quality standards applied to drinking water. This includes water use for horticulture, stock water where treatment can cause issues. • In some areas it is not feasible to treat water at source (ie, where it is used for stock and irrigation purposes that make treatment costly for the purpose). • Policy needs to strike the right balance between water source protection and the commercial interests of the primary sector. • Noted the complexity of water quality issues. • Some concerns about land use controls impacting farming activities and the associated financial implications and costs of imposing these controls. • Emphasised need to consider regional variations. • Highlighted the value of Farm Environment Plans as an alternative to consenting.
Non-governmental organisations	• Generally supportive of the principle of source water protection behind the NES-DW. • Highlighted the importance giving effect to Te Mana o te Wai within the wider context of giving effect to the NPS-FM. • Noted need for all sectors, regions, and communities to play their part in protecting and restoring the health of water. • Default mechanisms to delineate source water risk management areas may be difficult due to the information required to complete models. • Concern raised over the 5m distance in SWRMA 1. They provided evidence on the benefits of a 10m buffer strip particularly for

Group	Overview of feedback provided
	freshwater sources. Further analysis is being completed on the risks associated with different distances for SWRMA 1 to inform final policy decisions. • Suggested the NES-DW could prohibit some activities in specific source water risk management areas.

Disproportionate impacts

29 Research shows that rural communities are more likely than urban communities to feature higher notification rates for waterborne diseases. However, data indicates an issue with drinking water safety, and further information confirming the cause – source water contamination, inadequate treatment, or inadequate distribution processes – is often not available.

30 Should source water contamination occur, small supply operators may have limited resources and skills to respond to changes in source water quality. Bigger and better resourced suppliers are likely to be better equipped to respond to these events. In addition, rural communities may not have viable access to alternative drinking water options: changing water treatment processes or moving the location from where water is abstracted (where possible), can be difficult and costly and are generally not recoverable from the person(s) responsible for the contamination.

What objectives are sought in relation to the policy problem?

31 The objectives are to strengthen national direction for protection and management of source water within the resource management system that:

31.1 ensures appropriate first barrier protection of source water from contamination, in a straightforward and comprehensive manner, to address:

i. delineation of at-risk areas for source water

ii. regulation or management of activities that pose risk to source water

iii. which water supplies are protected.

31.2 aligns with other freshwater direction under the RMA, and with the WSA.

Section 2: Options Identification

What criteria will be used to compare options to the status quo?

32 Each policy option was assessed in relation to the following criteria:

32.1 **Effectiveness:** assesses the extent to which option provides a solution to the identified policy problem.

32.2 **Timeliness:** assesses how prompt each option is at resolving the identified policy problem. An option will be considered timely when it addresses the problem with the least possible time delay.

32.3 **Fairness:** highlights the cost-effectiveness of each option for regulators, regulated groups and other parties.

32.4 **Efficiency:** analyses whether options optimise efforts and resources to achieve their intended objectives.

32.5 **Te Mana o te Wai:** addresses whether options focus on the health of waterways before emphasising their other potential uses and values.

What options are being considered?

33 The approaches below have been identified as options to address the problems highlighted by the Havelock North Inquiry and the Ministry's Review of the NES-DW, against the option of retaining the status quo. In developing these options, consideration was also given to stakeholder views, expert advice, and relevant agency feedback, including from Department of Internal Affairs and Taumata Arowai.

34 The options assessed to date include:

Status quo (not an option)

35 Retaining the status quo makes no changes to the NES-DW 2007, which would remain operative within the current regulatory framework. This means that the problems highlighted by the Havelock North Inquiry and the NES-DW Review would not be addressed through amendments to the NES-DW instrument. There would be some improvement to how source water is protected through regional plans as they give effect to the NPS-FM, but a consistent national approach, with focus on source water protection, would be unlikely to be achieved.

36 However, the NES-DW 2007 refers to drinking water supplies registered under the Health Act 1956 and those relevant provisions are now repealed in favour of the WSA. The WSA did not make consequential amendments to the NES-DW to update this cross-reference. Correcting this, while not essential, would provide clarification and the Minister for the Environment is empowered to make such amendments without going through a statutory public process.

Option 1: Amend the NES-DW to address the identified problems

37 Option 1 would consider how to give effect to the recommendations by Havelock North Inquiry and the Ministry review and would amend the existing NES-DW to address the instrument's identified problems.

38 Under this option, amendments to the NES-DW would be sought to strengthen source water protections under the RMA, and would align with, and support the source water protection provisions in the WSA. Pending Cabinet approval, consultation on amendments to the NES-DW would occur in early 2022.

