Submission to the Ministry for the Environment

Improving the protection of drinking-water sources: Proposed changes to the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007

Introduction

1. Canterbury Regional Council ('Environment Canterbury', 'the Council') welcomes the opportunity to comment on the proposed amendments to the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 (NES-DW) as set out in the *Improving the protection of drinking-water sources* consultation document.

2. This submission is presented in relation to Environment Canterbury's roles, functions, and responsibilities under the Resource Management Act 1991 (RMA) and the Local Government Act 2002 (LGA).

3. This submission is split into two parts: general opening comments regarding the intent of the proposed amendments, and individual responses to specific questions raised in the consultation document.

4. We acknowledge there are still more details to be confirmed on the methodology for delineating Source Water Risk Management Areas (SWRMA) and regulating or managing activities that pose risks to source water and how these will be implemented.

5. Environment Canterbury welcomes the opportunity to continue to work with the Ministry for the Environment (MfE) to share our experience and help refine details.

General comments

6. Environment Canterbury supports the objectives of the proposed amendments to the NES-DW to strengthen and align national direction for protection and management of source water, but the Council has concerns with some aspects of the proposal.

7. Environment Canterbury has a planning framework that implements controls to protect drinking water supplies through the establishment of Community Drinking Water Protection Zones, and restrictions on the type of activities that may occur within and adjacent to these protection zones.

8. Environment Canterbury supports the need to amend the NES-DW to improve consistency and better manage the regulation and effects of activities on source water once other regulatory instruments are in place.

9. The NES-DW needs to align with other freshwater and drinking water regulations. For example, the draft Acceptable Solution for Spring and Bore Drinking Water Supplies (currently being consulted on by Taumata Arowai) requires that a bore is not located within 50 metres of specified activities which is not reflected in this consultation document.

10. The Council supports clarity over roles and responsibilities of regional councils, territorial authorities, Taumata Arowai and drinking water suppliers in the management of source water, particularly with respect to responsibility for auditing and compliance with the rules for each SWRMA.

11. Environment Canterbury supports the NES-DW being clear and direct about exactly what activities are permitted and prohibited within SWRMA and what activities require resource consent. This should be supported by national good practice standards and controls for activities.

12. The Council supports the use of permitted and prohibited activity status where this provides appropriate protection of drinking water. We support improved certainty to resource users on what activities can be undertaken within SWRMA and to reduce the consenting burden from case-by-case assessments of effects.

13. Environment Canterbury supports the need for nationally consistent methods, timeframes and approaches to source water protection, including how to manage existing land uses. However, there may be situations where catchment / locality specific approaches are required; the NES should provide for this.

14. The Council requests that changes to the NES-DW include provision for regional councils to charge for monitoring permitted activities, like the NES for Plantation Forestry and the NES for Freshwater. This is not currently stated in the consultation document.

Specific questions from the consultation document

The default method for delineating SWRMA

Q1: *Do you think delineating three at-risk areas is a good approach for protecting our source waters? What other approach can you think of that could contribute to protecting our drinking water sources? Do you think that three areas (and therefore levels of control) are sufficient to protect our drinking water sources?*

15. Environment Canterbury supports delineating at-risk areas for protecting source water. The Canterbury Land and Water Regional Plan (LWRP) provides a methodology for delineating Community Drinking Water Protection Zones (CDWPZ). The LWRP delineates one CDWPZ for each qualifying registered drinking water supply. While this has been an effective approach to managing new high-risk activities, implementing the LWRP rules relating to CDWPZ has been a complex and a challenging undertaking.

16. It is unclear from the consultation document where responsibility for managing risk lies under each SWRMA. For example, within SWRMA 1 the risk to source water may relate more directly to the nature of the water take than the land use activities undertaken. In which case there would be little difference in the risk presented by the land use in SWRMA 1 and SWRMA 2, other than proximity to the take. A different approach could be for water suppliers to have control of activities in SWRMA 1 within their Source Water Risk Management Plan to mitigate risks.

Q2: *In your view, is the method to determine each SWRMA, for each type of water body, the best option?*

17. Environment Canterbury recognises that the methodology might be beneficial in minimising risks associated with bacterial contamination of drinking water supplies but other microbes of concern to human health (e.g. viruses) do not appear to have been accounted for when determining the size of the zone. Other controls therefore may be necessary to minimise these risks. The focus on microbial contaminant transport does not consider other contaminants including persistent and emerging contaminants that pose a risk to drinking water supplies.

18. Environment Canterbury notes that SWRMA 2, defined by travel times for both surface water and groundwater, must be estimated, not measured, and will have many possible sizes (and shapes in the case of groundwater) depending on the estimation method and assumptions applied. The supplementary documentation gives some suggested techniques for determining 1-year travel time for groundwater but no clear direction on which method to use.

Q3: *For lakes, do you agree that SWRMA 2 should include the entire lake area? What might be an alternative approach?*

19. For small to medium sized lakes, including the entire lake area in SWRMA 2 would be appropriate, however, there are several large lakes where this may not be necessary to manage risk; there may be the opportunity to set an alternative, smaller SWRMA 2 for lakes larger than a particular size, or list lakes that are able to have a bespoke SWRMA 2 set relative to each water take.

