Section 32 report: Part A

Background and Context

for Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region

Contents

1. Abbreviations

Appendix 2A attribute	Refers to the attributes listed in Appendix 2A of the National Policy Statement for Freshwater Management 2020
Appendix 2B attribute	Refers to the attributes listed in Appendix 2B of the National Policy Statement for Freshwater Management 2020
ASPM	Average Score Per Metric ASPM
Council or Greater Wellington or WRC	Wellington Regional Council also known as Greater Wellington
BSP	Biophysical Science Programme
CMA	Coastal marine area
CMU	Catchment Management Units
Cu	Copper
DIN	Dissolved inorganic nitrogen
DOC	Department of Conservation
DRP	Dissolved reactive phosphorus
E. coli	Escherichia coli
FAP	Freshwater Action Plan
F-IBI	Fish Index of Biotic Integrity
FEP	Farm Environment Plan
FMU	Freshwater management unit
FPI	Freshwater planning instrument
FPP	Freshwater planning process
ICT	Instream concentration thresholds
LUC	Land Use Capability Classification
MCI	Macroinvertebrate community index
MfE	Ministry for the Environment
N	Nitrogen
Ngāti Toa Statement	Te Awarua-o-Porirua Whaitua Implementation Programme: Ngāti Toa Rangatira Statement
NOF	National Objectives Framework
NPS-FM 2011	National Policy Statement for Freshwater Management 2011

NPS-FM 2014	National Policy Statement for Freshwater Management 2014
NPS-FM 2017	National Policy Statement for Freshwater Management 2014 (as amended in 2017)
NPS-FM / NPS-FM 2020	National Policy Statement for Freshwater Management 2020 (as amended in February 2023)
NPS-IB	National Policy Statement for Indigenous Biodiversity 2023
NPS-UD	National Policy Statement on Urban Development 2020
NZCPS	New Zealand Coastal Policy Statement 2010
NRP	Natural Resource Plan for the Wellington Region 2023
Nutrient criteria	Instream concentration and exceedance criteria, or instream loads, for nitrogen and phosphorus
P	Phosphorus
Part FMU	Part Freshwater Management Unit
Plan Change 1 / PC1	Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region 2023. Proposed Plan Change 1 is the subject of this Section 32 report.
QMCI	Quantitative macroinvertebrate community index
RMA	Resource Management Act 1991
RPS	Regional Policy Statement for the Wellington Region 2013
RPS Change 1	Proposed Change 1 to the RPS, notified on 19 August 2022
TAoP	Te Awarua-o-Porirua Whaitua
TAoP Committee	Te Awarua-o-Porirua Whaitua Committee
TAoP WIP	Te Awarua-o-Porirua Whaitua Implementation Programme
TAS	Target Attribute State
Te Mahere Wai	Te Mahere Wai o Te Kāhui Taiao
TN	Total Nitrogen
TP	Total Phosphorus
TWT	Whaitua Te Whanganui-a-Tara
TWT Committee	Whaitua Te Whanganui-a-Tara Committee

TWT WIP	Whaitua Te Whanganui-a-Tara Whaitua Implementation Programme
Wellington Water	Wellington Water Limited
WIP	Whaitua Implementation Programme
Zn	Zinc

2. Introduction

1. Greater Wellington Regional Council (Council or Greater Wellington) is proposing to amend the Natural Resources Plan for the Wellington Region 2023 (NRP). The proposed amendments form the Proposed Plan Change 1 (PC1).

2. In preparing PC1, Council has considered the rationale for the changes, options for the changes, evaluated their efficiency and effectiveness, and consulted with partners and stakeholders. This report summarises the evaluation of the provisions, the background and information relevant to PC1.

3. Section 32 of the Resource Management Act 1991 (RMA) sets out requirements for evaluating proposed changes to regional plans and reporting that evaluation.

4. PC1 is focused on giving effect to the National Policy Statement for Freshwater Management (NPS-FM) in two of the five whaitua of the Wellington region, Whaitua Te Whanganui-a -Tara and Te Awarua-o-Porirua Whaitua implementing the regulatory and some of the non-regulatory recommendations from the Whaitua Te Whanganui-a-Tara Implementation Programme (TWT WIP) and Te Awarua-o-Porirua Implementation Programme (TAoP WIP). Consequently, the majority of changes and additions are in Chapters 8 and 9 of the NRP. Recommendations from the WIP's not implemented through PC1 are actioned through the Council's catchment programmes, and in some cases by the relevant territorial authority.

5. Plan Change 1 also includes amendments to region wide provisions including Schedule F (ecosystems and habitats with significant indigenous biodiversity values), amendments to Section 5.4.4 (uses of beds of lakes and rivers rules) and improvements to the air rules in the coastal marine area (CMA) to give effect to the New Zealand Coastal Policy Statement (NZCPS).

6. To fully give effect to the NPS-FM additional plan changes are planned to cover the remaining whaitua, Ruamāhanga Whaitua, Kāpiti Whaitua and Wairarapa Coast Whaitua. These are required to be completed by December 2024.

7. This report is structured into five parts:

- Part A – Background and context
- Part B – Implementation of the NOF for Whaitua Te Whanganui-a -Tara and Te Awarua-o-Porirua Whaitua.
- Part C – Evaluation of the appropriateness of the objectives relating to implementation of the NPS-FM for Whaitua Te Whanganui-a -Tara and Te Awarua-o-Porirua Whaitua.
- Part D – Evaluation of the proposed policies, rules and other methods relating to implementation of the NPS-FM for Whaitua Te Whanganui-a -Tara and Te Awarua-o-Porirua Whaitua.
- Part E – Evaluation of the miscellaneous plan changes
- Part F – References.

8. This report is supported by a number of technical reports prepared for the plan change, as well as earlier technical work undertaken as part of the TAoP and TWT WIPs.

9. This report refers to Plan Change 1/PC1 throughout and should be read in conjunction with the separate plan change document setting out the proposed changes to the NRP provisions in full.

3. Background and context

3.1 Purpose

10. The purpose of Plan Change 1 is to give effect to the NPS-FM including the implementation of the National Objectives Framework (NOF) within TAoP and TWT of the Wellington Region and update the region-wide rules for the beds of lakes and rivers and air quality and Schedule F (sites and habitats with significant indigenous biodiversity values).

3.2 Scope

11. Plan Change 1 includes implementing NPS-FM, subpart 2 NOF requirements, as follows (referencing sections of the NPS-FM):

- section 3.8, identification of FMUs and special sites and features, including sites used for monitoring, primary contact sites, location of threatened species, monitoring sites for FMUs, and Māori freshwater values.
- sections 3.9, 3.10, identifying values and setting environmental outcomes as objectives, including compulsory values, environmental outcomes set as objectives for all fresh water (rivers, lakes, wetlands, and groundwater) and connected coastal water in the TAoP and TWT.
- sections 3.11, 3.13, setting target attribute states (TASs) and instream concentrations and exceedance criteria for TAoP and TWT.
- sections 3.12, 3.14, 3.15, policies and rules (rules or limits required by NPS-FM) and methods (including action plans) to manage activities such as urban development, earthworks, stormwater, wastewater, and rural land use activities to achieve the objectives and target attribute states within TAoP and TWT, and
- section 3.16, 3.17, amendments to the water quantity policies and rules for TAoP, including amended minimum flows, and take limits.

12. Plan Change 1 includes other amendments to the NRP that are not directly related to the NPS-FM:

- insertion of icons where the existing objectives, policies, rules, or schedules no longer apply to TAoP and/or TWT.
- amendments to Schedule F biodiversity schedules updated due to new information arising since the NRP was notified in 2015. This update implements NRP Method 24 that requires updates to indigenous ecosystem schedules in the CMA as new information becomes available on significant indigenous biodiversity values within the Wellington Region

- amendments to NRP beds of lakes and rivers rule (Chapter 5.4) to resolve drafting issues to improve the interpretation and function of the rules, and
- amendment to NRP air quality rules (Chapter 5.1) to remove the coastal icon from selected permitted activity rules, and other minor amendments for recent updates to national standards and improvements and to improve rule uncertainties.

13. Plan Change 1 does not include reviewing and amending environmental flows and levels and take limits for TWT. Further monitoring and assessments are required before this can be completed. These additions will be added in a future plan change.

3.3 Structure of the Natural Resources Plan

14. The NRP is a combined regional air, land, water, and coastal plan. The Plan brings these elements together in objectives, policies, rules, and methods. Section 80(8) of the RMA requires regional councils to identify the provisions in the Plan that form part of the regional coastal plan. These provisions require ministerial approval under section 28(b) of the RMA and are identified by the coastal icon, COASTAL.

15. Due to the integrated nature of the NRP, the coastal icon does not mean that the provisions marked with the coastal icon are exclusive to application in the CMA. Provisions marked with the coastal icon apply to the CMA and may also be provisions managing air, land, and water outside of the CMA where the regional council has jurisdiction.

16. New icons have been introduced for PC1. Provisions will have the following icons attached to provide direction to plan users on which provisions '*do not apply*' to TAoP and/or TWT, as follows:

TAP This icon means that a provision does not apply to TAoP.

TWT This icon means that a provision does not apply to TWT.

3.3.1 Objectives

17. Chapter 3 identifies the resource management objectives for air, land, water, and coastal resources in the Wellington Region. Objectives that relate specifically to individual whaitua are in whaitua chapters (chapters 8 and 9). Objectives outline desired outcomes. In this plan change they generally relate to freshwater, and marine waters where water quality is impacted by land use activities. Policies, rules, and methods are the mechanism by which objectives are achieved. The objectives are to be read together to gain an understanding of what the Plan is seeking to accomplish, the natural resource management priorities, and the way they are to be addressed. The objectives have been designed to work together, recognising both the complex interactions of natural systems and the needs of resource users, decisionmakers and community to clearly understand the context in which resource use activities take place.

Objectives in Chapter 3 that will no longer apply to TAoP and/or TWT are denoted with the appropriate symbol as shown above. Policies

18. Policies are the course of action intended to achieve the objectives, as required under section 67(1)(b) of the RMA. Policies are implemented through methods (rules or other methods). Policies which relate to the whole region are in Chapter 4.

19. Policies in Chapter 4 that will no longer apply to TAoP and/or TWT are denoted with the appropriate symbol as shown above. Whaitua specific policies are located in the respective Whaitua Chapters 8 and 9.

3.3.2 Rules

20. Rules implement the policies, as required under section 67(1)(c) of the RMA. The rules have the force and effect of regulations in statute, which means that they are legally binding. Rules determine whether a resource consent or whether the proposed activity is permitted and does not require consent. The rules may also make some activities prohibited. An activity needs to comply with all relevant rules in the Plan unless the rule itself states otherwise. The NRP and PC1 includes the following types of rules:

- Permitted activities do not require resource consent provided they comply with the specified conditions.
- Controlled activities require resource consent so that specific assessment of identified matters can be undertaken, and resource consent conditions imposed to manage the effects of the activity. An application for a controlled activity must be granted.
- Restricted discretionary and discretionary activities may be declined or granted (with or without conditions) depending on the effects of the activity.
- Non-complying activities may be declined or granted (with or without conditions) depending on the effects and policy fit of the activity. This activity status is often reserved for those activities where the potential adverse effects are great but do not necessarily warrant prohibition.
- Prohibited activities are not appropriate in any circumstance, and no resource consent application may be made for a prohibited activity.

21. To reduce the number of separate resource consents required to undertake any particular activity, the NRP has, where practicable, combined associated activities into one rule. Rules in Chapter 5.2, 5.3 and 5.5 that will no longer apply to TAoP and/or TWT are denoted with the appropriate symbol as shown above. Additional Whaitua specific rules are located in the respective Whaitua Chapters 8 and 9.

22. Generally, the NRP does not repeat provisions from national environmental standards or regulations – these must be read in conjunction with the provisions.

3.3.3 Other methods

23. Other methods also implement the policies in the Plan and are complementary to the rules, being a non-regulatory means of achieving the objectives. Methods include the provision of information and guidance, resource investigations and similar programmes. The non-regulatory other methods are set out in Chapter 6. PC1 proposes a number of new methods in Chapter 6.

3.3.4 Whaitua chapters

24. Chapter 8 and 9 are the relevant Whaitua chapters for Plan Change 1. Chapter 8, TWT, contains the provisions, objectives, policies, rules that only apply to this whaitua. Chapter 9, TAoP, contains the provisions that only apply to this whaitua. Note, other provisions in the Plan still apply to these whaitua unless the '*does not apply*' icon is present for that provision. As other whaitua are developed, they will be included as plan changes or variations.

3.3.5 Schedules and maps

25. Additional schedules and maps that relate to the whaitua provisions have been added to Chapters 12 and 13 respectively, and some amendments to the current schedules and maps in the NRP have been made as a result of Plan Change 1.

3.4 NPS-FM Implementation Programme

26. In December 2012, Council adopted a two staged approach to implementing the NPS-FM 2011.

27. The first stage was to bring the five first generation regional plans (air, soil, freshwater, discharge to land, and coastal plans) into the single combined NRP. The NRP was prepared with input from the regional community and in partnership with the Region's mana whenua to help people sustainably manage natural and physical resources within the Wellington Region. The proposed NRP was publicly notified in July 2015. The NRP became fully operative on 28 July 2023. The structure of the NRP is designed to accommodate catchment-specific provisions in each of the five whaitua chapters.

28. The second stage involves developing catchment-specific plan provisions for each whaitua that fully implement the NPS-FM with the community and mana whenua through collaborative whaitua committees. This second stage has led to the development of PC1 for TWT and TAoP. These two whaitua where chosen for PC1 in 2023 to enable policies and rules for stormwater and wastewater to apply to network discharge consent applications being lodged in 2023. These are a regionally significant issue in TWT and TAoP . A second plan change (or changes) is anticipated to be notified following PC1 for the remaining whaitua, being Kāpiti Coast, Wairarapa Coast and Ruamāhanga.