39 Amendments to the NES-DW are necessary in three broad areas, and a Discussion Document has been prepared for consultation purposes (should the preferred option presented in Section 2 be approved), to seek public input and further refine the proposal. The areas of improvement are:

39.1 how at-risk source water areas are delineated

39.2 how activities that pose risks to source water are regulated or managed

39.3 which water supplies are protected

40 The Havelock North Inquiry has demonstrated a need for change in each of these three areas. While preferred approaches have been developed, alternatives have also been identified and will continue to be explored through the consultation process.

Area of improvement 1 - Determining at-risk areas that will define where the NES-DW applies

41 To ensure activities that could impact source water are appropriately addressed, at-risk areas need to be identified. The Havelock North Inquiry recommended use of spatial criterion – the mapping of areas that contribute to source water, where risk management is necessary. This is an international practice used by several industrialised countries[9], and is also used by some regional councils in New Zealand.

42 Three 'Source Water Risk Management Areas' (SWRMAs) are proposed around abstraction points, based on the time it takes for water or contaminants to travel within the source water body to an abstraction point. A 'three zone' approach is the most common approach for delineating drinking water protection zones internationally.

43 Delineation methodology was developed through a combination of commissioned research[10], and expert advice from a Technical Advisory Group. Criteria used to determine the best possible delineation approach included geology, topography, climate, water budget, time of travel, contaminant attenuation and overland flow.

44 Based on the above methodology, three SWRMAs were proposed:

44.1 SWRMA 1 is the immediate area around the abstraction point, of highest short-term risk because the risk of source water contamination is high, and there is very little time to respond to any contamination before it enters the water supply. The intention of SWRMA 1 is to prevent contaminants entering the source water intake:

i. for rivers, it encompasses the river and its bed 1,000 metres upstream and 100 metres downstream of the abstraction point, extending 5 metres into land from the river edge.

ii. for lakes, it encompasses the lake and its bed within a 500-metre radius of the abstraction point, extending a 5-metre buffer from the lake edge.

iii. for aquifers, it encompasses the land within a 5-metre radius around the abstraction point (bore head).

44.2 SWRMA 2 is a larger area where activities need to be managed, to mitigate more medium-term risks of contamination. The size will vary because it is based on the time it takes for water to flow to the source a larger area around the abstraction point. The intention of SWRMA 2 is to manage activities in a way that minimise risks of contamination:

i. for rivers, it is the area from where water travels to the abstraction point within an 8-hour period.

ii. for lakes, it is the entire lake area, extending landward 100 metres, and includes tributaries (being the area from where water travels to the lake within an 8-hour period).

iii. for aquifers, it is the land area above where groundwater travels to the abstraction point (bore) within a 1-year period, to a maximum of 2.5 kilometres.

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9 For an example see https://www.epa.gov/sourcewaterprotection/delineate-source-water-protection-area

10 https://environment.govt.nz/assets/Publications/Files/technical-guidelines-for-delineating-drinking-water-source-protection-zones.pdf

44.3 SWRMA 3 is the entire source water catchment. The intention of SWRMA 3 is to ensure that general contaminants or persistent contaminants (such as nitrates) are appropriately managed.

45 The area estimated to be included in SWRMAs 1 and 2 for currently registered supplies to populations of over 100 people[11], and for which data is readily available, is shown below.

SWRMA	Area (ha)	% of New Zealand's total area[12]
1	2,137	0.008
2	1,362,819	5

46 Regional councils would be required to undertake mapping of at-risk areas for source water in their regions, using prescribed default technical methods.

47 To account for regional variability, a mechanism would also be included in the NES-DW that would allow regional councils to propose 'bespoke' delineation, where the 'default' approach would not provide adequate protection for source water or would be unnecessarily restrictive to land use (where modelling demonstrates that adequate protection is maintained).

48 Methods for formalising mapped at-risk areas are being further considered, including gazettal where the default process is used. Bespoke approaches could be formalised through the policy statement and plan review process under Schedule 1 of the RMA.

49 Work is underway to understand how delineation of SWRMAs would interface with Māori landowners and traditions. Through previous engagement, it was learned that Māori are supportive of using spatial criteria for delineating at-risk areas but note that these criteria must uphold Treaty obligations.

Alternatives considered

50 Alternative approaches under consideration include:

50.1 Providing a more detailed definition of 'upstream' without prescribing a nationally defined approach for delineating SWRMAs. In this option regional councils would retain significant discretion. However, this approach is unlikely to address the inconsistent application of the existing NES-DW.

50.2 Requiring regional councils or water suppliers to map SWRMAs without prescribing any methods, with inclusion of SWRMAs in regional plans using standard RMA plan change process has been considered. However, this approach option is less efficient, would take longer to implement, it carries a higher risk of litigation and further delays, and it could still result in inconsistent and inappropriate management of risk to source water.

[11] **Note this does not encompass the estimated 75,000-130,000 currently unregistered small supplies, because no data is yet available on their number, type, or location.** This information will only be known once water suppliers register with Taumata Arowai as per the WSA, and water supplier data is shared with regional councils.