Q4: *SWRMA 1 for lakes and rivers is proposed to extend 5 metres into land from the river/lake edge. This contrasts with 3 metres setback requirement of the Resource Management (Stock Exclusion) Regulations 2020. SWRMA 1 is proposed to be used as a basis for controlling activities close to source water intakes and applies to a wide range of activities. Do you think these differing setbacks will cause confusion or result in other challenges?*

20. Environment Canterbury supports policy approaches that are workable and not developed in isolation. The current suite of national direction has inconsistencies across different instruments – this has been recognised by the government (through the Resource Management Reform process) and in response the government has proposed a single consolidated national planning framework where (ideally) tensions between outcomes are resolved at the national level where practicable.

21. Having a single setback distance across both instruments could result in less confusion when implementing. However, any setback needs to be justified based on science, costs, benefits, impacts, etc. (e.g. consideration of productive loss of land) rather than selection of an arbitrary value. A different setback distance from the Stock Exclusion Regulations may result in financial consequences for landowners having to move fences already put in place to meet requirements of a relatively recent change in legislation.

22. However, given the proposed 5-metre setback for SWRMA 1 is intended to protect water supplies from a range of activities, not just stock exclusion, and over a clearly defined and limited area/reach, we consider that a different setback criteria for drinking water sources may be appropriate to manage risk in some situations.

23. Because of the large number of small water takes, it may be useful to provide for alternatives to a default setback in particular situations – this may help to counter some perverse outcomes of applying default rules. For example, there is a risk with small supplies that the supply will be abandoned in favour of one-household supplies (possibly with increased risk) to avoid complying with new rules.

Q5: *There is evidence suggesting that a 10–30-metre radius around source water bores is a preferable way to delineate the area where activities would be heavily restricted (SWRMA 1). However, expert advice suggests a 5-metre radius is the most workable option. Do you agree that a 5-metre radius around a source water bore gives enough protection?*

24. Environment Canterbury submits that SWRMA 1 should be the responsibility of the water supplier where the water supplier controls the land.

25. There is value to be gained from a focus on bore improvements, and water suppliers should be required to ensure that their bores are suitable for public supply (not the shallowest or cheapest). A 5-metre radius may be inadequate depending on the level of wellhead protection and operation of the water supply. The main purpose of this zone is to reduce the risk of pollution from chemical pollutants and pathogens from human and animal sources that could flow across the ground and enter the well via the wellhead. These are measures that the water supplier would need to take. Other countries have determined that a bigger radius is required (e.g. 50-metres radius in the UK). MfE may want to consider a risk-based approach, where the significance of the supply is also taken into account.

26. Environment Canterbury supports a review of the drilling standard NZS4411, including consideration of bore decommission standards and geotechnical bores. The Council acknowledges that this review could be separate from the current NES-DW review.

27. Environment Canterbury considers that the consultation document places a lot of emphasis on the risks associated with bore structures (e.g. contamination via insecure wellheads or through the sinking of a new bore) at the expense of other activities that also pose threats to drinking-water supplies, for example, wastewater disposal and effluent from grazing animals entering the groundwater or surface

water via flow pathways. Given one of the drivers for the proposed amendments to the NES-DW was the contamination event at Havelock North, greater attention should be given to potential sources of pathogen contamination.

28. The proposed 5-metre radius does not cater to variation in bore construction and aquifer properties resulting in real-world risk. For example, a shallow bore with significant connection to surface water may not be as well protected by a 5-metre radius as a deep, well-constructed bore in a confined aquifer.

Q6: *While water takes from complex spring systems or wetlands may require a bespoke SWRMA to ensure consideration of any contamination pathways present, a default method is necessary to ensure interim protection. Do you think a default method is practicable in most situations? Do you think a regional council should determine (on a case-by-case basis) the most applicable default method: for a river, lake or aquifer, or is a different default approach necessary?*

29. Schedule 1 of the LWRP sets out a default model for provisional CDWPZ for existing qualifying registered takes, and a list of considerations to be taken into account when identifying specific protection areas (when new takes are proposed or existing are renewed). It could be beneficial to have nationally agreed parameters to a risk-based approach.

30. In practice, there have been challenges in Canterbury in defining site-specific CDWPZ. Such zones are introduced by a resource consent process, with the corresponding potential for limited and/or public notification. Modelling is uncertain and subject to challenge, and without exception water suppliers have sought smaller CDWPZ than would be recommended to reduce the potential for affected parties and therefore notification. From a practical standpoint, a ‘minimum acceptable’ standard default zone may provide greater protection and more certainty for all parties.

31. Many 'river galleries' are actually abstracting a mix of surface water and groundwater, depending on seasonal variations in hydrology. Also, many Canterbury rivers have significant groundwater inputs in some reaches, in which case both the SWRMA 1 and 2 for rivers and groundwater may need to be mapped and combined for these types of abstraction sources.

32. Environment Canterbury agrees that a default protection zone should apply to set minimum protection requirements. We recommend that the NES-DW provide for regional councils to apply more stringent protection and include guidance on methods and acceptable limits for assessing risk to source water so this can be applied consistently.