29. Greater Wellington identified five whaitua which collectively cover the geographical extent of the Wellington region as shown in Figure 1 below. Whaitua means designated space or management area. Each whaitua had a Whaitua Committee tasked with developing a WIP to make decisions on the

regulatory and non-regulatory proposals for the future of land and water management within that whaitua. The committees brought together representatives of mana whenua, the community, stakeholders, and elected members relevant to that whaitua. One of the specified purposes of each whaitua committee was to provide the basis of Greater Wellington's implementation of the NPS-FM.

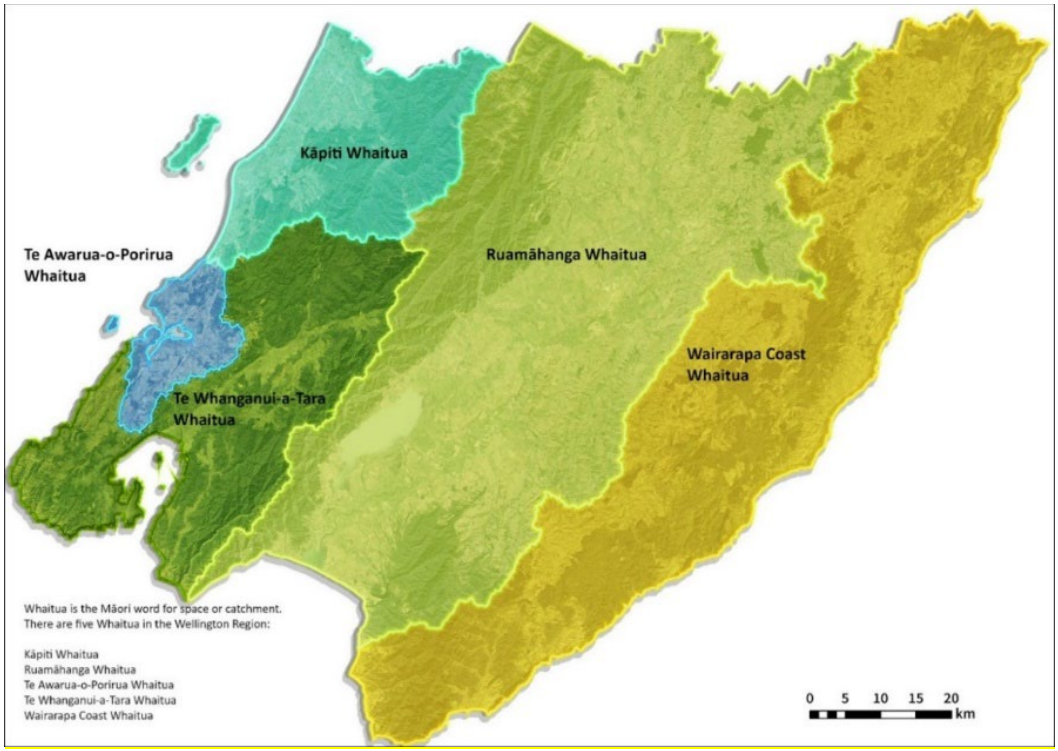

Figure 1: Whaitua of the Wellington Region

30. Three Whaitua processes have been completed and two remain in progress:

- Ruamāhanga Whaitua, established December 2013 and completed August 2018
- Te Awarua-o-Porirua Whaitua, established December 2014 and completed April 2019
- Whaitua Te Whanganui-a-Tara, established April 2019 and completed November 2021
- Kāpiti Coast Whaitua, established December 2022
- Wairarapa Coast Whaitua, yet to be established.

31. For more detail on the TAoP and TWT Whaitua Processes and the documents they produced refer to Part B of this report.

4. Partnership and Engagement

32. A significant level of engagement with mana whenua and communities in relation to the direction of Plan Change 1 has taken place prior through Whaitua Committees. A full summary of the engagement and consultation that has occurred in the whaitua process is referenced in Part B of this report. In

developing the current engagement approach, the council has looked to build off prior engagement and not relitigate issues. The limited scope of many of Plan Change 1 elements (i.e., national direction or recommendations from Whaitua Committees), lends itself to a more targeted engagement approach.

4.1 Statutory consultation

33. Resource Management Act, Schedule 1 sets out the statutory requirements for consultation that must occur before the notification of any proposed plan. Clause 3(1) of Schedule 1 provides the following list of parties that councils **must consult** with in preparing a proposed plan:

- The Minister for the Environment
- Other Ministers of the Crown who may be affected by Plan Change 1
- Local authorities who may be affected
- The mana whenua of the area, through iwi authorities
- Any customary marine title group in the area.

34. There are no groups in the Wellington Region holding customary marine title.

35. In developing PC1, Council engaged with representatives of Ministers of the Crown (through Department officials), territorial authorities, and mana whenua as required by Schedule 1 and set out further below.

4.1.1 Partnership with mana whenua

36. The Council committed to developing PC1 in partnership with mana whenua. The NPS-FM states that *"every local authority must actively involve tangata whenua (to the extent they wish to be involved) in freshwater management (including decision-making processes)"*[1]

37. PC1 involves significant changes to the objectives, policies, rules, and other methods within TAoP and TWT. Ngāti Toa expressed desire to be actively involved in plan change drafting and the Council has worked closely with officers from Ngāti Toa through the plan change development process. This included numerous meetings covering all areas of the plan change that over time moved through developing the plan change framework to refining drafting. The Council approached Taranaki Whānui at various stages through the plan change development process to provide updates and opportunities for involvement. Taranaki Whānui expressed interest in the plan change process but due to capacity constraints could not participate at the detailed drafting level that Ngāti Toa were able to participate with us on.

38. PC1 also involves some small amendments to the existing region-wide provisions of the NRP. The Council has provided updates regarding these changes to the iwi authorities that hold mana whenua status across the remainder of the region (Rangitāne o Wairarapa, Ngāti Kahungunu, Te Ātiawa ki

[1] Clause 3.4(1) of the NPS-FM.

Whakarongotai, Ngā Hapū o Ōtaki) at various points during the plan change development process.

39. The Council sent all of the region's iwi authorities a draft version of PC1 in August 2023. The only iwi authority that provided feedback at this stage of the process was Ngāti Toa.

40. In their feedback Ngāti Toa:

- Sought assurances that PC1 does not create barriers to Māori rights and interests to water as a matter yet to be determined by the Crown.
- Noted that the TAoP WIP and Ngāti Toa Statement were developed prior to the NPS-FM 2020 and were not developed with Te Mana o Te Wai in mind.
- Signalled that they had not yet undertaken the work to understand what Te Mana o Te Wai means for Ngāti Toa in Porirua
- Identified mahinga kai as a highly significant value and that they are yet to advise the Council whether the plan change is reflective of what this means for Ngāti Toa
- Supported the recommended WIP timeframes for achieving the *E.coli* target attribute states and the enterococci coastal water objectives.
- Questioned how the nuances of the cultural values inserted throughout Te Mahere Wai and the TWT WIP were represented in the plan change.
- Signalled that their perspective of Te Mana o te Wai and the requirements of the NPS-FM continue to develop and evolve as part of the Kāpiti Whaitua process.

41. The Council will consider the on the timeframes to achieve the *E.coli* target attribute states and the enterococci coastal water objectives.

4.1.2 Limited consultation on draft version of PC1

42. A draft version of PC1 was provided to our mana whenua partners, territorial authorities, and relevant Ministers in August 2023, with a request for feedback.

43. The following is a summary of the key feedback and Officer response by topic.

Environmental outcomes, coastal water objectives and freshwater target attribute states

44. Generally, the feedback received on the objectives was supportive of the environmental outcomes and TAS established by the objectives, with only questions of clarification and wording changes suggested. The suggestions resulted in minor changes to the drafting but not intent of the objectives.

45. The main concern raised by Kāinga Ora, the territorial authorities and Wellington Water was around the scale of the infrastructure upgrades required to achieve the objectives and their impact on development capacity. Common feedback was the need for additional information to make an informed submission. No changes to the provisions were made.

46. The relationship between the existing NRP objectives and policies and Plan Change 1 was questioned. Changes were subsequently made to help clarify this relationship.

47. Members of the Te Whanganui a Tara (TWT) reference group (either in writing or verbally at a TWT reference group meeting) requested the Dry Creek and Speedys Stream catchments be included in the Korokoro part Freshwater Management Unit (FMU). Although this would be a departure from the TWT WIP recommendations, officers were supportive of this change and the part FMU boundaries were amended from those used in the draft version of the plan change. The Dry Creek and Speedys Stream catchments are similar in current land use, potential future land use and the general direction set by the TAS.

General ecosystem health and water quality policies

48. Feedback on the general ecosystem health and water quality policies was minor and focused on questions of clarification, which has resulted in minor amendments to the drafting.

49. In addition to the feedback received, Officers drafted an additional policy to focus on localised effects. This policy manages the direct effects at the point of discharge whilst the policies and rules which are focused on achieving the TAS and environmental outcomes manage for cumulative effects.

Water quantity

50. After review of feedback received on water quantity, which only mentioned Te Whanganui-a-Tara, no changes were proposed to the water quantity provisions for Te Whanganui-a-Tara in Plan Change 1 as this topic is outside the scope of the current plan change. Te Whanganui-a-Tara water quantity provisions will be addressed in a future plan change. Therefore, no amendments were required to Plan Change 1 to address this feedback.

Freshwater Action Plans

51. There was broad support for the Freshwater Action Plan provisions. Several groups sought to be partners in the preparation of Action Plans, as GWRC has committed to with mana whenua. The involvement of communities and institutional stakeholders in action planning is welcomed but it is not considered appropriate to direct partnerships through Plan Change 1. The preparation of Freshwater Action Plans will occur outside of Plan Change 1 and will provide significant opportunities for the Council to work closely with catchment communities and institutional stakeholders. Community engagement will be necessary and valuable in both the planning and delivery of actions to improve the health of waterbodies, but the key partnership Council is wishing to prescribe in PC1 for freshwater action planning is the Council's treaty partnership with mana whenua.

Earthworks

52. There was general agreement with the new provisions for earthworks. Feedback centred around the definition of earthworks and the activities that are exempt, such as trenching. We agree in part with these points where certain activities need to occur in the riparian zone for repair and maintenance of stormwater pipes, or maintenance of river control structures, especially during floods Amendments to Rules WH.R23 and P.P22 were made in response to feedback on the earthworks definition.

Stormwater New Development and Redevelopment

53. Feedback was unsupportive of the prohibited activity status of greenfield development within identified unplanned greenfield areas (Maps 86-89), often seeking a non-complying activity status instead and noting that the provisions would contravene the NPS-UD for enabling urban development. No changes were made to the provisions in this regard, as a combined regional and district plan change is considered the most appropriate approach for the consideration and assessment of the competing directives of the NPS-UD and NPS-FM. Anything less would be considered business as usual.

54. There was support for the financial contributions provisions to offset the adverse effects of residual stormwater contaminants, these provisions have been retained but were substantially amended from the draft plan change stage to include a rule framework and supporting Schedule 29 (financial contributions) that specifies when and how contributions are to be collected.

55. Concerns were raised around the practicability of treating stormwater on sites with redevelopment activities (i.e., brownfield) given the challenges of retrofitting existing areas and the potential consequences of discouraging intensification. The rules relating to redevelopment were amended to require medium-sized developments (1000m^2 to 3000m^2) to use best practicable options in stormwater treatment from an earlier minimum standard approach. The activity status was also amended from restricted discretionary to controlled for a streamlined consenting process. The reduced activity status also applies to greenfield developments of equal size.

Existing discharges from the stormwater network

56. There was feedback in relation to existing stormwater discharges, relating to the interface between stormwater discharges from new development or redeveloped areas, and stormwater network discharges of local authorities. Clarification was sought regarding discharges from individual sites as opposed to the stormwater network as a whole.

57. There was general support for the new provisions relating to stormwater discharges from high-risk industrial and trade premises and prohibiting the discharge of specific contaminants such as paint or cleaning products. Concerns were raised in relation to the enforcement of permitted activities.

58. Several comments related to stormwater quantity, seeking both more and less regulation. Runoff (stormwater quantity) from impervious surfaces is controlled for several purposes, including flooding and ecosystem health of rivers. At a development scale flooding is controlled by district plans (through provisions requiring hydraulic neutrality), and ecosystem health is controlled by this plan change (with provisions requiring hydrological controls). This distinction provides clear separation between district and regional plan provisions.

59. Feedback sought amendment to the activity status of stormwater discharges from local authority and state highway networks. As this rule requires a Stormwater Management Strategy which supports the achievement of the water quality objectives a more streamlined consenting process is appropriate. The key changes to these provisions were an amendment to the activity status and a new clause limiting public notification of consent applications.

60. Several parties questioned the achievability of the reductions in copper and zinc by the timeframes set out in the objectives. Further information about this aspect is provided in this report.

Wastewater

61. Feedback on the wastewater provisions was generally supportive, especially of the requirement for a Wastewater Network Catchment Improvement Strategy. Feedback sought amendment to the activity status of wastewater network catchment discharges. As this rule requires a network improvement strategy that supports the achievement of the *E. coli* and enterococci objectives, a more streamlined consenting process is considered appropriate for these discharges also. The key changes to these provisions were an amendment to the activity status and a new clause limiting public notification of consent applications.

Stock exclusion from small streams

62. There are river reaches across the two Whaitua less than 1m wide where stock exclusion is not currently required by either the existing NRP rules or national Stock Exclusion Regulations.

63. This is the case within the catchments of both the Mangaroa River and the Mākara Stream. It is important that PC1 responds to that '*gap*' because water quality in both water bodies is below the national bottom line for visual clarity and below PC1's target attribute states (TAS) for *E.coli*. Excluding stock from those water bodies would likely make an important contribution to addressing those issues.

64. The initial intention had been to require resource consent where stock continue to have access to the rivers (except for dedicated stock crossings) after a prescribed date. This was proposed because of the focus on the obligation under the NPS-FM to set limits (as rules) where certain target attribute states (including visual clarity) are not met.