[12] The total amount of mid-high quality agricultural land collectively covered in SWRMA 1 and 2 is estimated to be 433,022 ha (1.6% of New Zealand).

51 Within the preferred option of mapping at-risk areas, there is scope for discussion on how default SWRMAs are delineated and their resultant size. Consideration was given to one to five zones. Feedback is being sought through consultation.

Area of improvement 2 – Improving the regulation of activities that pose risks to source waters

52 Activities that have a high risk of contaminating source water must be managed in a way that supports source water protection, either through more stringent controls where necessary, or through ensuring consistent consideration of source water effects. To ensure the effects of activities on source water are appropriately managed, the following improvements are being considered, with substantial refinement anticipated through consultation:

52.1 use of stringent controls within SWMRA 1 – the immediate area around the abstraction point. Most activities in SWRMA 1 would be discouraged, although water suppliers would be enabled to undertake abstraction point management and maintenance.

52.2 use of additional controls on any currently permitted high-risk activity within SWRMA 2, the wider area around an abstraction point.

52.3 how groundwater bores are managed, and aquitards (confining layers over aquifers) are protected.

52.4 criteria would be established to support consistent and appropriate consideration of how risks to source water evaluated and managed through consent processes.

52.5 how water suppliers are involved in consent processes.

Alternatives considered

53 With the establishment of SWRMAs, regional councils could be required to determine appropriate controls on activities within those areas. However, this approach could result in inconsistent and inappropriate management of high-risk activities, and it may be less efficient, take longer to implement, and carry a higher risk of litigation and further delays.

Area of improvement 3 – Expanding the NES-DW to protect all registered water supplies

54 The Three Waters regulatory review and enactment of the WSA has expanded drinking water regulation to all supplies other than domestic-self suppliers. Once these supplies are registered, they will require a regulatory framework that adequately protects their sources of drinking water.

55 Small water suppliers are less likely than large suppliers to meet drinking water standards as they often have limited capability and capacity to respond to source water quality issues, meaning first barrier protection is particularly important. Therefore, it is proposed to apply the source water protections of the NES-DW to all registered drinking water supplies to align with the WSA, which is further described in the implementation section.

56 This means extending the main source water protections of the NES-DW from supplies servicing more than 500 people, to all registered water supplies. Taumata Arowai have estimated there may be between 75,000-130,000 small, currently unregistered water supplies. The WSA provides four years for those suppliers to register, so the type, location and precise number of those supplies is currently unknown. Data on these

supplies will progressively be known once they register, and once Taumata Arowai shares this information with regional councils.

Alternatives considered

57 In considering application of the protections of the NES-DW, a key limitation in understanding the impacts of the amendments is the uncertainty associated with the estimated 75,000-130,000 small suppliers who must register with Taumata Arowai within four years.

58 There is the possibility of continuing to exclude some smaller supplies from the protections of the NES-DW. However, this would risk undermining one of the key objectives of three waters regulatory reform – to improve public health and wellbeing, and the population-based approach is somewhat arbitrary and not aligned with the WSA.

59 An alternative timing for expanding coverage of the NES-DW has been considered, leaving its coverage as is, at this stage ie, the primary protections continue to apply only to water supplies servicing over 500 people, or alternatively (and aligning with the WSA) to those known water supplies currently registered. Expanded coverage would be reconsidered following the registration of currently unregistered supplies with Taumata Arowai, in around 4 years[13]. This approach better allows the potential impacts of the proposal to be understood. However, the approach risks necessary changes being further delayed as they would potentially be caught up within wider Resource Management System Reform, and it risks misalignment with the source water requirements of the WSA.

Option 2: Strengthen source water protections as part of Resource Management System Reform

60 Option 2 would use the information provided through the Havelock North Inquiry and would address their recommendations through Resource Management System Reform. As part of this reform programme, national direction instruments (including the NES-DW and NPS-FM) will be integrated into a single instrument provisionally known as the National Planning Framework (NPF).

61 The policy intent of existing instruments will likely be retained, to the extent that it aligns with the new purpose and principles of the proposed NPF. Any requirements of the NES-DW would likely be carried over into the new framework, along with any improvements necessary.

62 Improvements to the NES-DW would only come into effect once the new NPF is operational, anticipated to occur in 2024 at the earliest.

Option 3: Repeal the NES-DW and supporting source water provisions in existing instruments (NPS-FM, WSA) through non-regulatory means

63 Option 3 would repeal the current NES-DW in its entirety. Under this option source water protection would be addressed through existing provisions in the NPS-FM and WSA, being:

63.1 development of freshwater plans that acknowledge drinking water as a catchment value where appropriate.

[13] Which, given timing, would likely be through the new NPF, rather than to the NES-DW itself.