Regional council mapping of SWRMA

Q7: *How long do you think is necessary for regional councils to delineate SWRMAs for currently registered water supplies in each region, using the default method?*

33. In 2014/15 Environment Canterbury contracted URS/AECOM to delineate CDWPZ for approximately 500 registered water supplies in Canterbury. The work took approximately nine months to complete at a cost of $96,000. URS/AECOM followed set rules from the LWRP Schedule so progress was straight-forward compared to the proposal to define a 1-year time of travel. We anticipate a considerable workload and costs in delineating SWRMA as proposed given the information requirements for assessment.

Q8: *What challenges do you foresee in delineating SWRMAs, when previously unregistered supplies are registered with Taumata Arowai?*

34. Environment Canterbury is unsure what percentage of the suggested 75,000 to 130,000 unregistered drinking water supplies[1] are in Canterbury. Many currently unregistered water supplies will be sourcing their drinking water from shallow groundwater aquifers that will require larger SWRMA resulting in more otherwise permitted activities requiring resource consents.

35. Shallow wells in unconfined aquifers generally have a large area around the well where surface contaminants can reach well screens within a 1-year travel time. Deeper wells and aquifers with confined conditions source most or all of the water from areas where it takes more than 1-year to reach the well, so there is effectively no SWMRA 2 that can be mapped.

36. The change to the definition of a drinking water supply means many more will meet the criteria of a drinking water supply under the NES-DW, and therefore consents will be required for existing lawfully established activities within the newly established SWRMA. This will result in considerable resourcing challenges for councils, to implement consenting requirements and engage with communities.

37. If SWRMA are required for new water supplies that adopt an Acceptable Solution, then this may significantly increase the resourcing requirements.

Q9: *What support could enable regional councils to delineate SWRMAs within shorter timeframes?*

38. Environment Canterbury suggests undertaking delineation nationally through MfE as a preliminary step with checking and amendment by regional councils. A national SWRMA GIS/database could be set up so property owners, landowners and business owners can easily find out if they are within a SWRMA.

Q10: *Do you think consideration should be given to mapping currently unregistered supplies as they register (but before the four-year deadline provided under the Water Services Act), or do you think that waiting and mapping them all at the same time is a better approach?*

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[1] BECA (2021) Small Drinking Water Supplier Analysis - Report

39. Environment Canterbury recommends mapping water supplies as they are registered so as to enable consent authorities to discharge their duties under s104G of the RMA (i.e. consideration of potential or actual effects of an activity on the source of a drinking water supply).

40. The mapping of newly registered supplies, particularly those for which laboratories are supplying results, would also be useful as information about the sensitivity of an environment/ potentially affected groundwater users will be useful in assessing resource consent applications.

Bespoke method for delineating SWRMA

Q11: *If a regional council has already established local/regional source water protection zones through a consultative process, should there be provision to retain that existing protection zone as a bespoke method without further consultation or consideration against new national direction?*

41. Environment Canterbury's LWRP framework provides for the delineation of default protection zones for community drinking water supplies. We support the ability to retain existing protection zones that have been established through a consultative process.

SWRMA 1 controls

Q12: *Do you think national direction on activities within SWRMA 1 is necessary?, If so, what activities should it address? How restrictive should controls be in SWRMA 1, for resource users other than water suppliers? Are there any activities you believe should be fully prohibited in this area? Are there any activities you believe should be permitted or specifically provided for or acknowledged in this area?*

42. Environment Canterbury supports simplicity and being clear about what activities are permitted and prohibited within each SWRMA including SWRMA 1.

43. Consideration could be given to the registration of certain permitted activities within SWRMA1 and 2 so their location is known should there be a contamination event.

44. We note inconsistencies in the setback distances between SWRMA 1 in this consultation document and the draft Acceptable Solution for Spring and Bore Drinking Water Supplies currently being consulted on by Taumata Arowai. This requires that a bore is not located within 50-metres (presumably radius) of seven activities - sewage disposal field or effluent discharge, underground storage tank, waste pond, landfill, offal pit, areas where pesticides or animal effluent is applied to land, and urban aquifers contaminated or at risk of contamination with sewage from exfiltration or pump station overflows. It seems appropriate that these activities in the draft Acceptable Solution are prohibited within SWRMA 1.

45. SWRMA 1 for groundwater sources is focussed on the risk of contaminants entering via the wellhead – either directly down the well or down the side of the casing if there is inadequate seal, especially in the case of an accidental spill or surface

flooding. If the land is controlled by the water supplier, they should be assessing the risks of anything they allow within this zone.

46. If all bores are installed and sealed correctly within a SWRMA, this could enable installation to be a permitted activity.

47. The type of activities that should be controlled or fully prohibited within SWRMA 1 include grazing livestock, excavation/drilling and the storage and/or application of potential contaminants such as fertilisers, agrichemicals, fuel, hazardous substances and wastewater/effluent. Storage and use of water treatment chemicals near the wellhead should be permitted with appropriate safety controls.

48. Environment Canterbury's LWRP prohibits three activities within the CDWPZ (roughly equivalent to SWRMA 2). These are grazing intensive livestock within the bed of a river or lake; use of land and discharges to land from community wastewater treatment plants; and the discharge of municipal solid waste. A list of activities and their status within a CDWPZ is provided in Appendix 1.