65. As a result of feedback received, the approach now proposed is more consistent with the WIP and Te Mahere Wai recommendations, to manage the risk of stock access to small streams through farm environment plans, by requiring a '*small stream riparian programme*' to be included in a property's Farm Environment Plan (where such a plan is required).

Regulating Rural Land Use Change

66. Rules WH.R31 and P.R28 are to require resource consent where land used for agriculture or forestry is changed to a more intensive use that will generate higher nutrient discharges. The feedback received was that there was no threshold in the rules for the extent of the change that would trigger the rule. This was a valid point, as the draft rules would apply to any scale of land use change. As the intent was not to capture very small-scale changes, the rules were amended to apply only where the scale of change is 4ha or more.

67. ***Reductions in nitrogen discharges from small blocks (4-20ha)***

68. Policy WH.P22 and P.P21 require reduction in nitrogen to be achieved to the extent reasonably practicable in part FMUs where dissolved inorganic nitrogen exceeds the target attribute state. Feedback received from consultation indicate that these policies may be interpreted as applying to small blocks. That was not intended, and the policies were amended to make that clear.

Air quality

69. Feedback sought on changes to the air quality chapter was received exclusively from the Department of Conservation (DOC). All provisions were supported by DOC and subsequently no amendments were made.

5. Regulatory and Policy Context

5.1 National and regional context

70. This section contains a summary of the high-level documents that have guided the development of PC1. The separate evaluations in Parts B, C and D provides further regulatory context where relevant to the evaluation of freshwater elements of the PC1 proposal.

71. Consideration in preparing changes to the NRP are summarised below and include:

- RMA: Part 2 of the RMA; Greater Wellington functions under section 30 of the RMA
- Te Whaitua te Whanganui-a-Tara Implementation Programme, September 2021[2]
- Te Mahere Wai o Te Kāhui Taiao: A Mana Whenua implementation plan to return mana to our freshwater bodies[3]
- Te Awarua-o-Porirua Whaitua: Whaitua Implementation Programme, Te Awarua-o-Porirua Whaitua Committee, April 2019[4]
- Te Awarua-o-Porirua Whaitua Implementation Programme: Ngāti Toa Rangatira statement[5]
- National Policy Statement for Freshwater Management 2020 (NPS-FM)
- New Zealand Coastal Policy Statement (NZCPS)
- National Policy Statement for Indigenous Biodiversity 2023 (NPS-IB)
- National Policy Statement on Urban Development 2020 (NPS-UD).
- Resource Management (National Environmental Standards for Freshwater) Regulations 2020
- Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017
- Resource Management (National Environmental Standards for Commercial Forestry) Regulations 2023

72. This section contains a summary of the main documents that have guided the development of PC1. The separate evaluation in Part B provides further

[2] https://www.gw.govt.nz/assets/Documents/2021/12/Te-Whaitua-te-Whanganui-a-Tara-Implementation-Programme_web.pdf
3 https://www.gw.govt.nz/assets/Documents/2021/12/te_mahere_wai_20211028_v32_DIGI_FINAL.pdf
4 https://www.gw.govt.nz/assets/Documents/2021/11/Te-Awarua-o-Porirua-Whatiua-Implementation-Programme.pdf
5 https://www.gw.govt.nz/assets/Documents/2021/12/ngatitoataopwhaituastatement-v2.pdf

regulatory context relevant to the water quality content of PC1 where relevant to the evaluation of that specific proposal.

5.2 Resource Management Act

5.2.1 Part 2

73. Regional plans must be prepared in accordance with the provisions of Part 2 of the RMA. The purpose of the RMA, section 5 of the RMA is:

> *(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.*
>
> *(2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—*
>
> *(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
>
> *(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
>
> *(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment*

74. The provisions of PC1 have been developed in consideration of all of the matters in Part 2 including the matters of national importance (Section 6), other matters (Section 7) and the Principles of the Treaty of Waitangi (Section 8).

75. Section 30 of the RMA sets out the functions of regional councils which includes:

> *(a) the establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the natural and physical resources of the region:*
>
> *(b) the preparation of objectives and policies in relation to any actual or potential effects of the use, development, or protection of land which are of regional significance:*
>
> *(ba) the establishment, implementation, and review of objectives, policies, and methods to ensure that there is sufficient development capacity in relation to housing and business land to meet the expected demands of the region:*

76. The purpose of regional plans is to assist a regional council to carry out any of its functions under s30 to achieve the purpose of the RMA. The NRP is an integrated plan and contains coastal provisions where they assist the regional council, in conjunction with the Minister of Conservation, to achieve the purpose of the RMA in relation to the CMA of the region.

5.2.2 Legal effect of rules

77. All of the rules in the proposed Plan will have immediate legal effect as they meet the requirements of section 86B(3). Section 86B(3) states:

(3) A rule in a proposed plan has immediate legal effect if the rule—
(a) protects or relates to water, air, or soil (for soil conservation); or
(b) protects areas of significant indigenous vegetation; or
(c) protects areas of significant habitats of indigenous fauna; or
(d) protects historic heritage; or
(e) provides for or relates to aquaculture activities.

5.3 National Policy Statement for Freshwater Management

78. The processes adopted for development of these changes has been guided by the implementation requirements of the NPS-FM. The NPS-FM came into force on 3 September 2020, replacing the NPS-FM 2014 (as amended 2017). It was subsequently amended in 2023. The NPS-FM sets the direction for freshwater quality and quantity management in New Zealand through the framework of Te Mana o te Wai.

79. Te Mana o te Wai is described as the fundamental concept for the NPS-FM, recognising that protecting the health of freshwater protects the health and wellbeing of the wider environment. Te Mana o te Wai has a hierarchy of obligations, which is repeated as the objective in the NPS-FM, that prioritises: First, the health and wellbeing of water bodies and freshwater ecosystems; Second, the health needs of people (such as drinking water); Third, the ability of people and communities to provide for their social, economic, and cultural wellbeing, now and in the future.

80. Regional councils are directed under the RMA to give effect to the requirements of the NPS-FM when developing statutory plans and plan changes. The NPS-FM requires freshwater quality to be maintained (where it meets stated environmental outcomes) or improved over time (where it does not meet stated environmental outcomes) and includes a national objectives framework for achieving this. Councils must notify regional plans or policy statements to give effect to the NPS-FM by 31 December 2024[6].

81. The NPS-FM requires:

Every regional council must include an objective in its regional policy statement that describes how the management of freshwater in the region will give effect to Te Mana o te Wai (section 3.2(3)).

And:

[6] Section 80A(4)(b) of the RMA

Every regional council must develop long-term visions for freshwater in its region and include those long-term visions as objectives in its regional policy statement (section 3.3(1))

82. These provisions are being added to the RPS in Change 1 and Variation 1. PC1 must give effect to these objectives in the RPS. In particular, PC1 identifies environmental outcomes (and includes these as objectives) and other objectives (including target attribute states) which will achieve the long-term visions.

83. The scope of Plan Change 1 gives effect to the requirements of the NPS-FM through the following:

- the NRP has recently been made operative (28th July 2023). The NRP contains objectives, policies, and rules for the protection of freshwater and coastal ecosystems and habitats, wetlands, fish passage and primary contact sites.

- Plan Change 1 proposes to insert objectives, policies, and rules (including limits) based on community and mana whenua catchment values that implement the NOF.

- the NRP, Plan Change 1, and the future work programmes to implement this plan change including the freshwater accounting system, and monitoring requirement will fully implement the NPS-FM in the two whaitua - TAoP and TWT (except for water allocation provisions for TWT)

- following on from this plan change, provisions for three more whaitua are planned through further changes to the NRP. These include Kāpiti Whaitua, Ruamāhanga Whaitua, and Wairarapa Coast Whaitua.

5.4 New Zealand Coastal Policy Statement

84. The NZCPS sets the national policy framework for the management of activities in the coastal environment and CMA. The statement is relevant to this plan change with policies on sedimentation and water quality. Policy 22 requires controls on the impact of subdivision, use and development. In the context of TAoP and TWT particularly are plantation forestry, pastoral farming, stormwater, and other land uses to reduce sedimentation into CMA and other coastal water. PC1 is consistent with these policies and further details on the appropriateness of the objectives in relation to the NZCPS direction is included in Part C of this report and details on the nature of the controls are included in Part D of this report.

5.5 National Policy Statement on Urban Development

85. The National Policy Statement on Urban Development (NPS-UD) came into force on 20 August 2020, replacing the National Policy Statement on Urban Development Capacity 2016 (as amended 2020). The NPS-UD contains objectives and policies that local authorities must give effect to in their resource

management decisions. The objectives and policies require local authorities to plan well for growth and ensure a well-functioning urban environment. Regional councils are directed under the RMA to give effect to the objectives and policies of the NPS-UD, where directed, when developing statutory plans and plan changes. Further analysis regarding the NPS-UD is set out in Part C of this report.

5.6 National Environmental Standard for Freshwater

86. The National Environmental Standards for Freshwater (NES-F) are regulations made under the RMA and which regulate certain activities that pose risks to freshwater and freshwater ecosystems. Anyone carrying out these activities will need to comply with the standards. Each of New Zealand's regional councils are responsible for the consenting and consent monitoring associated with these regulations. The latest version of the NES-F came into effect on 1 November 2022.

5.7 Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017

87. The National Environmental Standards for Plantation Forestry (NES-PF) are regulations made under the RMA which provide a nationally consistent set of regulations for plantation forestry activities. The NES-PF came into effect on 1 May 2018. Plan Change 1 will introduce new provisions for forestry for the management of best practice to reduce sediment from sites. These new provisions will prevail over some of the rules in the NES-PF.

5.8 Resource Management (National Environmental Standards for Commercial Forestry) Regulations 2023

88. The National Environmental Standards for Commercial Forestry (NES-CF) will, from 03 November 2023, supersede the NES-PF. The NES-CF will regulate commercial forestry activities for both carbon and timber production (plantation) forests. Plan Change 1 will introduce new provisions for forestry for the management of best practice to reduce sediment from sites. It is not expected that the NES-CF will impact on the approach being taken to manage forestry in Plan Change 1, and the new provisions will prevail over NES-CF rules.

5.9 Freshwater Farm Plans

89. Freshwater farm plans have been legislated under Part 9A of the RMA and the Resource Management (Freshwater Farm Plans) Regulations 2023. They are a farm planning process that puts the health of the whenua (land) and wai (water) at the centre of farm decision making. Farmers will need to do an on-farm freshwater risk assessment and identify actions to manage (or mitigate) those risks. On-farm actions to manage risks to freshwater will be tailored to each farm based on, farm landscape, farming activities, and the local catchment. Freshwater farm plans will need to be certified and audited. The results of certification and auditing will be reported to the regional council. Many farmers already have a farm environment plan or are part of an industry programme and freshwater farm plans will build on that work.

5.10 National Planning Standards

90. The National Planning Standards Gazetted in April 2019 mandate a structure and format for planning documents. Any new provisions with NPS definitions from the National Planning Standards will be incorporated into Plan Change 1 where relevant.

5.11 Regional Policy Statement

91. The RPS sets out the framework and priorities for resource management in the Wellington Region. The RMA requires regional councils to produce an RPS for their region and review it every 10 years. The RPS was made operative on 24 April 2013. The RPS identifies the regionally significant issues around the management of the region's natural and physical resources and sets out what needs to be achieved (objectives) and the way in which the objectives will be achieved (policies and methods). Change 1 to the RPS was notified on 19 August 2022 to give effect to the NPS-UD and NPS-FM and included new provisions on climate change, nature- based solutions, indigenous biodiversity, and regionally significant infrastructure.

5.12 Whaitua Implementation Programmes

92. Whaitua Te Whanganui-a-Tara Implementation Programme; this document contains recommendations for improving the health and wellbeing of fresh and coastal waterbodies towards Te Mana o te Wai in Whaitua Te Whanganui-a-Tara (Upper Hutt, Lower Hutt, and Wellington). The document forms part of Greater Wellington's approach to implementing the NPS-FM. Whaitua Te Whanganui-a-Tara Implementation Programme should be read and implemented in conjunction with its companion document - Te Mahere Wai o Te Kāhui Taiao.

93. Te Awarua-o-Porirua Whaitua Implementation Programme; this document contains recommendations for improving the health and wellbeing of fresh and coastal waterbodies towards Te Mana o te Wai in Te Awarua-o-Porirua Whaitua. The document forms part of Greater Wellington's approach to implement the NPS-FM. Te Awarua-o-Porirua Whaitua Implementation Programme should be read and implemented in conjunction with its companion document - Te Awarua-o-Porirua Whaitua Implementation Programme: Ngāti Toa Rangatira Statement.

5.13 Other documents

94. In addition to those above, there are also other influential iwi authority planning documents that have informed and directed the development of PC1 is the Parangarahu Lakes Area Co-Management Plan lodged by Port Nicholson Block Settlement Trust

6. Statutory process requirements

95. Regional councils must follow the consultation process outlined in Schedule 1 of the RMA following notification of a planning instrument for changes to regional plans or policy statements. Provisions that form part of a Freshwater Planning Instrument (FPI) must follow the Freshwater Planning Process (FPP)

that is set out in Part 4 of Schedule 1 of the RMA and the remaining provisions follow the standard Schedule 1 process set out in Part 1 of Schedule 1 of the RMA. Figure A1 compares the standard Schedule 1 process with the FPP.