63.2 development and use of Source Water Risk Management Plans (SWRMPs)[14] by water suppliers, with regional councils required to undertake appropriate actions to address source water risks or hazards, report on source water quality and quantity, and the effectiveness of their interventions to Taumata Arowai.

63.3 consideration of effects on source water by decision makers under the RMA (section 104G).

64 To support this option, guidance to councils would be developed on best practice for considering and managing risks to source water, compatible with the source water provisions in the NPS-FM and WSA.

How do the options compare to the status quo?

65 The table below provides a summary of the options assessment based on the criteria described in paragraph 32. The following key was used to assess the proposed options:

Key for qualitative judgements:

++	much better than doing nothing/the status quo
+	better than doing nothing/the status quo
0	about the same as doing nothing/the status quo
-	worse than doing nothing/the status quo
- -	much worse than doing nothing/the status quo

	Status quo (not an option)	Option 1: Amend the NES-DW to address the identified problems	Option 2: Strengthen source water protections as part of Resource Management System Reform	Option 3: Repeal the NES-DW and supporting source water provisions in existing instruments (NPS-FM, WSA) through non-regulatory means
Effectiveness	0	++	+	+
Timeliness	0	++	0	+
Fairness	0	++	++	+
Efficiency	0	++	++	+
Te Mana o te Wai	0	++	+	+
Overall assessment	0	++	+	+

[14] Unless an acceptable solution is adopted, or a general exemption granted.

What option is likely to best address the problem, meet the policy objectives, and deliver the highest net benefits?

66 Option 1 represents a considerable improvement to the status quo because:

66.1 It is effective at ensuring that regional plan rules and resource consent application processes thoroughly address source water protection in a nationally consistent fashion. Strengthened, dedicated national direction for source water protection is expected to achieve appropriate first barrier protection in a straightforward and comprehensive manner, that aligns with other freshwater direction under the RMA, and with the WSA:

i. Use of spatial criteria is an objective and direct means of establishing areas where activities may pose a heightened risk to source water.

ii. Ensuring the activities of highest risk to source water are appropriately managed, with consistent criterion to evaluate risk and involvement of water suppliers in consent processes, provides the necessary first barrier protection of source water from contamination, provides certainty and consistency and focuses the responsibility of risk management on the resource user (the party causing or exacerbating the risk).

iii. Applying the source water protections of the NES-DW to all registered drinking water supplies ensures all source water is protected from contamination, and it aligns with the regulatory requirements of the WSA.

66.2 Amending the NES-DW ensures the drinking water regulatory system under the administration of Taumata Arowai is well-supported by the resource management system. This option provides a timely regulatory intervention.

66.3 It provides fair clarification of what regional councils should already be addressing through their regional plan rules and consenting processes, and it focuses the responsibility for risk management on the resource user who is causing or exacerbating the risk of source water contamination.

66.4 It harnesses best practice already in use by some regional councils and applies it on a national scale. Therefore, it does not duplicate resources unnecessarily, and is considered to optimise lessons learned from regulated groups. It also amends an existing instrument of national direction, correcting known issues.

66.5 It gives effect to Te Mana o te Wai by strengthening national direction that is explicitly dedicated to the health of source waters. Even though there are undeniable public health benefits in strengthening source water protection, its primary focus is on ensuring the wellbeing of the source waters themselves.

67 Option 2 represents modest improvements from the status quo, but does not fully meet the policy objectives outlined above, because:

67.1 Its solutions rely heavily on wider resource management system reform. This means that addressing source protection under this option would inevitably undergo a modest delay to ensure alignment with the reform process.

67.2 It would only achieve the intended results once the new resource management system is fully operational, which could take several years. In the meantime, the status quo would remain.

67.3 Like Option 1, this option would also clarify how regional councils should address source water protection through regional plan rules and consenting processes.

67.4 It harnesses resources that are already supporting resource management reform. Because source water protection would become integrated in the new resource management system, it would not require additional resources to ensure the expected objectives are achieved.

67.5 It risks source water protection not being given sufficient priority considering other national direction that will need to be integrated in the new National Planning Framework.

68 Option 3 is a modest improvement on the status quo:

68.1 If incorporated appropriately within the freshwater management system, this option is effective in providing a solution to known source water issues, although there is a risk that plan rules and resource consents may not adequately address those problems in a nationally consistent manner. In addition, while useful, guidance does not carry the same weight as dedicated regulatory requirements.

68.2 It is considered timely because it aligns with ongoing freshwater reforms and would support source water protection through non-regulatory channels that are far less time-consuming than legislative procedures.

68.3 It is considered a fair approach due to regulators, regulated groups and other parties already working to give effect to relevant freshwater reforms. Adding source water protection provisions to these would require minor adjustments to ongoing work.