49. The framework would need to ensure that there is consistency between prohibited activities in every SWRMA (i.e. if something is prohibited in SWRMA 3 it should, by default, be prohibited in SWRMA 2 and SWRMA 1).

50. We note that the UK Environment Agency SWRMA 1 equivalent for groundwater is larger at 50-metres and sets out controls and position statements on several activities including infrastructure, storage of pollutants, landfill, non-landfill waste, discharges of effluent to ground, diffuse sources, cemeteries, burial of animal carcasses, managing groundwater resources, ground source heating and cooling.

51. Generally, regional councils do not monitor permitted activities as they are viewed as low risk and the costs of monitoring are not recoverable. We consider it appropriate that provision is provided in the NES-DW for local authorities to be able to charge a fee for monitoring permitted activities.

Q13: *For water suppliers, are there any other activities beyond intake maintenance/ management that should be provided for?*

52. Environment Canterbury has no comment to make on this question.

Q14: *In and around freshwater, control of pest species (including aquatic pest species) may be necessary, including through physical control (removal, that may include bed disturbance) or chemical control (discharge). How much of an issue is this in and around abstraction points? How critical is that work? How often is this work mandated by other regulation or requirements? How frequently is this work undertaken by parties other than the drinking-water supplier (or their contractors)?*

53. Environment Canterbury's LWRP includes permitted activity rules for discharge of pest control chemicals and agrichemicals with conditions that trigger the need for resource consent when within a CDWPZ. The agrichemical rule allows mixing and

other operational activities to take place within a CDWPZ subject to best management practices.

54. We recommend that if such activities are carried out, that they are undertaken in accordance with approved codes of practice that include obligations to notify water suppliers and other downstream water users in advance.

55. We note the proposed changes to the National Environmental Standards for Freshwater (NES-F), that were recently consulted on under the Managing our Wetlands consultation, proposes a more permissive pathway for the removal of pest plant species within a wetland. Environment Canterbury supported that position but notes the potential risks to drinking water. We reiterate the need for central government proposals and policy objectives to be aligned.

SWRMA 2 controls

Q15: *Do you think national direction on activities within SWRMA 2 is necessary? If so, what activities should it address?*

56. Environment Canterbury strongly supports national direction. This must be clear and direct about what activities are permitted or prohibited and those that may be carried out subject to resource consent within SWRMA 2. National direction should include the minimum controls, standards or rules that apply to activities and the management of potential contaminant sources.

57. The consultation document focuses on pollution pathways, rather than specific sources. Contaminants need to be controlled at source; examples of activities that may need control as part of SWRMA 2 include storage, use and disposal of hazardous substances, onsite wastewater systems, stockyards and intensive grazing of animals, silage storage, landfills, stormwater discharges from timber treatment yards and other industrial sites.

58. The source of the pathogens in the Havelock North outbreak was grazing sheep, which none of the suggested controls would have prevented. There needs to be acknowledgement that controlling activities in SWRMA 2 cannot remove all risks and the water supplier must take this into account in protecting their intake infrastructure and treating the supply.

59. We highlight that for some bores, particularly deep bores, or bores where the groundwater recharge area is very distant, there may be no SWRMA 2. This is because there may be no land area from which groundwater is likely to reach the bore in less than 1-year. In saying this, we cannot entirely rule out the possibility of preferential pathways that could carry groundwater to the bore more quickly, but the risk may be low enough that extra management of SWRMA 2 activities would provide no benefit.

60. We request that the NES-DW clarifies the extent to which it is intended to protect source waters in terms of acceptable risk, for example, is this to a level such that treatment is not required (Drinking Water Standards) or is it to minimise

contamination as far as practicable but acknowledging that in developed catchments there will always be some contamination that requires drinking water to be treated.

Q16: *In your view, how much will this proposal impact the current situation in your region? What discharges to water are currently permitted? Should provision be made to continue to permit those activities? What controls are typically used to ensure potential adverse effects are managed?*

61. The LWRP contains standards that require a consent to be obtained for a number of discharges and activities which have the potential to impact drinking water – irrespective to whether they are located within a CDWPZ. The LWRP, however, specifically removes the permitted activity status for any of the following activities where they occur within a CDWPZ:

    a. Discharges from:
        i. existing and proposed domestic onsite site wastewater systems
        ii. pit toilets
        iii. offal pits
        iv. on-site refuse disposal
        v. the mixing of agrichemicals

    b. discharges of:
        i. solid animal waste (excluding that directly from an animal)
        ii. swimming or spa pool water to surface water
        iii. vertebrate toxic agents into land
        iv. drainage water into an artificial water course, constructed wetland or into land
        v. any liquid waste or sludge waste from an industrial or trade process, including livestock processing, excluding wastewater, into or onto land, or into or onto land in circumstances where a contaminant may enter water
        vi. stormwater other than from a reticulated system
        vii. water tracers
        viii. other minor contaminants

    c. the collection, storage and treatment of animal waste

    d. silage pits

    e. cemeteries

62. The LWRP also prohibits the following within a CDWPZ: the use and disturbance of the bed of any lake or river by farmed pigs, deer or cattle, discharges from community wastewater treatment systems, and the discharge of municipal solid waste.