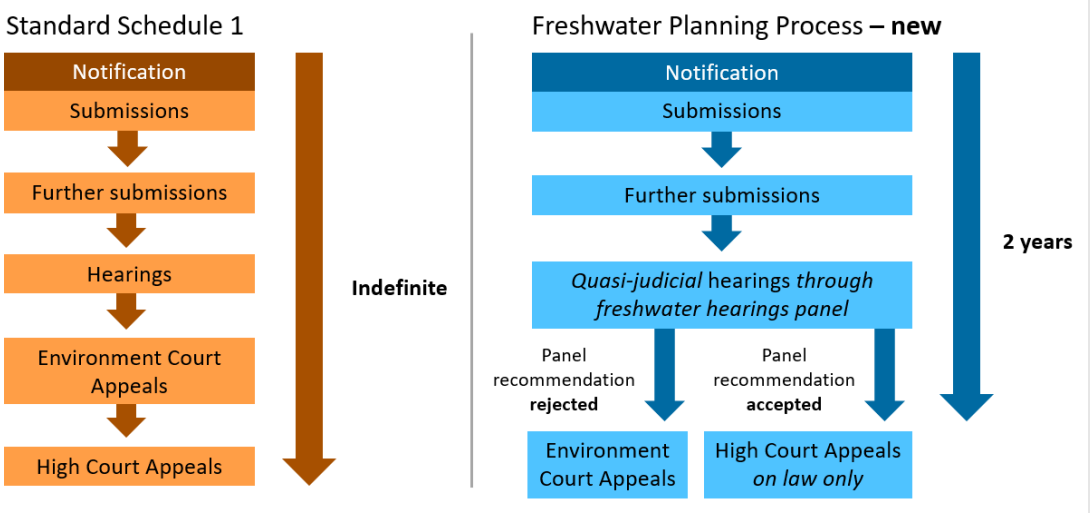

Figure A1: Standard Schedule 1 process vs. the Freshwater Planning Process

6.1 Approach to identifying the freshwater planning instrument.

96. Regional councils must determine and justify which parts of a regional plan change form part of a FPI and are therefore subject to the FPP. Section 80A (as amended by the Natural and Built Environment Act 2023) sets out the contents of an FPI. It requires Council to undertake a stepped assessment which is summarised in Figure A2.

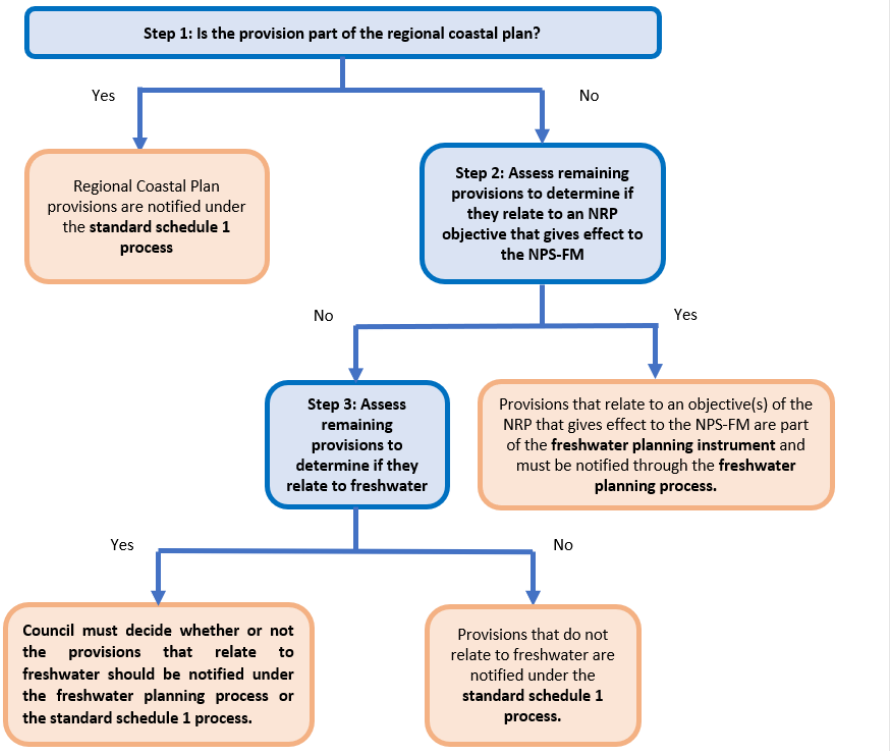

Figure A2: Stepped assessment to identify the freshwater planning instrument

6.1.1 Step 1: Excluding the regional coastal plan from assessment.

97. Subsection (2) of section 80A of the RMA defines the assessment required to identify the extent of the FPI. Section 80A(8) of the RMA states:

In subsection (2), a proposed regional plan does not include a proposed regional coastal plan or a change or variation to that plan.

98. Therefore, the first step is to identify the provisions that form part of the regional coastal plan or change to a regional coastal plan. These provisions then are excluded from the FPI.

99. A regional coastal plan provision must relate to the CMA. In this case, the NRP is a combined regional coastal plan and regional plan. The regional coastal plan provisions in the NRP are identified by a coastal icon  . As set out in section 2.1 of the NRP, due to the integrated nature of the Plan, the coastal icon does not mean that the provisions marked with the coastal icon are exclusive to application in the CMA. Provisions marked with the coastal icon apply to the CMA and are also relevant to provisions managing air, land, and water outside of the CMA, where the regional council has jurisdiction.

100. As a result, it is determined that:

- Any amendment to an existing regional coastal plan provision (i.e., a NRP provision that currently has the coastal icon) is to be excluded from the freshwater planning instrument.
- Any new coastal plan provision (i.e., a provision that is to have the coastal icon) is to be excluded from the freshwater planning instrument.

101. This is on the basis that the Council has decided not to split provisions and have part of a provision proceed through one process and part of a provision proceed through a different process. A provision will not be split – i.e., discharge of stormwater to water (water includes both coastal and freshwater) – the whole provision is part of the regional coastal plan and therefore not to be assessed as a freshwater planning instrument.

6.1.2 Step 2: Assess remaining provisions to determine if they relate to an NRP objective that gives effect to the NPS-FM

102. Section 80A(2)(d) states that a freshwater planning instrument is *'any change ... if the change — (i) relates to objectives that give effect to the national policy statement for freshwater management*' and section 80A(6B)(a) states that Council must use the freshwater planning process *'when preparing any part of a regional plan ... that relates to objectives that give effect to the national policy statement for freshwater management'*.

103. Therefore, the second step is to determine which of the non-regional coastal plan provisions relate to an objective(s) of the NRP or PC1 that gives effect to the NPS-FM.

104. Provisions that relate to an objective(s) of the NRP or PC1 that gives effect to the NPS-FM are part of the freshwater planning instrument and must be notified through the freshwater planning process.

6.1.3 Step 3: Assess remaining provisions to determine if they relate to freshwater.

105. For the remaining provisions, Section 80A(2)(d) states that a freshwater planning instrument is *'any change ... if the change ...— (ii) relates to a provision described in paragraph (b)*'. Paragraph (b) states that a freshwater planning instrument is *'any provisions of a proposed regional plan ... in relation to which the regional council has decided to use the freshwater planning process under subsection (6B)(b)*'. Section 80A(6B)(b) states that Council may use the freshwater planning process *'when preparing other provisions of a regional plan ... that relate to freshwater'*.

106. While it does not expressly reference a plan change, section 80A(6A) provides guidance as to what is meant by *'relates to freshwater*' and has been applied by the Council. That section provides that a proposed regional plan or regional policy statement (or any part of it) relates to freshwater if—

(a) it relates (in whole or in part) to an objective of the regional plan or regional policy statement; and

(b) the objective relates to the performance of a function in section 30(1)(c), (e), (f), (fa), (g), or (ga).

107. Therefore, the third step is to determine whether the remaining provisions relate to freshwater. The provisions that relate to freshwater may form part of the FPI and the provisions that do not relate to freshwater follow the standard Schedule 1 process.

6.2 Assessment of PC1 provisions to identify the freshwater planning instrument.

108. Council assessed each of the provisions within the Plan Change 1. An explanation for the process for each provision is provided below in Table A1. The provisions that form part of the FPI are identified by this symbol FW in the Plan Change 1 document. Other

109. In summary, 61% of the provisions within PC1 form part of the regional coastal plan and therefore are not part of the FPI. The remaining non-regional coastal plan provisions were assessed to determine if they give effect to the NPS-FM and therefore form part of the FPI. 29% of the total number of provisions meet this test and are therefore notified as part of the FPI.

110. The remaining 10% of provisions were assessed as to whether they relate to freshwater and Council's discretion was applied as to whether they form part of the FPI. Only one of these remaining provisions (0.3% of total provisions) did not relate to freshwater, that is Rule R35A (discharges to air from gas processes). This rule follows the standard schedule 1 process.

111. The other remaining provisions (9.7% of total provisions) relate to freshwater and are amendments to the operative NRP provisions. They are a mix of objectives, policies and rules, the majority are consequential changes as a result of the insertion of new provisions for TWT and TAoP in Chapters 8 and 9. A small number were changes to beds of lakes and rivers rules (Rules R53A R128, R132, R133 and new Rule R151A). The Council noted that these were discrete changes that were not directly connected to provisions that will be processed through the standard schedule 1 process so they form part of the FPI and will follow the FPP.

112. Definitions, schedules, and maps have also been assessed as to whether they formed part of the FPI. For these elements of the plan change they were assessed in relation to the parent provision (i.e., objective, policies, rules and/or other methods) that they relate too. There were three possible scenarios and potential allocations:

- The parent provisions formed part of the regional coastal plan therefore related definitions, schedules and map did not form part of the FPI.
- The parent provisions formed part of the FPI therefore related definitions, schedules, and map form part of the FPI.
- The definition, schedule or map is referred to in parent provisions, some of which form part of the regional coastal plan, and others form part of the FPI. These were assessed as not being part of the FPI.

Table A1: Analysis of PC1 provisions, including definitions, schedules, and maps, to identify the freshwater planning instrument.

Provisions	Process	Justification
Coastal water objectives and related definitions and maps		
Objectives WH.O3 and P.O3 Definitions: coastal water management unit, Maps 82, 83, 84	Part 1, Schedule 1	These objectives and supporting definitions and maps set objectives for coastal water, and therefore relate to the CMA and form part of the Regional Coastal Plan.
Long term environmental outcomes		
WH.O1 and P.O1 Definition: environmental outcomes	Part 1, Schedule 1	These objectives and supporting definition set long term environmental outcomes for all waterbodies and coastal water. They give effect to the NPS-FM, but they also apply within the CMA and therefore form part of the Regional Coastal Plan.
Freshwater objectives and TAS and related definitions and maps		
Objectives WH.O2, WH.O5, WH.O6, WH.O7, WH.O8, WH.O9, P.O2, P.O5, P.O6 Definitions: part freshwater management unit and primary contact site Maps 78, 79, 80, 85	FPP	These objectives and supporting definitions and maps set freshwater outcomes and target attribute states for freshwater waterbodies and give effect to the NPS-FM.
Nationally threatened freshwater species provisions		
Objectives WH.O4 and P.O4 Method M39 Map 77	Part 1, Schedule 1	These objectives, method and supporting map are focused on the habitats of nationally threatened freshwater species and therefore relate to objectives that give effect to the NPS-FM. However, the habitats of some of these freshwater species extend into the CMA, meaning that the provisions also apply within the

		CMA as well as freshwater environments. Therefore, these provisions form part of the Regional Coastal Plan.
General ecological health and discharges		
Policies WH.P1, WH.P2, WH.P5, WH.P6, WH.P8, P.P1 and P.P2, P.P4, P.P5, P.P6, P.P8 Rules WH.R1 and P.R1 Definition: harbour arm catchments	Part 1, Schedule 1	These policies and rules and supporting definition set out the overarching policy direction and cover general discharges to water. They relate to objectives that give effect to the NPS-FM. However, these provisions apply within the CMA and therefore form part of the Regional Coastal Plan.
Policies WH.P4, WH.P7 and P.P7	FPP	These policies relate to objectives that give effect to the NPS-FM and therefore form part of the FPI.
Stormwater		
Policies: WH.P9, WH.P9, WH.P10, WH.P11, WH.P12, .WH.P13, WH.P14, WH.P15, WH.P16, P.P9, P.P10, P.P11, P.P12, P.P13, P.P14, P.P15 Rules: WH.R3, WH.R4, WH.R5, WH.R6, WH.R7, WH.R8, WH.R9, WH.R 10, WH.R 11, WH.R 12, P.R3, P.R4, P.R5, P.R6, P.R7, P.R8, P.R9, P.R10, P.R11, P.R12, P.R13, P.R14, P.R15 Definitions: high risk industrial or trade premise, hydrological control, impervious surfaces, redevelopment, stormwater, stormwater catchment or sub-catchment, stormwater management strategy, stormwater network, stormwater treatment system and unplanned greenfield development Method M45 Schedules: 28, 29, 30 and 31 Maps 86, 87, 88, and 89	Part 1, Schedule 1	These policies and rules and supporting definitions, schedules and maps focus on the management of stormwater discharges to water and relate to objectives that give effect to the NPS-FM. However, these provisions apply to discharges to the CMA and therefore form part of the Regional Coastal Plan.

Rules WH.R2 and P.R2	FPP	These rules control the discharge of stormwater to land that may enter groundwater and relate to objectives that give effect to the NPS-FM.
Wastewater		
Policies WH.P17, WH.P18, WH.P19, WH.P20, P.P16, P.P17, P.P18, P.P19 Rules: WH.R 14, WH.R 15, WH.R 16 Definitions: containment standard, dry weather discharges, existing wastewater discharges, wastewater network catchment or sub-catchment and wet weather overflows Schedule: 32	Part 1, Schedule 1	These policies and rules and supporting definitions and schedules focus on the management of wastewater discharges to water and relate to objectives that give effect to the NPS-FM. However, these provisions apply to discharges to the CMA and therefore form part of the Regional Coastal Plan.
Earthworks		
Policies: WH.P29, WH.P30, WH.P31, P.P27, P.P28, P.P29 Rules: WH.R24 and WH.R25, P.R23, P.R24 Definitions: stabilisation	Part 1, Schedule 1	These policies and rules and supporting definitions and schedules focus on the management of sediment discharges water and relate to objectives that give effect to the NPS-FM. However, these provisions apply to discharges to the CMA and therefore form part of the Regional Coastal Plan.
Rules: WH.R23 and P.R22	FPP	These rules do not allow for a discharge to occur and therefore do not apply to the CMA and therefore do not form part of the Regional Coastal Plan. These rules relate to objectives that give effect to the NPS-FM and therefore must form part of the FPI.