68.4 It is efficient because it addresses source water protection through ongoing efforts to give effect to freshwater regulations. Therefore, it is considered to maximise the resources already being applied for the latter purposes and would not require regulated groups to invest further resources to address the identified problems.

68.5 It addresses Te Mana o te Wai by emphasising the importance of protecting source water wellbeing in the wider freshwater management system.

69 Given this analysis, Option 1 is the preferred approach.

What are the marginal costs and benefits of the preferred option?

Additional costs of the preferred option compared to taking no action

Affected groups	**Comment – nature of the cost** *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.*	**Impact** *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.*	**Evidence Certainty** *High, medium, or low, and explain reasoning in comment column.*
Regulated groups / landowners	Resource users – those who undertake activities under the RMA – including landowners, the primary sector, infrastructure service providers and iwi, will be subject to additional regulatory restrictions in some circumstances, to ensure risk to source water is adequately addressed. This is considered to be a medium impact, but extent of those impacted is uncertain due to the estimated 75,000-130,000 small supplies which are yet to be registered with Taumata Arowai. Delineation of SWRMA 1 and SWRMA 2, and subsequent controls on high-risk activities in those areas, will impact the use of rivers, lakes and their marginal land, and land overlying vulnerable aquifers, in some circumstances – ie, where an activity poses a high-risk to source water. The greatest restrictions on resource users will be in close proximity to source water abstraction points (SWRMA 1). For rivers, this is the river and bed 1,000m upstream and 100m downstream, extending into land 5m from the river's edge. For lakes, this is a 500m radius across the lake, also extending into land 5m. For land above an aquifer, this is a 5m radius around the bore head. The risk to source water is greatest in this area. Stringent controls on activities, including prohibitions, are being considered (while enabling water suppliers to manage and maintain their point of abstraction). While SWRMA 1 is limited in extent, the restrictions are considerable to ensure appropriate protection of source	Medium	Medium

Affected groups	Comment – nature of the cost *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.*	Impact *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.*	Evidence Certainty *High, medium, or low, and explain reasoning in comment column.*
	water from contamination. Consultation will seek feedback on activities currently occurring near intakes, and any types of activities that should reasonably continue to be provided for. Some additional restrictions on resource users are being considered in a wider area around the abstraction point (SWRMA 2). The size of the area will vary but is based on travel time of water within the waterbody, to the abstraction point. Any direct discharges of contaminants to water that may be currently permitted by a regional council, will now require consent to enable effects on source water to be managed. New groundwater bores will need to be drilled and constructed to a high standard. These requirements will apply to new activities, but consideration is being given in some instances to the costs and benefits of reviewing existing activities to address their effects on source water. There are challenges in retrospective application, and consultation will seek feedback on this matter. Requirements to do things differently may result in additional costs associated with implementing change, or with lost opportunity. There may also be social, cultural or well-being costs associated with further regulatory change. If it difficult to quantify these costs, and feedback is being sought through consultation. For some new activities, resource users will incur costs to where a consent is now required, where previously the activity was permitted. This will differ between		

Affected groups	Comment – nature of the cost *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.*	Impact *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.*	Evidence Certainty *High, medium, or low, and explain reasoning in comment column.*
	regions, as in some regions there may be very limited permitted activities of these sort (discharge to water and disturbance of land over aquifers). Some resource users may be able to use alternative approaches or alternative locations, thereby avoiding the need for consent due to source water abstraction points. However, some may resource users may need to seek a resource consent for their activity. With consents, there comes a risk of an application being declined. It is difficult to quantify consent costs that might be incurred by resource users, as this will depend entirely on the activity, its scale and its complexity. Land use permits for bore construction or small-scale aquifer disturbance should not be particularly complex, but discharges to water may be. Further work is being done to better understand potential consent costs, and consultation will seek feedback on this matter. For all activities within a SWRMA requiring consent, effects on source water must be considered, and proposed criteria establish detailed matters for consideration. These impacts are estimated as low-medium, because under the RMA regional councils already control activities and effects on the environment, and both resource users and regional councils should be addressing activities that effect source water, including under new RMA section 104G. However, there are known issues with the current approach – including variable application (hence the evidence certainty being evaluated as high) – and the intent of the amended NES-DW is to ensure requirements to consider source water and address effects on it		

Affected groups	Comment – nature of the cost *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.*	Impact *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.*	Evidence Certainty *High, medium, or low, and explain reasoning in comment column.*
	are clearly conveyed and implemented within the resource management framework. When preparing consent applications, resource users require improved communication and collaboration with water suppliers, and they may need to improve their focus on the effects of their activity on source water, and how they manage those effects. Areas on which additional restrictions are being considered – SWRMA 1 and SWRMA 2 in particular – are limited in extent, and data is available on land areas likely to be affected using currently registered supplier data. However, there is substantial uncertainty in the scale and extent of SWRMAs across New Zealand for the estimated 75,000-130,000 small supplies which are yet to be registered with Taumata Arowai.		
Regulators	Regional councils will incur costs mapping at-risk areas, reviewing and adjusting regional plans. Mapping costs depends on how regional councils choose to conduct delineation of at-risk areas. For example, mapping of currently registered individual supplies is expected to cost between $1,000-$5,000 per supply. If done in bulk (per region), mapping costs could range between $5,000-$10,000 per region. This is considered to be a medium-high cost. There are an estimated 2,000 currently registered water supplies that would require mapping in the first instance. The second phase of mapping is for the	Medium-High	Medium