63. The introduction of many additional discretionary activities would place a large burden on consenting authorities and adjacent landowners in regions such as Canterbury, where these zones are likely to be numerous and cover a large area. Clear direction on what activities should be permitted or prohibited will provide clarity and help to reduce the consenting load.

64. Environment Canterbury has concerns about a "one-size fits all" approach to restrictions. The proposals do not appear to discriminate based on risk with low-risk activities (e.g. earthworks and gravel removal in rivers) treated the same as high-risk activities (e.g. human/stock effluent discharges). In Canterbury there are appropriate systems already in place to manage the risks associated with low-risk activities such as gravel extraction and flood protection work.

65. Environment Canterbury is concerned that the Council's approach to gravel authorisation (that allows small scale and low risk river gravel extraction activities to take place as a permitted activity) and flood protection mitigation works (that allows works by local authorities and network utility operators to be undertaken on defences against water as a permitted activity subject to best management standards) may now be required to obtain resource consent for a similar outcome. This may represent a less efficient process in the interests of safeguarding source water and providing for flood management. Further information on the Council's gravel authorisation system and the Canterbury Regional Code of Practice for Defences Against Water and Drainage Schemes (April 2019)[2]. can be found on the Council's website.[3]

66. As noted previously, Environment Canterbury does not routinely monitor permitted activities unless this is in response to a complaint or pollution event, as they are generally viewed as low risk and the costs of monitoring are not currently recoverable.

Q17: *Are there any other activities that should not be permitted within SWRMA 2?*

67. Environment Canterbury considers that the following discharges pose the highest risk to drinking water sources: discharges of community wastewater, municipal solid waste, landfill leachate, and possibly farm dairy effluent. It is suggested that the NES-DW considers the use of prohibited rules for some of these, where practicable.

Q18: *The original intent of SWRMA 2 was to manage microbial contamination. However, there are indications that protections against other contaminants may be required. What contaminants do you think should be controlled in SWRMA 2?*

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[2] https://www.ecan.govt.nz/your-region/your-environment/river-and-drain-management/defences-against-water-code-of-practice/

[3] Further details of the gravel extraction framework and code of practice can be found at River-based gravel extraction | Environment Canterbury (ecan.govt.nz)

68. Protections should be extended to the storage, use and disposal of chemical pollutants that have potential to contaminate source water in both urban and rural environments. However, clear guidance as to *how* contaminants are to be regulated is required.

69. We understand that most hazardous substances are subject to controls under hazardous substances legislation, but these controls may not adequately protect source waters in all cases.

70. As an example, the bulk storage and handling of liquid nitrogen fertilisers (used in fertigation) carries a significant risk of contaminating a drinking water source in the event of a significant spill or catastrophic leak. Secondary containment is not currently a mandatory requirement, though we understand the Fertiliser Association NZ is developing good practice guidelines.

71. Activities that have the potential to cause non-microbial contamination include infrastructure developments, above and underground storage of pollutants, landfill, non-landfill waste management activities, discharge of liquid effluents to ground such as trade and sewage effluent, diffuse rural sources, and cemetery developments.

72. Guidance is sought on assessment and management of effects and risks from existing activities within newly established SWRMA 2.

Q19: *What other challenges do you see when making a consent application within SWRMA2?*

73. From a consenting authority perspective, there are challenges in managing the cumulative risks from many activities clustered together. For example, multiple on-site wastewater discharges where there is no available wastewater or drinking water reticulation and community drinking water supply obtained from private bores.

74. The assessment of the potential effects for even small-scale proposals, such as on-site domestic wastewater discharges, can require in-depth modelling. This is especially the case where there are legacy and/or cumulative effects from persistent contaminants. The preparation of applications in these circumstances is time consuming and costly. Many feel that these costs outweigh the potential risks of their proposal alone and that the costs associated with legacy effects should fall to the community and / or the water supplier.

SWRMA 3 controls

Q20: *Do you think any additional controls, other than broad consideration of the effects of the activity on source water, are required in SWRMA 3?*

75. Defining SWRMA 3, the entire catchment, for a groundwater supply is very difficult and often has a high level of uncertainty, which needs to be considered.

76. Environment Canterbury suggests that activities in SWRMA 3 are best managed by regional plan rules that seek to manage groundwater and surface water quality at a catchment scale. For example, diffuse nitrate contamination is an issue in parts of Canterbury, but nitrates can come from extensive areas distant from the drinking water source and over a long time. Management of activities that contribute to diffuse and cumulative contaminants are considered to be best managed by other instruments such as the NES-F, Stock Exclusion Regulations, and regional rules on farming land use.

77. However, given the intention of the proposals to manage activities that present risks to source water, guidance will be required on the extent to which reliance can be placed on a water supplier undertaking treatment or not, to mitigate risk.

78. We seek clarification on how acceptable risk to source water catchments in SWRMA 3 would be determined.

Groundwater bore management

Q21: *What is your view on how to address issues with bores – should it be enough to amend the NZS 4411:2001 (with reference to that standard in the NES-DW), or should greater direction be given in the NES-DW itself?*

79. Environment Canterbury would support a more prescriptive permitted activity standard coupled with an ability to charge for compliance monitoring.