Rural land use activities, forestry, and vegetation clearance		
Policies WH.P21, WH.P22, WH.P23, WH.P24, WH.P25, WH.P26, WH.P27, WH.P28, P.P20, P.P21, P.P22, P.P23, P.P24, P.P25, P.P26 Rules WH.R17, WH.R18, WH.R19, WH.R20, WH.R21 and WH.R22, WH.R26, WH.R27, WH.R28, WH.R29, WH.R30, WH.R32, P.R16, P.R17, P.R18, P.R19, P.R20, P.R21, P.R25, P.R26, P.R27, P.R28, P.R29, P.R30, P.R31, P.R32 Definitions: annual stocking rate, effective hectares, intensive grazing, recognised nitrogen risk assessment tool, registration, Sacrifice paddocks, small stream riparian programme, stocking rate, stock unit, afforestation, erosion and sediment management plan, erosion risk treatment plan, harvesting, highest erosion risk land (plantation forestry) highest erosion risk land (pasture), high erosion risk land (pasture) highest erosion risk land (woody vegetation), mechanical land preparation, registered forestry advisor, replanting, vegetation clearance Methods: M42 Schedules 33, 34, 35 and 36 Maps 90, 91, 92, 93, 95, 96, 97	FPP	These policies, rules, method and supporting definitions, schedules and maps focus on the management of rural land use activities, forestry, and vegetation clearance. These provisions seek to manage the use of land to achieve freshwater outcomes. They relate to objectives that give effect to the NPS-FM.
Water allocation		
Policies WH.P 32, WH.P 33, P.P30, P.P31 and P.P32 Rules WH.R33, WH.R34, WH.R35, WH.R36, P.R30, P.R31, P.R32, P.R33 Definitions: allocation amount, catchment management unit, core allocation Map 81	FPP	These policies, rules and supporting definitions and maps focus on the take and use of freshwater. They relate to objectives that give effect to the NPS-FM.

Freshwater Action Plans		
Policies: WH.P3 and P.P3 Methods: M36, M37, M38, M40 Schedule 27	FPP	These policies and methods and supporting schedule focus on the development of Freshwater Action Plans. They relate to objectives that give effect to the NPS-FM.
Consequentially changes to existing NRP objectives, policies, and rules		
Objectives O2, O6, O17, O20, O34, O35, O36, O37, O38. Policies P70, P71, P74, P76, P77, P82, P83, P84, P85, P86, P87, P88, P89, P90, P92, P93, P95 Rules R48, R49, R50, R51, R52, R53, R54, R55, R56, R58, R65, R68, R101, R105, R107	Part 1, Schedule 1	As part of Plan Change 1 some of the existing NRP provisions no longer apply in TAoP and/or TWT. Symbols have been inserted as part of the plan change to identify these provisions. These objectives, policies and rules have the coastal icon and form part of the Regional Coastal Plan.
Objectives O5 Policies P72, P73, P79, P118, P121 Rules R56, R66, R102, R103, R104, R106, R110, R111, R112, R152, R153, R154, R157 and R158	FPP	As part of Plan Change 1 some of the existing NRP provisions no longer apply in TAoP and/or TWT. Symbols have been inserted as part of the plan change to identify these provisions. These objective, policies and rules relate to freshwater and the Council has decided that they should form part of the FPI.
Objectives O18, O19, O25, O28 Policies P30, P45, P78	Part 1, Schedule 1	As part of Plan Change 1 some of the existing NRP provisions require consequential amendments. These objectives and policies have the coastal icon and form part of the Regional Coastal Plan.
Policy P65	FPP	Plan Change 1 proposes to delete Policy P65. Policy P65 was inserted into the NRP as required by the NPS-FM 2017. The NPS-FM 2020 no longer requires the insertion of this policy. This policy relates to freshwater and the Council has decided that it should form part of the FPI.

Amendment to existing NRP definition and new definition		
Whaitua and limit	Part 1, Schedule 1	As part of Plan Change 1 the whaitua definition has been amended and a new definition for limit has been added. The existing whaitua definition has a coastal icon and therefore forms part of the Regional Coastal Plan. The new definition of limit is referred to in both FPI and Part 1, Schedule 1 provisions so must follow the Part 1, Schedule 1 process.
Amendments to Chapter 5		
Beds of lakes and rivers general conditions Rule R145	Part 1, Schedule 1	As part of Plan Change 1 amendments are proposed to some of the existing beds and lakes of rivers rules. These rules have the coastal icon and form part of the Regional Coastal Plan.
New general methods		
Methods M43 and M44	Part 1, Schedule 1	These methods relate to the improvement of urban and rural waterbodies and coastal areas and therefore form part of the Regional Coastal Plan.
Method M41	FPP	This method relates to degraded freshwater bodies and therefore relates to freshwater and the Council has decided that it should form part of the FPI.
Amendments to Schedule F		
Schedule F4 and F5 Maps 27, 27(1), 27(2)	Part 1, Schedule 1	These schedules relate to sites within the CMA and therefore form part of the Regional Coastal Plan.
Schedules A2, F1, F2a, and F2b Schedule F2c	FPP	These schedules are provisions that relate to an objective that gives effect to the NPS-FM.

Amendment to air rules with the coastal icon or removal of the coastal icon		
Rules R1, R3, R7, R8, R9, R10, R11, F12, R14, R15, R16, R17, R18, R19, R20, R21, R25, R26, R27, R28, R29, R30, R31, R33, R34, R35, R36, general conditions for the discharge of agrichemicals, R37, R38, R39, R40 and R42	Part 1, Schedule 1	These rules all have the coastal icon and therefore form part of the Regional Coastal Plan.
New air discharge rules		
Rule R35A	Part 1 Schedule 1	Rule R35A is not part of the Regional Coastal and does not relate to freshwater.
Amended Beds of lakes and rivers rules		
Rules R132, R133 and R151A	FPP	These rules all relate to freshwater and the Council has decided that they should form part of the FPI.

Section 32 report: Part B

Implementation of the National Objectives Framework for Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua

for Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region

Contents

1. Introduction to Part B – implementation of the NOF

1. Part B of the section 32 report provides an overview of the approach taken to implementing the NOF[1] within PC1. This includes the decisions made within the whaitua processes and expressed within the WIPs, Ngāti Toa Statement and Te Mahere Wai and then the additional work undertaken by the Council to turn the whaitua recommendations into a plan change. Part B must be read in conjunction with the other parts of this report to fully understand how the plan change implements the NPS-FM.

2. As set out in Part A one of the purposes of this plan change is to implement the NOF for TAoP and TWT whaitua with one exception the identification of a full suite of outstanding waterbodies[2]. The NOF requires Councils to engage with communities and partner with tangata whenua and work through a series of steps to develop a plan change that will achieve the desired environmental outcomes of mana whenua and communities.

3. The whaitua implementation programme as described below in Section 2 is the Council's mechanism for collaborative catchment-based decision making for the purpose of implementing the NPS-FM. Hence, the documents produced through the TWT and TAoP whaitua processes have been the starting point for the development of the plan change. These are the voice of mana whenua and the community. They express the values, desired outcomes, specific numeric objectives for attributes and go on to recommend various regulatory and non-regulatory actions to achieve these outcomes.

4. Part B has two sections:

   - Section 2 summarises the Whaitua Implementation Programme, including both the TWT and TAoP whaitua processes.
   - Section 3 sets out the approach to implementing the steps within the NOF and giving effect to the objective and policies of the NPS-FM.

2. Summary of the Whaitua Implementation Programme

2.1 Whaitua Implementation Programme

5. The Whaitua Implementation Programme was established in response to the NPS-FM 2011 and has subsequently operated under three comprehensive amendments to the NPS-FM. Each Whaitua Committee has used the NPS-FM of that day as the direction for their conversations, decision-making and reports. Hence, each whaitua process has evolved along with the iterations of the NPS-FM.

6. The TAoP process was established under the NPS-FM 2014 and completed under the amended NPS-FM 2017. PC1 has used the whaitua documents as the basis for the development of a plan change to give effect to the NPS-FM 2020.

[1] The National Objectives Framework (NOF) is set in the NPS-FM Subpart 2.
[2] The NRP currently identifies waterbodies that have outstanding indigenous biodiversity value. A full suite of outstanding waterbodies will be identified through a future plan change.

7. The TWT process was established under the NPS-FM 2017 and completed after the gazetting of the NPS-FM 2020. The TWT Committee and Te Kahui Taiao adapted their thinking to align with the NPS-FM 2020 as much as possible through the process.

2.1.1 Overview of the WIP process – Te Whanganui a Tara Whaitua

8. In 2019 the TWT Committee[3] members were appointed by the Council and included politicians, iwi, and community representatives. As per the TAoP Committee a key consideration for Council in appointing the TWT Committee was to appoint active community members who collectively represented a wide range of backgrounds and interests.

9. The TWT Committee operated under a terms of reference document[4]. This document set out that the TWT Committee was responsible for developing a WIP that would outline regulatory and non-regulatory proposals for integrated land and water management within their whaitua boundary, including measures to implement the NPS-FM.

10. The TWT Committee met for 41 documented workshops/meetings[5] over a period of three years and produced two documents.

11. Te Whaitua Te Whanganui-a-Tara Implementation Programme in September 2021 (TWT WIP) Te Whaitua te Whanganui-a-Tara Implementation Programme (gw.govt.nz). The TWT WIP sets out their story through statements of Te Pūtake/the origin and ngā kawa/the protocols which outline the TWT Committee's aspirations, values, and operating principles. Te Mana o te Wai was the guiding kaupapa for the TWT Committee and is reflected in the kawa-based vision, value expressions, and numeric water quality and ecological health objectives. The TWT WIP also made 111 regulatory and non-regulatory recommendations for actions to enhance Te Mana o te Wai.

12. The TWT Committee made a commitment to a Te Tiriti o Waitangi partnership model and a culturally safe space was created for mana whenua to discuss, debate, reconcile and develop a mana whenua voice. This space was called Te Kāhui Taiao. Te Kāhui Taiao produced their own document entitled *Te Mahere Wai o Te Kāhui Taiao: A Mana Whenua implementation plan to return mana to our freshwater bodies* (Te Mahere Wai) te_mahere_wai_20211028_v32_DIGI_FINAL.pdf (gw.govt.nz). Te Mahere Wai was endorsed by the wider TWT Committee.

13. Te Mahere Wai is a Mana Whenua Whaitua Implementation Plan for Te Whanganui-a-Tara. It is a companion document that expresses a vision, includes statements that outline the local approach to giving effect to Te Mana o te Wai, describes mana whenua values, sets environmental outcomes, and establishes a mana whenua assessment framework, called Te Oranga Wai. This document also includes 101 recommendations regulatory and non-regulatory

[3] Full details of the Te Whaitua Te Whanganui-a-Tara Committee can be found here: Greater Wellington Regional Council — Whaitua te Whanganui-a-Tara Committee members (gw.govt.nz)
[4] Whaitua Te Whanganui-a-Tara Committee - Terms of Reference (gw.govt.nz)
[5] Records of the meetings can be found here: Greater Wellington — Whaitua te Whanganui-a-Tara Committee meetings (gw.govt.nz)

recommendations to support mana whenua values and environmental outcomes.

14. On 23 September 2021 both the TWT WIP and Te Mahere Wai were received by Council. The Council referred the regulatory proposals for incorporation into the RPS and the NRP and the non-regulatory proposals for consideration in the development of the next Annual Plan round and next Long-Term Plan.

2.1.2 Overview of the WIP process – Te Awarua-o-Porirua Whaitua

15. The TAoP Committee[6] members were appointed by the Council and included farmers, forestry and fishery specialists, scientists, engineers and ecological experts, politicians, iwi, and community representatives. A key consideration for appointing the Committee was to ensure that a range of backgrounds and interests were represented. Additionally, each community member must also reflect the interests of a wider group within the community and have the skills, experience, and knowledge to relay information to the TAoP Committee and to different sectors within the wider community.

16. The TAoP Committee operated under a terms of reference document that set out the expectation that the Committee would operate in partnership with mana whenua. The terms of reference facilitated community and stakeholder engagement in the development of a WIP that would include measures to implement the NPS-FM 2014.

17. The TAoP Committee met for 36 documented workshops/meetings[7] over a period of four years and produced two documents:

- Te Awarua-o-Porirua Whaitua: Whaitua Implementation Programme, Te Awarua-o-Porirua Whaitua Committee, April 2019 (TAoP WIP) Te-Awarua-o-Porirua-Whatiua-Implementation-Programme.pdf (gw.govt.nz)
- Te Awarua-o-Porirua Whaitua Implementation Programme: Ngāti Toa Rangatira statement (Ngāti Toa Statement) 398081-1 working (gw.govt.nz).

18. The TAoP WIP identified community and mana whenua values of Te Awarua-o-Porirua, set freshwater and coastal water objectives, set contaminant load reduction targets, and made 75 regulatory and non-regulatory recommendations, that included actions to achieve the objectives.

19. Ngāti Toa produced a companion document the Ngāti Toa Statement. It records the priorities and recommendations of Ngāti Toa as mana whenua of Te Awarua-o-Porirua Whaitua. It explains their cultural, physical, spiritual, social, historical, and traditional associations with Te Awarua-o-Porirua and the wider catchment area, provides an overview of their history and the contemporary issues they face and describes their vision for the catchment.

[6] Full details of the Te Awarua-o-Porirua Whaitua Committee can be found here: Te-Awarua-o-Porirua-Committee-Members-Webpage.pdf (gw.govt.nz)
[7] Records of each meeting can be found here: Greater Wellington — Committee meetings (gw.govt.nz)

20. On 10 April 2019 the Council received the TAoP WIP and Ngāti Toa Statement and agreed to refer the regulatory proposals within these documents for incorporation into the NRP and further develop the non-regulatory proposals and consider them in the development of the next Long-Term Plan.