Affected groups	Comment – nature of the cost *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.*	Impact *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.*	Evidence Certainty *High, medium, or low, and explain reasoning in comment column.*
	estimated 75,000-130,000 small supplies which are yet to be registered with Taumata Arowai. There is some uncertainty around the costs and other challenges associated with this mapping due to the substantial uncertainty in number, type and location of these supplies. Under the amended NES-DW, regional councils will also have the option to delineate bespoke at-risk areas. The costs associated with this could range between $70,000 - $300,000 (for full bespoke modelling). If regional councils already have data for at-risk areas, these costs could be as low as $5,000. Review of activity statuses in regional plans is estimated to range between $100,000-$200,000 per consenting authority. This is considered to be a medium-high cost. Further details on implementation challenges and costs to regional councils will be gathered through public consultation.		
Water suppliers	Water suppliers will be asked by resource users or regional councils to be involved in the consent process, as an affected party. They will need to engage with resource users to discuss any source water concerns and provide feedback on resource users proposals to avoid or mitigate potential adverse effects. The degree of impact will depend on the capability of water suppliers to engage. Feedback from suppliers is generally supportive of this aspect, but engagement will be two-way and suppliers need the capability and capacity to engage. Support for water suppliers is an aspect being considered by Taumata Arowai, and through	Medium	High

Affected groups	**Comment – nature of the cost** *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.*	**Impact** *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.*	**Evidence Certainty** *High, medium, or low, and explain reasoning in comment column.*
	Three Waters Reform (and the formation of multi-regional service delivery entities). Recent media coverage notes that ongoing water reforms may motivate some small water suppliers to stop their provision of drinking water services. This was explicitly discussed with a reference group comprised of small water suppliers. There were no indications that the proposed amendments to the NES-DW would motivate them to stop providing drinking water services. To ensure this is representative of all suppliers, including the smallest ones, further analysis and engagement is needed, which will be enabled through public consultation.		
Wider government	It is anticipated that preparation of guidance, consultation and provision of technical assistance to support the implementation of the amended NES-DW could cost the Government $400,000 (one-off cost). The Government will also need to review and gazette bespoke at-risk mapped areas. This is expected to cost approximately $10,000 per water supply.	Medium	Medium
Total monetised costs	A monetised Cost-Benefit analysis is in development and will be included in the final RIS. The analysis will be further informed as, subject to Cabinet approval, feedback is sought through consultation and detail of the proposed amendments to the NES-DW are further developed.		
Non-monetised costs		**Medium-High**	**Medium-High**

Additional benefits of the preferred option compared to taking no action

Affected groups	**Comment – nature of the benefit** *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.*	**Impact** *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.*	**Evidence Certainty** *High, medium, or low, and explain reasoning in comment column.*
Environment	Freshwater will be given additional protections where it is used as a source for drinking water. By protecting source water, the health of the environment will gain precedence over its multitude of uses, in line with Te Mana o te Wai.	High	Medium-High
Regulated groups	Resource users will have certainty over where source water may be at-risk from their activities, and improved clarity over requirements for protecting source water in their local area. Relationships with water suppliers will be established and grow.	Medium-High	High
Regulators	Regional councils will have improved and clearer direction to exercise their role as environmental regulators. The NES-DW will be easier to understand and apply. Taumata Arowai will be supported by a strong regulatory framework under the RMA through which it can exercise its functions under the WSA.	Medium-High	High

Affected groups	**Comment – nature of the benefit** *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.*	**Impact** *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.*	**Evidence Certainty** *High, medium, or low, and explain reasoning in comment column.*
Water suppliers	Will have improved influence over, understanding of, and involvement with the activities of resource users that may affect source water. Improved information and RMA processes will be available to inform their SWRMP and support their own management of risk to source water. Potential reduction in, or avoidance of additional, water treatment costs. Potential avoidance of the need to seek new water sources should existing ones become unsuitable as source water. Avoidance of costs related to investigating future outbreaks, which could range between $400,000 (for small outbreaks)-$4 million (for major outbreaks) based on previous outbreaks. Water suppliers may have reduced RMA costs (between $3,000-$16,000) associated with maintaining their abstraction point, as the NES-DW makes this more permissive. Marae water suppliers will be supported in their role as kaitiaki.	Medium-High	Medium-High
Water supply consumers	Water consumers will benefit from reduced risk to source water, and associated improved public health and avoided cost outcomes (eg the need for water	High	Medium-High