80. In Canterbury the LWRP permits bore installations provided the bore is installed by an accredited installer and meets performance standards – some of which address the issues raised by the Havelock North Inquiry – e.g. rules reference standards relating to sealing, provision of information about bore location, qualifications, etc.

Q22: *For existing bores: What is your view on requiring unused bores to be decommissioned? Should bores of poor quality be required to be upgraded or decommissioned? What timeframe might be reasonable to do this? For many older bores there are no records. What sort of evidence could be used to support the ongoing use of these bores, or demonstrate they pose a low risk to the security of the aquifer?*

81. The LWRP Rule 5.107 is a permitted activity rule for decommissioning of a bore (subject to conditions). Environment Canterbury would support the NES-DW having a statutory obligation to decommission unused bores and to enable charging for monitoring to drive implementation.

Q23: *What is your view on prohibiting below-ground bore heads?*

82. Environment Canterbury considers that wellhead security should be the responsibility of the water supplier and is improved by having the well casing protrude above ground.

83. New drinking water wells should be fenced off and not have traffic passing over or other issues that make it more practical to have the wellhead in a manhole.

84. However, for monitoring wells constructed as a permitted activity, the drilling standards could be amended to allow for below ground constructions providing the casing has a cover and the annulus is sealed to prevent entry of any fluids.

Q24: *Regional councils are responsible for control of the use of land for the purpose of maintenance and enhancement of the quality of water in water bodies (RMA section 30(1)(c)(ii)). Do you think territorial authorities have a role in land management over aquifers, and if so, what is that role?*

85. Territorial authorities have a general obligation under s31(1) RMA to establish objectives, policies, rules and methods to achieve integrated management of the effects of the use, development or protection of land and natural and physical resources. We consider that territorial authorities have an important role in protecting the quality of drinking water supplies and in consideration of the impacts of land use planning on the hierarchy of responsibilities under Te Mana o te Wai. This should include the requirement for water sensitive design to reduce water services demand and environmental impacts from development. Territorial authorities can drive provision of reticulated drinking water and sewage services to avoid impacts of on-site wastewater discharges.

86. One of the tools territorial authorities have available is the use of designations – territorial authorities could be supported to make greater use of these to manage land use to avoid effects on drinking water sources.

87. The impacts of urban and industrial areas on source water quality must be considered alongside rural impacts.

Identifying and managing activities over vulnerable aquifers

Q25: *It is not clear which approach might be best for ensuring risk to vulnerable aquifers is appropriately managed. Do you think that an NES-DW is the right channel for addressing this? If not, what approach might be better?*

88. A national environment standard is considered to be one of a suite of tools for managing vulnerable aquifers.

89. Different approaches can be taken to managing risks to vulnerable aquifers depending on the context. The focus of the proposed NES-DW is managing risk to known (existing and new) abstraction points through the use of controls on potentially contaminating activities in connection with contaminant travel times. However, risks to vulnerable aquifers may also be managed for other objectives, such as protecting the whole water resource for future, including groundwater dependant ecosystems, as yet unknown abstraction points or to achieve Te Mana o te Wai. The most appropriate way to achieve these objectives may involve other methods, such as directing development to other locations, for example, through an

urban growth strategy. These other methods will be derived through the development of policy to complement the role of the NES-DW.

Q26: *Would it be helpful if guidance on vulnerable aquifers was provided to support freshwater planning as the NPS-FM is given effect?*

90. Environment Canterbury considers there needs to be acknowledgement that management of activities in SWRMA 2 and the approach to the management of cumulative effects by the regional plan in SWRMA 3 cannot remove all risks to source water.

91. Guidance is required in connection with vulnerable aquifers and other source waters to clarify the extent to which the NES-DW is intended to protect source waters in terms of te . For example, is this to a level such that treatment is not required (Drinking Water Standards) or is it to a level that contamination is minimised as far as practicable in acknowledgement that in developed catchments there will always be some contamination that may require drinking water to be treated. We consider guidance is required on acceptable source water standards (i.e. pre-treatment by water suppliers) or when and to what extent treatment by water suppliers can be considered to mitigate risks, including cumulative risks, to source water.

92. Environment Canterbury also considers guidance on known persistent contaminants, on the identification of emerging persistent contaminants and known associated industries/activities is required to enable regional councils to make their own assessments on whether a planning response is warranted in relation to these in the knowledge of the catchment characteristics (i.e. nature of the aquifer).

Retrospective application of the NES-DW to existing activities

Q27: *What activities do you believe the NES-DW should retrospectively apply to / not apply to, and why?*

93. Consideration should be given to the activities listed in the draft Acceptable Solution for Spring and Bore Water Supplies and in the LWRP (see Appendix 1).

94. Retrospective application needs to be staged and take into account the vulnerability of the registered water supply to achieve the best ‘bang for buck’. There is the potential for significant costs to be imposed on the many small suppliers that could lead to unintended consequences. For example, there is a risk with small supplies that the supply will be abandoned in favour of one-household supplies (possibly with increased risk) to avoid complying with new rules. Retrospective application of the standards needs to consider this.