2.2 Technical work programme to support Whaitua Committees

21. Each Whaitua Committee was supported by a Greater Wellington officer project team. This project team co-ordinated a significant technical work programme that supported each Whaitua Committee and informed their values-based decision making.

2.2.1 Te Whanganui-a-Tara Science Programme

22. The TWT Committee had a Biophysical Science Programme (BSP) that provided the technical and scientific input to support and inform their decision making. The BSP comprised of two broad elements:

- A science "*library*" of all potentially relevant information
- Expert Panels that used information from the Science Library to assess the environmental effects of sets of scenario packages.

23. A key part of the science programme was developing scenario assessments, which described the possible environmental outcomes from adopting progressively stronger changes to the way various activities could be managed throughout the whaitua. This enabled the TWT Committee to '*get a feel*' for the effort required to achieve different outcomes.

24. Expert Panels were the key mechanism to undertake the scenario assessments. Three panels were set up for the allocation, freshwater quality/ecology, and coastal science areas respectively. The outputs from those assessments are available here: Greater Wellington Regional Council — Whaitua te Whanganui-a-Tara technical reports (gw.govt.nz)

25. The TWT Committee also commissioned some additional technical advice. These reports are available on the Council website, at the above address, and include:

- Coastal habitat vulnerability and ecological condition
- River and stream water quality and ecology
- Ecological assessment of the Parangarahu Lakes
- An overview of the Wellington City, Hutt Valley and Wainuiomata Wastewater and Stormwater networks and consideration of scenarios that were assessed to improve water quality.
- Wastewater Network Condition and Overflows by Sub-catchment
- Overview of the Wellington metropolitan water supply network and consideration of future pressures on infrastructure
- Summary of Septic Tanks and their potential impacts
- Sediment transport model development and results
- Contaminant Load Model Development
- Proxy Modelling Catchment Assessment, including an addendum.

2.2.2 Te Mahere Wai

26. The development of Te Mahere Wai was also supported by a work programme which involved engagement hui with mana whenua kaitiaki and resource users. Dedicated Māori policy advice personnel developed the approach to assessing values, freshwater management units and environmental outcomes drawing on existing mana whenua information and applying national guidance on implementing Te Mana o te Wai and the national objectives framework.

27. Te Mahere Wai also includes a mātauranga-based assessment framework and criteria for assessing state and outcomes (Te Oranga Wai framework) developed by mahinga kai practitioners, which incorporated western science knowledge from Greater Wellington technical advice and scenarios where that was relevant to the criteria in the assessment framework.

2.2.3 Te Awarua-o-Porirua Whaitua Science Programme

28. The TAoP Committee was supported by an extensive science programme. The science programme provided current state assessments and future state assessments for both fresh and coastal waters and their ecosystems.

29. A key part of the science programme was the Collaborative Modelling Project (CMP). The CMP used a set of interacting and stand-alone models to understand the biophysical effects of various environmental interventions and mitigations. The CMP tested three scenarios:

- Business as usual (BAU) – Represented the regulatory and management approach at the time.
- Improved – Included a range of actions with the potential to minimise the impact of urban and rural land uses, such as stormwater treatment, wastewater network upgrades, riparian planting, space planting and land retirement and
- Water Sensitive – Included much the same actions as Improved, but with an increase in extent and efficacy.

30. The CMP produced a number of reports these are available on the Council website: https://www.gw.govt.nz/environment/freshwater/protecting-the-waters-of-your-area/te-awarua-o-porirua-whaitua/presentations-and-reports/technical-reports/

31. The TAoP Committee also commissioned some additional technical advice to understand the life cycle costs of stormwater and wastewater solutions. These reports are available on the Council website, at the above address, and include:

- The Cost Aggregation Model and Indicative Life Cycle Cost Estimates for Various Intervention Scenarios for Te Awarua-o-Porirua Whaitua Collaborative Modelling Project - December 2018
- Indicative LCC Estimates for Te Awarua-o-Porirua Whaitua – Report Cards – December 2018
- Summary of life cycle costs for stormwater infrastructure solutions – December 2017

- Effect of Water Sensitive Urban Design Solutions and Green Space on Property Values: A Literature Review - September 2017
- Summary of life cycle costs for wastewater infrastructure solutions - June 2017
- Summary of life cycle costs for water supply infrastructure solutions - June 2017
- Summary of potential solutions available for stormwater, wastewater, and water supply provision - May 2017.

3. Implementation of the National Objectives Framework

32. Section 3 sets out how PC1 implements the NOF which is a key component of the NPS-FM 2020[8] including the work of the Whaitua Committees and additional work undertake through the plan change development process to ensure that the plan change aligns with the latest version of the NPS-FM. Starting with the foundational objective of the NPS-FM – Te Mana o te Wai and then following on through the steps of the NOF.

33. The NOF is part of the NPS-FM and provides the structure that regional councils must adhere to when implementing the NPS-FM. The below sections focus on the following elements of the NOF:

- Use of best availability information and management of uncertainty
- Delineation of the freshwater management units (FMUs), the part freshwater management units (part FMUs) and other spatial units
- Identification of primary contact sites and habitats for nationally threatened freshwater species
- Identification of values for each FMU
- The process of setting freshwater environmental outcomes for each value
- Development of coastal water objectives that are influenced by the management of the freshwater environment.
- Identifying attributes for each value, include baseline states.
- The process of setting target attribute states (TASs), environmental flows and levels and other criteria, including nutrient outcomes to support the achievement of environmental outcomes.
- The development of contaminant load reductions to achieve the coastal water objectives and TASs in TAoP.

3.1 Te Mana o te Wai

3.1.1 Central government direction for Te Mana o te Wai

34. The central pillar of the NPS-FM is Te Mana o Te Wai – the hierarchy that puts the health and wellbeing of the water first. In the NPS-FM 2020 - rather than being just one of 15 objectives, Te Mana o Te Wai was given the central focus by being included as the sole objective that must be "*given effect*" to (rather than "*consider and recognise*" as per the 2017 version) through Policy 1. In

[8] Note Part B should be read in conjunction with Parts C and D to provide a full picture of how PC1 implements the NOF and the NPS-FM

addition, the NPS-FM is directive about requiring tangata whenua to be actively involved in freshwater management.

35. The Regulatory Impact Assessment for the NPS-FM describes Te Mana o Te Wai as follows:

"Te Mana o te Wai is a Te Ao Māori concept. It refers to the essential value of water and recognises that when we protect the health of freshwater, the health and wellbeing of the wider environment and communities is ensured. It is a concept that upholds New Zealanders' special connection with freshwater. In the freshwater management system, the Ministry, and members of the KWM [Kāhui Wai Māori] described Te Mana o te Wai as a framework that establishes a set of guiding principles and hierarchy of obligations."[9]

36. The fundamental concept of Te Mana o Te Wai in the NPS-FM is primarily articulated through the hierarchy of obligations a set of principles.

37. The hierarchy of obligations in Te Mana o te Wai prioritises:

(a) first, the health and well-being of water bodies and freshwater ecosystems.
(b) second, the health needs of people (such as drinking water).
(c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

38. The principles are:

(a) Mana whakahaere: the power, authority, and obligations of tangata whenua to make decisions that maintain, protect, and sustain the health and well-being of, and their relationship with, freshwater.
(b) Kaitiakitanga: the obligation of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations.
(c) Manaakitanga: the process by which tangata whenua show respect, generosity, and care for freshwater and for others.
(d) Governance: the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future.
(e) Stewardship: the obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations.
(f) Care and respect: the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation.

39. The Regulatory Impact Statement summarises the key components of Te Mana o Te Wai as follows:

[9] Final Regulatory Impact Analysis: Action for healthy waterways. Part II Detailed Analysis, page 171. https://environment.govt.nz/what-government-is-doing/cabinet-papers-and-regulatory-impact-statements/regulatory-impact-statement-action-for-healthy-waterways-part-ii/#:~:text=The%20second%20part%20of%20the,to%20be%20taken%20by%20Cabinet.

"From these principles and hierarchy of obligations, we established five underpinning components. These are:

(a) protecting and sustainably managing the needs of the water first
(b) ensuring a values-based approach to freshwater care
(c) enabling different systems of knowledge for freshwater care and enabling wider aspects of water health to be cared for.
(d) adopting a holistic and integrated approach to freshwater management
(e) Te Tiriti o Waitangi upholds Te Mana o te Wai.

This narrative and framework provided a basis for the Te Mana o te Wai policies in the NPS-FM."[10]

40. Crucially, the NPS-FM places a strong direction on the process of determining how Te Mana o Te Wai is given effect to in a region, with Te Tiriti intending to "*uphold*" that process. As described in the Ministry for the Environment's Te Mana o Te Wai factsheet *"[t]hrough engagement and discussion, regional councils, communities and tangata whenua will determine how Te Mana o te Wai is applied locally in freshwater management"*[11]. In particular:

- Policy 1 states "*Every regional council must engage with communities and tangata whenua to determine how Te Mana o te Wai applies to water bodies and freshwater ecosystems in the region*".
- In addition, policy 2 requires that "*tangata whenua are actively involved in freshwater management (including decision making processes), and Māori freshwater values are identified and provided for*".

41. So, Te Mana o Te Wai is not only about the outcomes of achieving an improved state of waterbodies, but also about process of working actively with mana whenua and engaging communities to develop what the local expression (or outcome) for waterbodies should be in their region.

3.1.2 Te Mana o te Wai – TWT WIP

42. Te Mana o te Wai was central to the process the TWT Committee designed and to their conversations and decision-making. In the TWT Committee's words:

"Te Mana o te Wai presents us with an opportunity to prioritise the health of freshwater for the first time. It demands different thinking about our relationship with water. We cannot take water for granted and treat it as just another resource to be managed, used, and degraded. We cannot consider the health and wellbeing of water bodies and freshwater ecosystems as an afterthought whenever we want to do something. Te Mana o te Wai requires that the importance of water in our lives is asserted and demonstrated through our actions.

[10] Final Regulatory Impact Analysis: Action for healthy waterways. Part II Detailed Analysis, page 172. https://environment.govt.nz/what-government-is-doing/cabinet-papers-and-regulatory-impact-statements/regulatory-impact-statement-action-for-healthy-waterways-part-ii/#:~:text=The%20second%20part%20of%20the,to%20be%20taken%20by%20Cabinet.
[11] https://environment.govt.nz/assets/Publications/Files/essential-freshwater-te-mana-o-te-wai-factsheet.pdf

Upholding Te Mana o te Wai is the shared responsibility of councils (mana kaunihera), Mana Whenua (mana whakahaere) and all in the community (mana tāngata). Our recommendations expect and support each of us to play our part. In doing so, we enhance our own mana and that of the water."[12]

43. The TWT WIP sets a long-term vision of wai ora with measurable shorter term time steps which puts the water first. The TWT Committee also considered the values and importance of water whilst setting numeric water quality and ecological health objectives.

44. The TWT Committee was committed to partnership approach under Te Tiriti o Waitangi and established Te Kāhui Taiao. Te Kāhui Taiao drafted a number of statements that were documented within Te Mahere Wai that outline a local approach for Te Mana o te Wai in TWT. These are as follows:

- *"Mana Whenua are able to exercise kaitiakitanga and lead freshwater and coastal management decision-making.*
- *Mana Whenua are able to implement and practice traditional rangatiratanga management techniques, for example, rāhui to protect the mana and mauri/mouri of water.*
- *Mana Whenua are resourced to be active and have an integral presence as Ngā Mangai Waiora (ambassadors for water) in whaitua monitoring and management. Te Kāhui Taiao guidance on how to implement Ngā Mangai Waiora is attached as Appendix 3* (of Te Mahere Wai).
- *Mana Whenua have a visible presence in the management of mahinga kai and riparian and coastal areas through nohoanga (camp) and other cultural practices.*
- *The mauri/mouri and life-supporting capacity of water in TWT enables the customary practices of Mana Whenua such as tohi (baptism), whakarite (preparing for an important activity/event), whakawātea (cleansing) manaakitanga (hospitality) at a range of places throughout the catchment.*
- *Mana Whenua are able to serve manuhiri fresh and coastal mahinga kai species by 2041.*
- *The wellbeing and life of the wai/water is primary.*
- *The mana (dignity and esteem) of water as a source of life is restored and this includes regarding and respecting all waterbodies (including āku waiheke), repo (wetland) and estuaries as living entities, and naturalising, naming, mapping, and protecting each.*
- *Freshwater is cared for in an integrated way through mai i uta ki tai, from te mātāpuna (the headwaters) to the receiving environments like the Parangarehu Lakes, Hinemoana (the ocean), Te Whanganui-a-Tara (Wellington Harbour) and Raukawakawa Moana (the Cook Strait).*
- *All freshwater bodies are managed holistically to allow them to exhibit their natural rhythms, natural form, hydrology, and character.*
- *Freshwater bodies are able to express their character through a range of flows over the seasons.*

[12] Te Whaitua Te Whanganui-a-Tara Whaitua Implementation Programme, page 13.

- *There are sufficient flows and levels to support connectivity throughout mai i uta ki tai and between rivers and their banks to support spawning fish.*
- *Key areas like te mātāpuna (headwaters), estuaries and repo (wetland) are prioritised for protection and restoration so that they are once again supporting healthy functioning ecosystems.*
- *Mahinga kai species are of a size and abundance to be sustainably harvested.*
- *Areas that are not currently able to be harvested (for example, due to coastal discharge areas and others causes) are able to be harvested by 2041.*
- *Te Awa Kairangi, Waiwhetū, Korokoro, Kaiwharawhara, the Wainuiomata River and its aquifers are declared 'Te Awa Tupua' (an indivisible and living whole, incorporating all its physical and meta-physical elements) and given 'legal personhood' in legislation.*
- *Te Awa Kairangi, Wainuiomata and Ōrongorongo are publicly acknowledged for the part they play in supporting human health through their contribution to the municipal water supply, including for Porirua City"*[13]

3.1.3 Te Mana o te Wai – TAoP WIP

45. The TAoP whaitua process was developed under the NPS-FM 2017. Te Mana o te Wai was part of the NPS-FM 2017 but did not have the foundational position that it now has in the 2020 version of the NPS-FM.