Affected groups	**Comment – nature of the benefit** *nature of cost or benefit (eg, ongoing, one-off), evidence and assumption (eg, compliance rates), risks.*	**Impact** *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts.*	**Evidence Certainty** *High, medium, or low, and explain reasoning in comment column.*
	suppliers to find a new water source or increase treatment due to poor water quality, or where public health is impacted). Avoidance of costs to the public from the impacts of an outbreak, which could be as high as $2,440 per household.		
Total monetised benefits	It is inherently difficult to accurately monetise environmental and societal benefits. This analysis includes monetised approximations of identified benefits where information is available, and where possible to quantify monetary values.		
Non-monetised benefits	-	**Medium-High**	**Medium-High**

Section 3: Delivering the preferred option

How will the new arrangements be implemented?

Developing amendments to the NES-DW

70 To ensure the policy objectives outlined previously are addressed, a series of amendments to the NES-DW will be required.

71 Under section 43 of the RMA the Governor-General may introduce new, or amend, existing national environmental standards and national policy statements. This may be done through an Order in Council.

72 With Cabinet approval, consultation on the proposed amendments to the NES-DW would occur in early 2022 in line with previous decisions to initiate an alternative process to amend the NES-DW. Submissions would be invited for a period of eight weeks, during which officials intend to engage with key stakeholders. Submissions and further feedback will be used to refine the policy proposals for amending the NES-DW. In parallel, officials are planning to establish a technical advisory group comprised of experts in the water sector. This group will further help refine the proposed amendments and inform any additional changes based on feedback from public consultation.

73 Cabinet approval of final policy decisions is expected in mid-2022, aiming for gazettal of the amended NES-DW in late 2022.

Implementing an amended NES-DW

74 Under section 30 of the RMA, local authorities are responsible for the implementation of regulations made under the RMA, including the NES-DW. This includes enforcing the observance of the NES-DW to the extent that their powers enable them to do so.

75 The proposed regulatory changes will be given effect through amendments to the NES-DW with accompanying guidance. It is anticipated that the implementation of the amended NES-DW will occur in a staggered fashion:

75.1 Step 1: water supplies will need to register (if they are currently unregistered) or re-register (if they are already registered) with Taumata Arowai. Currently registered supplies will have 12 months to do this, whereas unregistered ones will need to apply to register within four years.

75.2 Step 2: once source water location data is made available by Taumata Arowai, regional councils will then be required to map source water protection areas. Options for formalising of the delineated areas are still being considered, but may include changes to regional plans through Schedule 1 of the RMA, and alternative gazettal processes prescribed by the NES-DW.

75.3 Step 3: regional councils will need to update regional plans to remove any rules that duplicate or conflict with the provisions of the NES-DW.

75.4 Step 4: regional councils and territorial authorities apply the amended NES-DW requirements in the consent process.

76 Because of the two phases of registration provided by the WSA, Step 2 – the mapping of SWRMAs – will also need to occur in at least two phases, each mapping work programme following completion of the registration process. Subsequently, the

application of the new controls on activities in SWRMAs will also occur in two phases, once the mapping of SWRMAs is complete.

77 Input will be sought through the Discussion Document to help develop detail of proposed implementation of the NES-DW.

Roles and responsibilities under the amended NES-DW

Regional councils

78 The changes to the NES-DW will require regional councils to undertake the following key activities to implement the regulations:

78.1 mapping SWRMAs for all registered water supplies in their region, including engagement with water suppliers and other parties to help validate the delineation of SWRMAs and updating regional plans

78.2 updating operational procedures to ensure the NES-DW is being applied to applicable consenting decisions and considered as part of compliance, monitoring and enforcement activities

78.3 informing and educating resource users and landowners of the requirements of the NES-DW and any previously permitted activities now requiring a consent (noting a transition period will be provided for).

Water suppliers

79 Water suppliers will be:

79.1 enabled to undertake activities around their source water abstraction point, that support the provision of safe drinking water

79.2 asked by resource users or regional councils, for greater involvement in consent applications where a risk to source water is identified.

Resource users

80 The activities of resource users continue to be controlled under the RMA and regional plans, and any national direction given including the NES-DW.

81 Under the amended NES-DW resource users will be restricted from activities very close to source water abstraction points (SWRMA 1), and new consents may be required for high-risk activities in a slightly broader area around the abstraction point (SWRMA 2) depending on how well their regional council previously regulated those risks.

82 Resource users must consider the effects of their activity on local registered drinking water supplies, and they are encouraged to engage with water suppliers when considering how to avoid, remedy, or mitigate effects.