95. However, there would be little benefit in the NES-DW applying retrospectively to activities which have a short duration or where the effects are temporary.

Q28: *In your view, what are the key challenges and benefits to retrospective application?*

96. Retrospective application will support an improvement in source water quality. It may also incentivise infrastructure, such as wastewater and drinking water reticulation, to better manage cumulative effects.

97. However, there are also significant costs, particularly if existing bores or lawfully established infrastructure are required to be relocated. For example, relocating farm tracks where cattle may pass within 5-metres of a bore.

98. If the NES-DW rules are to apply retrospectively, we strongly suggest consideration is given to the nature and significance of the lawfully established activity and risks to the source water supply. We recommend that consideration is given to where costs fall when an existing activity needs to change e.g. should this be on the person carrying out the activity or on the water supplier?

99. We also request that there is a nationally consistent approach and transition timetable, rather than leaving it up to individual regional councils to determine on a case-by-case basis.

100. A structured and nationally consistent approach to prioritisation of compliance is recommended to support engagement and communication with affected property owners. Financial support schemes could be explored to help property owners with limited means e.g. to manage costs of upgrading on-site wastewater systems.

101. The resource consent process for assessing effects of an existing activity on a drinking water supply is complicated and uncertain for both the applicant and council. Environment Canterbury recommends nationally consistent guidance and methods to ensure that assessment of effects and risk assessment thresholds can be constantly applied. Guidance should support decision-making on affected parties and notification thresholds for consent applications.

102. Collation of data on existing activities will be a challenge but will help to prioritise action to reduce risk to drinking water supplies. Data collation and national data sharing will be a key component of ongoing management of activities and response to issues.

103. A further key challenge to retrospective application of the NES-DW relates to difficulties assessing water quality impacts of individual activities in catchments where there are significant existing cumulative effects. For example, how to assess the impact of the discharge from an on-site wastewater system in an area with high background nitrate concentrations.

104. Consideration will need to be given to the potential impacts of retrospective application of the NES-DW to persistent contaminants, e.g. on-site wastewater discharges and the replacement of a septic tank with a modern UV treated on-site wastewater system. The options to address risks arising from persistent contaminants are far more limited and may not be possible without reticulation or other treatment options.

Criteria when considering effects on source water

Q29: *Do you agree with the proposed list of criteria? Are any additional criteria needed, or clarification?*

105. The criteria are comprehensive, if somewhat high level.

Proactive response planning

Q30: *What types of activity might pose a significant risk to a water supply in an accident, emergency, or other natural event?*

106. The list of discharge activities that are prohibited or require consent within CDWPZ under the LWRP (Appendix 1) provides a good starting point.

107. There are many industries on the Hazardous Activities and Industries List and land uses that might pose a significant risk if the installation / site / activity is not well managed. For example, infrastructure developments and pipelines; above and underground storage, use, and disposal of contaminants such as fertilisers, agrichemicals, fuel and other hazardous substances; human and industrial wastewater/effluent discharges; diffuse sources such as grazing animals, land spreading, manure/silage storage, offal pits; and cemetery developments to name a few.

Q31: *Do you think it is reasonable to require all activities with some potential to affect source water to undertake response planning, or just those with a higher risk (likelihood and consequence)?*

108. All activities with potential to impact source water should undertake a level of response planning relative to the risk posed by the activity/industry.

109. For example, Environment Canterbury's LWRP rules on storing and using hazardous substances require inventories to be maintained, regular inspections, secondary containment, spill kits and council notification in the event of an emergency.

110. Environment Canterbury notes that the draft Acceptable Solutions also require drinking water suppliers to plan for incidents and emergencies.

Water supplier involvement

Q32: *Do you agree that resource users should engage with water suppliers in consenting matters, within SWRMA 1 and 2?*

111. Engagement with the water supplier would be extremely beneficial to the identification of risks, in gaining an understanding of the measures the supplier has in place to address those risks, and the level of information the supplier considers necessary to assess the potential effects.

Q33: *What hurdles do you see in promoting this engagement with water suppliers?*

112. From a resource user's perspective, knowing who to contact. With water suppliers needing to register with Taumata Arowai contact information will be more readily available. Also, small water suppliers may not have the capacity, expertise or willingness to engage.

Q34: *What support might small water suppliers need to effectively engage in the consent process?*

113. Environment Canterbury has no comment to make on this question.

General matters relating to managing source-water risks

Q35: *A National Environmental Standard is a regulation under the Resource Management Act 1991 (RMA) that requires, among other things, that regional councils make changes to their regional plan rules. Making these changes can add costs (e.g., financial, administrative) for regional councils. In your view, how might regional councils be affected by the NES-DW's new requirements to change regional plan rules? Do these effects outweigh the expected benefits of better source water protection?*

114. The cost of amending the regional plan to incorporate the new requirements of the NES-DW can be identified once a conflicts and duplication assessment has been undertaken. We note that s.44A RMA may enable duplication and conflicts with an NES to be remedied without the use of a RMA Schedule 1 process. We note though that the conflicts and duplication assessment undertaken in connection with the changes introduced by Essential Freshwater costs (which are likely to be much larger) were approximately $200,000. While the NES-DW is likely to be a more targeted change we note there is potential that some of the new requirements may not be able to be readily compared with some activities controlled by the LWRP, such as nitrogen loss from farming land use activities, and as such costs of making these assessments could still be relatively substantial.