46. The TAoP whaitua process at its heart was a *"community-led, collaborative approach aims to ensure that the future state of Te Awarua-o-Porirua's streams and harbour meet the aspirations of those most closely connected with them."*[14]

47. Ngāti Toa were a foundation member of TAoP Committee. During the whaitua process Ngāti Toa asserted their tino rangatiratanga (self-determination, sovereignty, or autonomy). The iwi representatives stopped participating in the Committee process for a period of time. Instead Ngāti Toa worked on a companion document that records their vision and aspirations for the Whaitua as kaitiaki. This was an important step for both Ngāti Toa and the TAoP Committee. Ngāti Toa were able to express their own outcomes for TAoP and exercise their tino rangatiratanga and role as kaitiaki. For the TAoP Committee recognising and accepting that Ngāti Toa needed a separate process, and their own document was an important acknowledgement. The result being that the combined documents remained authentic to both Ngāti Toa and the TAoP Committee.

48. The TAoP WIP sets freshwater objectives that seek meaningful improvement across all waterbodies over the next 20 years. However, the TAoP WIP acknowledges that some of the *"objectives have been set at levels that do not align with the aspirations of Ngāti Toa Rangatira or others in the community, who sought A or B attribute state objectives. The Committee shares the*

[13] Te Mahere Wai o Te Kāhui Taiao: A Mana Whenua implementation plan to return mana to our freshwater bodies, page 43.
[14] Te Awarua-o-Porirua Whaitua Implementation Programme, page 3.

aspirations of Ngāti Toa Rangatira and others in the community to improve the health of Te Awarua-o-Porirua streams, harbours and coast beyond the objectives set in this WIP but seeks to do so over a longer timeframe. In these instances, the achievement of the 2040 objectives is recognised as the first measurable step to achieving these more ambitious objectives."[15]

49. During the development of the plan change the Council has partnered with Ngāti Toa. Officers of Council have met with officers of Ngāti Toa approximately fortnightly (sometimes as often as weekly) to shape and discuss the development of the plan change.

3.1.4 Taranaki Whānui – local approach to Te Mana o te Wai

50. At the time Te Mahere Wai was published in 2021 it was understood to be the expression for the local approach to Te Mana o te Wai by Taranaki Whānui[16].

50.1.1 Ngāti Toa – local approach to Te Mana o te Wai

51. The thinking within Ngāti Toa on Te Mana o te Wai continues to evolve as it is discussed within the wider context of the RPS and NRP Changes. Our current understanding of Ngāti Toa's position is that they will draft their own Te Mana o te Wai statement to be included in a future change to the RPS. This is in part due to the ongoing discussions about Te Mana o te Wai in the Kāpiti whaitua process, which may inform how Ngāti Toa decides to approach a Te Mana o te Wai statement.

3.2 Use of best available information

52. Clause 1.6 of the NPS-FM states that Councils must not delay making decisions solely because of the quality or quantity of the information available[17] A significant amount of technical knowledge and information, gathered over a number of years is required to express each attribute as per the data requirements of the NOF. Clause 1.6 goes on to state that if complete, scientifically robust data is not available Councils must use the best information available at the time. The Council has used the best available information to develop the plan change in some instances, including establishing baseline states, setting TASs and limits and whether the package of mitigations will achieve the objectives.

3.3 Identification of FMUs, part FMUs and other spatial units

3.3.1 NPS-FM direction for the identification of FMUs and part FMUs

53. One of the key principles of the NPS-FM is to focus on mana whenua and community values and desired outcomes at *'place'*. This necessitates the delineation of spatial units for which these outcomes can be set. The NPS-FM

[15] Te Awarua-o-Porirua Whaitua Implementation Programme, page 34.
[16] Te Mahere Wai o Te Kāhui Taiao: A Mana Whenua implementation plan to return mana to our freshwater bodies, page 42.
17 Section 1.6 of the NPS-FM states that local authorities must use the best information available at the time, which means, if practicable, using complete and scientifically robust data. If complete and scientifically robust data is not available, the best information may include information obtained from modelling, partial information, information obtained from other sources. A local authority must not delay making decisions solely because of uncertainty about the quality or quantity of the information available.

requires that every water body is within a FMU[18] and these FMUs can be subdivided into part FMUs and/or catchments. A FMU must contain the waterbody(s) and their related catchment(s).

54. The NPS-FM provides a high level of flexibility in respect of FMUs and part FMUs. It allows for the NOF process (values, environmental outcomes, TAS, limits, action plans) to be designed at a FMU or part FMU scale[19]. The key requirements that must be at an FMU scale are the monitoring and accounting programmes.

3.3.2 Freshwater Management Units

55. The whaitua process was the starting point for developing FMUs and part FMUs for the plan change. In 2012 the Council agreed to an approach that divided the region up into five whaitua to enable a collaborative mana whenua and community lead process to aid in the implementation of the NPS-FM.

56. The delineation of the five whaitua was influenced by physical, social, and cultural aspects. The biophysical characteristics of the region, such as the catchments of harbours, the catchments of large river systems, major ridgelines that divided areas provided some obvious division. Then social and cultural aspects were layered on top such as mana whenua rohe boundaries, spatial community connections and territorial authority boundaries to create the final five whaitua.

57. The whaitua was the largest scale that the whaitua committees considered water quality and ecological health to achieve place-based mana whenua and community outcomes. The whaitua committees both considered values and visions at the whaitua-scale and the majority of their recommendations apply at this scale too.

58. For TWT and TAoP, the whaitua are the FMUs as this is the scale of the vision objectives in Variation 1 of RPS Change 1[20]. Two small amendments were required to turn the original whaitua boundaries into FMUs:

- the common boundary through the urban area (around Johnsonville) was adjusted to follow the stormwater network catchments and property boundaries.
- the FMUs were also clipped to the landward edge of the coastal marine area.

59. Maps of the TWT and TAoP FMU boundaries are proposed to be included in Variation 1 of RPS Change 1.

[18] The NPS-FM defines Freshwater Management Unit - **Freshwater management unit, or FMU, means** all or any part of a water body or water bodies, and their related catchments, that a regional council determines under clause 3.8 is **an appropriate unit for freshwater management and accounting purposes**; and part of an FMU means any part of an FMU including, but not limited to, a specific site, river reach, water body, or part of a water body.

[19] It is noted that the link between FMUs/part FMUs and the requirements of the NOF process became more detailed and prescriptive in the 2020 version of the NPS-FM.

[20] The Council has approved Variation 1 to the RPS Change 1 for notification.

3.4 Delineation of part FMUs

60. The TWT and TAoP WIPs were the starting point for developing the part FMUs. These documents identified spatial management units[21] within each whaitua.

3.4.1 Catchment and sub-catchment areas – TWT WIP

61. The TWT WIP identifies sub-catchment areas. These were developed into a proposal for the TWT Committee by a technical working group that included mana whenua policy and mātauranga advisors with Greater Wellington policy and science staff. This group met over the course of six months and through multiple iterations to:

- determine the appropriate scale of catchments.
- assess which catchments were sufficiently '*alike*' from mātauranga, biophysical and land use perspectives.
- include regard for current state and potential for improvement.

62. The TWT WIP identified six broad '*catchment areas*' in the whaitua, with sub-catchments within some of these. The six areas follow from the mountains to the sea – ki uta ki tai – and the sub-catchments within reflect where there are broad changes in the character and conditions of the stream and activities in those catchments. Figure B1 shows the various catchment and sub-catchments areas.

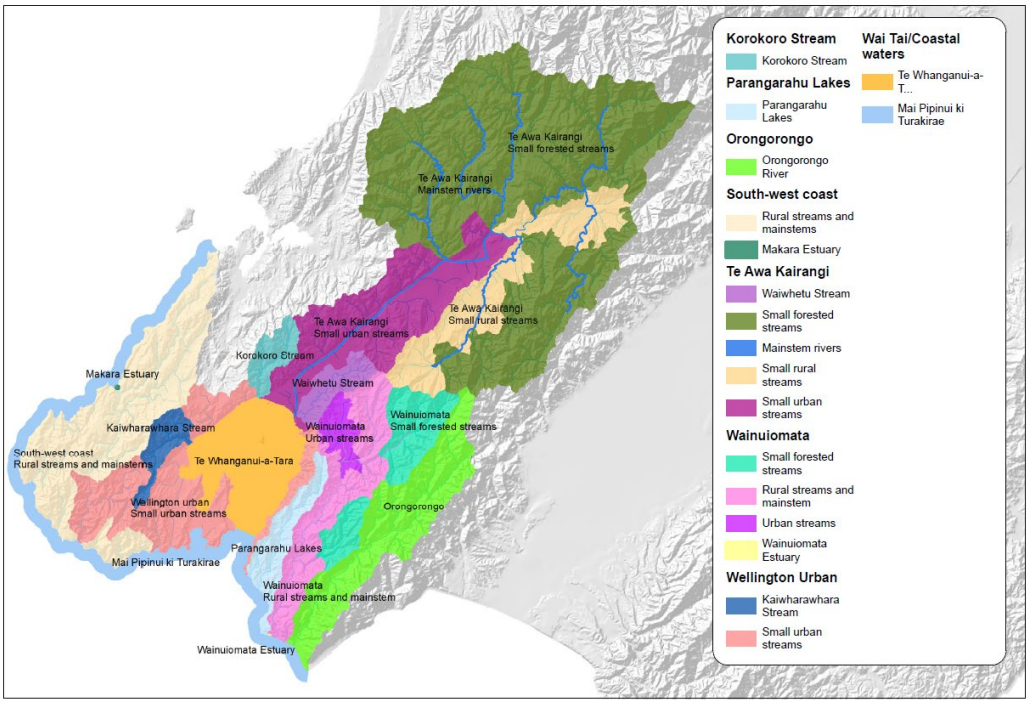

Figure B1: TWT WIP catchments and sub-catchments

3.4.2 Water management units – TAoP WIP

63. The TAoP Committee undertook an iterative process to identify the spatial management units that the freshwater objectives were set to in the final TAoP WIP. The TAoP Committee undertook two pieces of complimentary work. A

[21] Te Awarua-o-Porirua Whaitua – water management units and Whaitua Te Whanganui-a-Tara – catchments and sub-catchments

biophysical classification method was used to provide broad spatial units. The modelling team ran a parallel process to identify points of interest for model output reporting. These two processes came together and identified a number of broad spatial units with 23 catchment/sub area level reporting points.

64. This fine scale enabled the TAoP Committee to explore current state and the model outputs to set freshwater objectives that responded to mana whenua and community values in a place-based manner. Once the freshwater objectives had been set at this fine scale, the TAoP Committee looked to bring together the fine scale catchment freshwater objectives into a smaller number of larger water management units. This was a considered and conscious exercise by the TAoP Committee that evaluated similarities across the fine scale units in current state, land use, values, including cultural values and predicted state. This resulted in a set of water management units that were based on the biophysical components of the catchments but also incorporated elements of value expression and intended changes expressed through the TAoP Committee process.

65. The TAoP WIP ultimately identified five water management units (Taupō, Rangituhi, Pouewe, Takapū, Te Riu o Porirua) and three coastal water management units (Pāuatahanui Inlet, Onepoto Arm, Open coast). Figure B2 shows the spatial extent of these water management units.

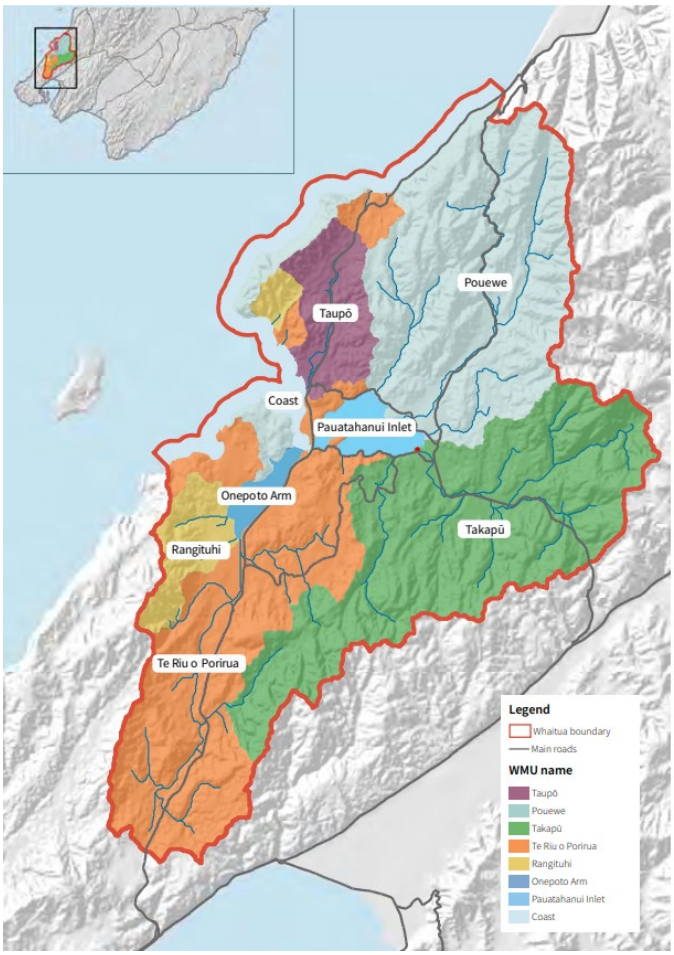

Figure B2: Excerpt from TAoP WIP – Water Management Units

3.4.3 Turning WIP spatial units into part FMUs for the plan change

66. The spatial management units identified in the WIPs were the basis for the plan change part FMUs. Two pieces of technical work informed the refinement of these units into part FMUs as per the NPS-FM.