Central government

83 The Ministry for the Environment and Taumata Arowai also have an important role to play in ensuring that regional councils are provided with information and guidance to support the implementation of the new regulatory requirements. This will include:

83.1 facilitating access to information on water supplies as contained in the national drinking water supply register, including location of abstraction points and information on risks to source waters (as identified in SWRMPs)

83.2 providing support and guidance for councils to undertake mapping of SWRMAs

83.3 providing guidance on assessing risks to source water in consenting decisions in accordance with the requirements of the NES-DW.

Linking with the WSA

84 Under the WSA, water suppliers are required to identify, manage and monitor risks to source water through Source Water Risk Management Plans (SWRMPs)[15].

85 To help water suppliers prepare SWRMPs, regional councils are required to provide information on activities, risks or hazards to source water, and any water quality data they hold. The WSA links back to the RMA and NES-DW by requiring regional councils to undertake appropriate actions to address source water risks or hazards, report on source water quality and quantity, and the effectiveness of their interventions.

86 The first iterations of SWRMPs are due in 12 months for water supplies currently registered under the Health Act, and in seven years for currently unregistered water supplies. The amendments to the NES-DW are intended to support the development of SWRMPs. As the amended NES-DW requires staged implementation, anticipated results will become available to support second generation (or later) SWRMPs.

Implementation risks

87 The effective implementation of the NES-DW is contingent on regional councils delineating at-risk areas for all water supplies in their region, and promptly making this information publicly available (eg, within 12 months of gazettal). Meeting this timeframe will require councils to undertake the required technical work, either in-house or with support from consultants. Some councils may not have adequate resourcing for this if it has not been forecast in their long-term plans.

88 Effective implementation also relies on water suppliers providing Taumata Arowai with accurate information of the location of abstraction points.

89 Mapping of SWRMAs for all existing water supplies is likely best implemented in batches – undertaking mapping, and subsequent formalisation of those SWRMAs, is unlikely to be efficient on an individual water supply basis. Mapping of the currently registered 2,000 water supplies is likely to be relatively straightforward. However, mapping the estimated 75,000-130,000 currently unregistered small supplies may be more challenging given the number and size of those supplies, and the potential for overlapping, interacting SWRMAs. The type, location and precise number of those supplies is currently unknown, and the data will not be available until at least four years when they are required to register.

90 Ministry officials are working with Taumata Arowai and DIA to identify opportunities for joined up implementation avenues. This work is aimed at ensuring that appropriate levels of support and guidance are provided to councils and water suppliers to help mitigate identified risks and costs. It is anticipated this work could include support and guidance for regional plan reviews, and ensuring support for mapping at-risk areas.

[15] Unless an acceptable solution is adopted, or a general exemption granted.

How will the new arrangements be monitored, evaluated, and reviewed?

91 The Minister for the Environment is responsible for monitoring the performance of regulations made under the RMA, including the NES-DW.

92 In addition, Taumata Arowai is responsible for providing oversight of the drinking water regulatory framework, which includes the NES-DW. It is anticipated that Taumata Arowai will largely focus on monitoring water suppliers and will also be gathering information on the performance of councils and providing advice to the Minister for the Environment regarding any issues associated with the NES-DW.

93 The proposed arrangement for monitoring, evaluation and review of the NES-DW, has two elements:

93.1 monitoring implementation and observance of the NES-DW by regional councils and resource users

93.2 monitoring the effectiveness of the NES-DW in achieving its intended outcomes.

94 The Ministry routinely gathers information on the implementation of the RMA through its National Monitoring System. This includes an annual survey from each regional council and territorial authority to gather data on a range of planning and consenting matters, including implementation of national environmental standards.

95 The key performance indicators for the successful implementation of the proposed changes to the NES-DW include:

95.1 the numbers of regional councils that have delineated SWRMAs for all applicable water supplies in their region and published this information on their website

95.2 the number of regional councils that have updated their regional plans to remove or update any plan rules that duplicate or conflict with the NES-DW

95.3 the number of consent decisions that have included a risk assessment in accordance with the requirements of the NES-DW

95.4 the number of consent applications that include written approvals from water suppliers.

96 The Ministry will need to determine whether this data is best gathered through its National Monitoring System or an alternative mechanism. Regard must also be given to how this information is considered alongside source water data held by Taumata Arowai.

97 The key performance indicators for the successful implementation of the proposed changes to the NES-DW include:

97.1 the quality of source water at the point of abstraction is maintained or improved

97.2 water suppliers are provided with early warning of contamination events occurring in SWRMAs (to enable them to initiate emergency response procedures).

98 The Ministry's review of the NES-DW identified a number of critical information gaps associated with monitoring the effectiveness of the NES-DW. Specifically, it identified a

lack of data on changes in water quality in source water (as measured at the abstraction point). This will be addressed through the WSA as water suppliers are required to monitor source water quality.