115. Additional costs would be incurred in connection with the new SWRMA mapping and undertaking whichever method is identified to enable the regional plan to relate them.

116. Notwithstanding these costs, Environment Canterbury supports the objectives of the proposed amendments to the NES-DW to strengthen and align national direction for protection and management of source water noting also the concerns raised in this submission on some aspects of the proposal.

Q36: *In your view, how could the amendments to the NES-DW better align with farm plans? Is reliance on the NPS-FM, NES-F and Stock Exclusion Regulations enough to manage the long-term effects of farming activities on underlying aquifers and waterbodies? Can you identify potential duplication between the NES-DW and other regulations that control land use?*

117. Freshwater Farm Plans should identify drinking water supplies within the "catchment context". Water supply abstraction points and SWRMA should be mapped, risks identified and actions to reduce those risks set out in the Freshwater Farm Plan, including actions to demonstrate compliance with any NES-DW prohibitions, resource consent or permitted activity conditions. Freshwater Farm Plans should also include an incident / emergency response plan or reference to one.

Q37: *If you are a water supplier, do you think these amendments will affect your ability to supply water (positively or negatively)? Would they influence whether you continue to provide water?*

118. Environment Canterbury has no comment to make on this question.

Q38: *If you are a resource user, do you think these amendments will affect how you currently use your land or undertake activities? Will you have to change how you do things as a result?*

119. Environment Canterbury has no comment to make on this question.

Which water supplies should be protected by the NES-DW?

Q39: *Do you think the protections of the NES-DW should apply to all registered water supplies? If not, what types of supplies should be included, and why?*

120. All New Zealanders should have access to safe drinking water. Because the NES-DW will only apply to supplies serving more than two households, care needs to be taken to avoid perverse outcomes of legislation that is complicated or expensive to implement at small scales. There is a risk with small supplies that the supply will be abandoned in favour of one-household supplies (possibly with increased risk) to avoid complying with new rules.

121. In many cases private rural water takes have a small component that is used for drinking water with the majority used for stock water, dairy-shed and irrigation. Applying a drinking water standard to such a take prior to treatment may be onerous. Clarity is sought on the water quality standards to be achieved for such takes and if alternative standards and protection requirements combined with Acceptable Solutions apply for these situations.

122. Section 104G RMA applies to activities that already require a consent for any reason where they affect <u>any</u> registered supply. National direction would be helpful here. If SWRMA are not provided for all registered supplies, the question still arises as to how to implement s104G.

Q40: *The WSA has a registration timeframe of four years for currently unregistered supplies. Do you agree with aligning application of the NES-DW with the WSA? If not, why? In your*

view, what are the challenges resulting from including these newly registered supplies within the NES-DW framework?

123. If a supplier has prepared their source water risk management plan and is meeting the requirements for registration, then they should be afforded the protection. It will of course take time to prepare the SWRMA. However, if Taumata Arowai is providing an up-to-date layer of registered supplies it would be easy to see if there is an outstanding SWRMA.

Other comments

Q41: *Do you have any other comments you wish to make?*

124. Environment Canterbury has no further comments.

Appendix 1: Activities that require resource consent within a Community Drinking-Water Supply Protection Zone

Activity	LWRP regional rules
On-site wastewater	5.7, 5.8, 5.8A, 5.8B, 5.9
Swimming pool or spa water	5.10, 5.11
Pit and composting toilets	5.14, 5.15, 5.16, 5.17
Pest control and agrichemicals	5.20, 5.21, 5.22, 5.23
Offal and farm rubbish pits	5.24, 5.26, 5.27, 5.28
Animal and vegetative waste	5.29
Stock holding areas and animal effluent	5.31, 5.32, 5.33, 5.34, 5.36, 5.37
Silage pits and compost	5.39, 5.40
Drainage water	5.75, 5.76, 5.77, 5,78. 5.82. 5.83
Industrial and trade wastes	5.91
Stormwater	5.94A, 5.94B, 5.95, 5.96
Other minor contaminant discharges	5.98, 5.100
Water tracers	5.101, 5.102
Take groundwater for bore development	5.109, 5.110, 5.119, 5.120
Hazardous substances storage	5.179. 5.180, 5.181, 5.182
Contaminated land - passive discharges	5.187, 5.188
Plantation forestry *	5.189, 5.190
Managed aquifer recharge *	5.191, 5.192

* proposed rule, Plan Change 7

Activities that are prohibited within a Community Drinking-Water Supply Protection Zone

Activity	LWRP regional rules
Stock in waterways	5.71
Community wastewater treatment systems and discharges	5.85
Municipal solid waste	5.90

Full plan details of the Canterbury Land and Water Regional Plan are available on the Environment Canterbury website, https://ecan.govt.nz/your-region/plans-strategies-and-bylaws/canterbury-land-and-water-regional-plan/