67. A spatial analysis[22] was undertaken that set out an approach to identifying and recommending specific sites to assign TAS to. It also included an initial consideration of alternative part FMUs that aligned with the recommended sites. This piece of work informed the TAS site selection but in regard to the delineation of part FMUs this work was not progressed as a decision was made to use the spatial units produced through the whaitua process as the starting point.

68. A second piece of technical work[23] was commissioned for identifying part FMUs. Underpinning this work was a set of technical assumptions. These were:

- Each part FMU ideally has a single TAS site.
- The spatial units recommended in the TAoP and TWT WIPs were an appropriate starting point.
- The list of TAS sites recommended in the first piece of technical work provided an appropriate indication of where the TAS sites need to be located to detect the impact of practice change on water quality and ecology across the whaitua.

69. An additional level of refinement[24] then occurred where WIP management units:

- '*Without TAS site*' part FMUs were merged with the management unit containing the relevant proxy catchment identified in the second piece of technical work.
- '*With multiple TAS sites*' were then assessed to determine whether there was justification for splitting them based on land use (i.e., would the same actions be needed to meet the TAS at each site)
- that could not be assigned a TAS site due to lack of access because of piped streams and/or land ownership restrictions (two cases – Rangituhi and Parangarahu catchment streams) were merged with the most similar part FMU.

70. One additional adjustment was made to the TWT part FMUs to better align similar catchments. The Speedys Stream and Dry Creek catchments which were in the Te Awa Kairangi Urban Streams sub-catchment in the TWT WIP, were moved into the Korokoro part FMU in response to feedback received on the draft version of PC1 from the TWT reference group.

[22] Greer et al (2023), Appendix B - Collaborations Memo – Spatial assessments of target attribute and monitoring sites, and consideration of Freshwater Management Units for 2022 plan change
[23] Greer et al (2023), Section 3 – Torlesse and Collaborations Memo – Recommended part FMUs and TAS sites for Te Awarua-o-Porirua Whaitua and Whaitua Te Whanganui-a-Tara
[24] Greer et al (2023), Section 3 – Torlesse and Collaborations Memo – Recommended part FMUs and TAS sites for Te Awarua-o-Porirua Whaitua and Whaitua Te Whanganui-a-Tara

3.4.4 Lake part FMUs for water quality – TWT plan change

71. The TWT WIP also identified two lake-based spatial units – Lake Kōhangatera and Lake Kōhangapiripiri. These lake-based spatial units have been brought through to the plan change as part FMUs and are shown on a new map, Map 80, as an amendment to Chapter 13 of the NRP.

3.4.5 River part FMUs for water quality – TWT plan change

72. The final part FMUs for TWT are shown on a new map, Map 79, as an amendment to Chapter 13 of the NRP. Figure B4 provides a comparison between the TWT sub-catchment areas and the part FMUs for PC1. The amendments are also described below. The numbers in brackets below refer to the numbers on the maps in Figure B3.

- Merge four of the forested headwater sub-catchments in TWT into a single part FMU as these sub-catchments are very similar in both current state, target state and land use pressures:
  - Te Awa Kairangi forested mainstems (No. 1 – TWT WIP)
  - Te Awa Kairangi small forested (No. 3 – TWT WIP)
  - Wainuiomata small forested (No. 8 – TWT WIP)
  - Ōrongorongo (No. 12 – TWT WIP)
- Merge two of the rural streams in the upper Te Awa Kairangi into a single part-FMU as these sub-catchments are very similar in both current state, target state and land use pressures:
  - Te Awa Kairangi rural streams (No. 2 – TWT WIP)
  - Te Awa Kairangi rural mainstems (No. 4 – TWT WIP)
- Merge the Parangarahu Lakes catchment (No. 13 – TWT WIP) with the south-west coast, Mākara and Ōhāriu catchments (No. 22 – TWT WIP) into one part-FMU as the Council cannot locate a monitoring site within the Parangarahu Lakes catchment.

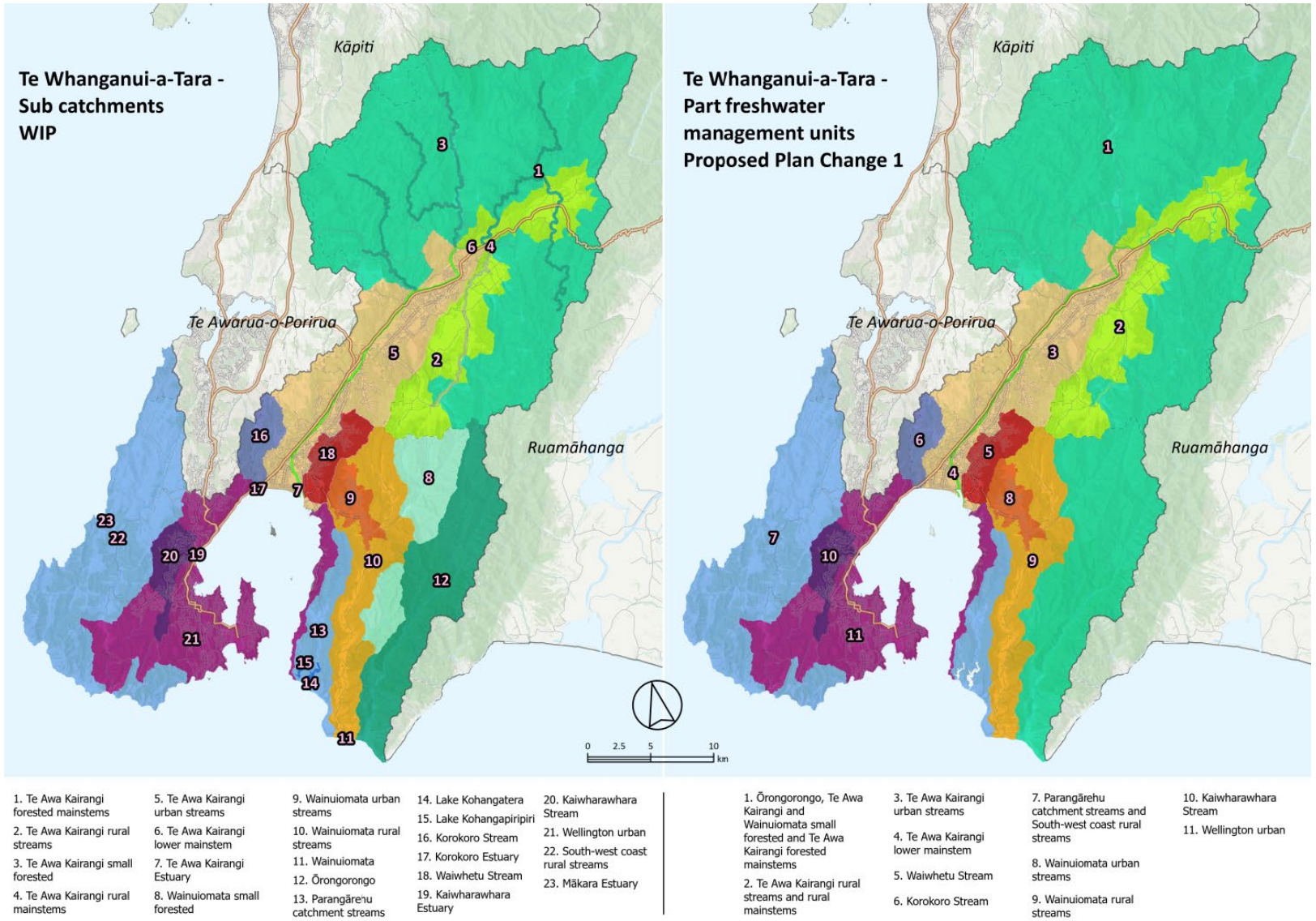

Figure B3: Water management units from TWT and part FMUs proposed in PC1

3.4.6 Final part FMUs for water quality – TAoP plan change

73. The plan change part FMUs for TAoP are shown on a new Map 78 as an amendment to Chapter 13 of the NRP. Figure B4 provides a comparison between the TAoP water management units and the part FMUs for PC1. The amendments are also described below:

- merge Rangituhi with Te Rio o Porirua as the Council could not locate a monitoring site within the lower portion of the Rangituhi catchment.
- split Wai-O-Hata from Takapū as the Takapū TAS site will not be an accurate representation of water quality or ecological health shifts from changing land use practices within the Wai-O-Hata part FMU.

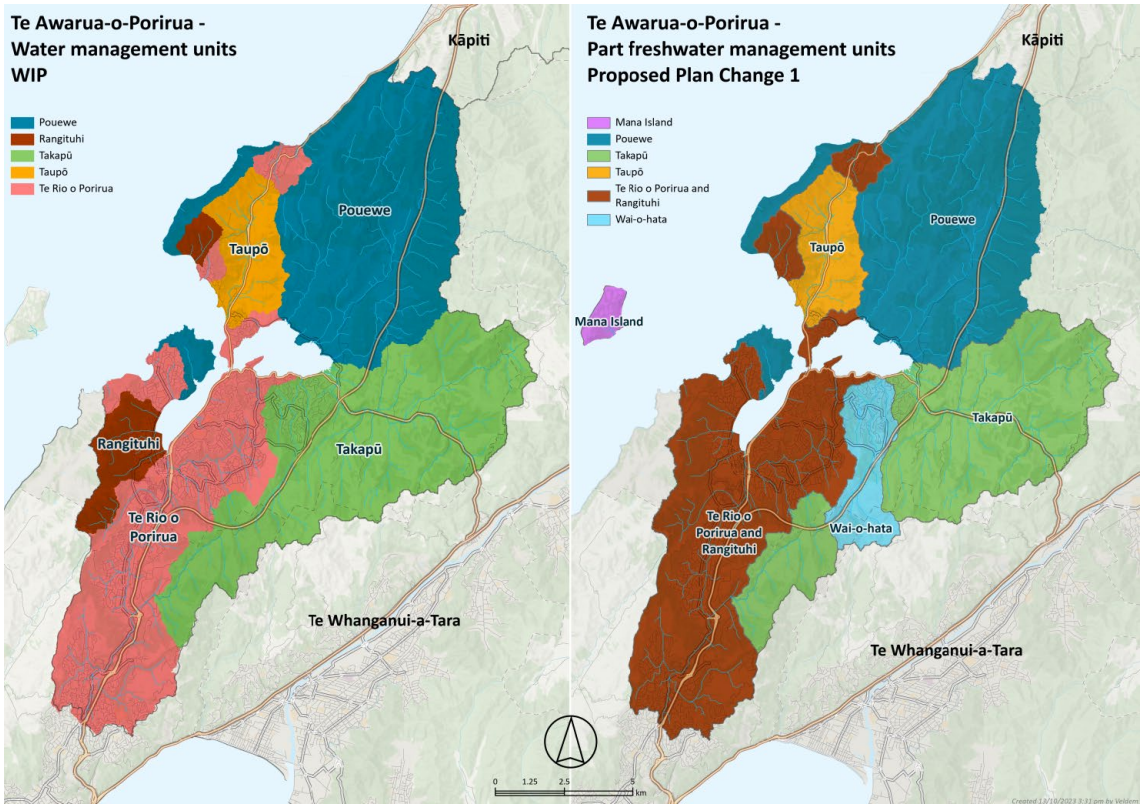

Figure B4: Water management units from TAoP WIP compared with the part FMUs proposed in PC1

3.4.7 Addition of island part FMUs

Both TWT and TAoP have islands within their whaitua areas[25]. The islands were not allocated a spatial unit in either whaitua process. The plan change has added an island part FMU to each whaitua to ensure that all waterbodies within each whaitua are located within a part FMU. The island rivers are all within public conservation lands (managed by DOC) and their current state is not monitored.

25 Mana Island is located within Te Awarua-o-Porirua Whaitua and Matiu/Somes Island, Mākaro/Ward Island and Mokopuna Island are located within Whaitua Te Whanganui-a-Tara.

3.4.8 Summary of the final delineation of the part FMUs for PC1

74. In summary, the part FMUs for TAoP are:

- For water quality:
  - Taupō
  - Pouewe
  - Wai-O-Hata
  - Takapū
  - Te Rio o Porirua and Rangituhi
  - Mana Island rivers
- For water abstraction the catchment management units:
  - Porirua Stream and its tributaries
  - Pāuatahanui Stream and its tributaries
  - Horokiri Stream and its tributaries
  - All remaining parts of the TAoP Whaitua.

75. In summary, the part FMUs for TWT are for water quality:

- Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems
- Te Awa Kairangi lower mainstem
- Te Awa Kairangi rural streams and rural mainstems
- Te Awa Kairangi urban streams
- Waiwhetu Stream
- Wainuiomata urban streams
- Wainuiomata rural streams
- Parangarahu catchment streams and South-west coast rural streams
- Korokoro Stream
- Kaiwharawhara Stream
- Wellington urban streams
- Island rivers
- Lake Kōhangatera
- Lake Kōhangapiripiri.

3.4.9 Catchment management units for the purposes of water abstraction – TAoP plan change

72. The part FMUs set out above focus on the water quality and ecological attributes of the river and wetland catchments within TAoP. Part FMUs for the management of water abstraction TAoP are based on surface water catchment boundaries. To avoid confusion with the water quality part FMUs, and to remain consistent with other existing sections of the NRP, the part FMUs for the management of water abstraction are called '*Catchment management Units*' (CMUs) in the plan change. Four CMUs have been identified and shown on a new Map 81 as an amendment to Chapter 13 of the NRP and are shown in Figure B5 below, these are:

- the catchment of the Porirua Stream and its tributaries
- the catchment of the Pāuatahanui Stream and its tributaries
- the catchment of the Horokiri Stream and its tributaries
- all remaining parts of the Whaitua.

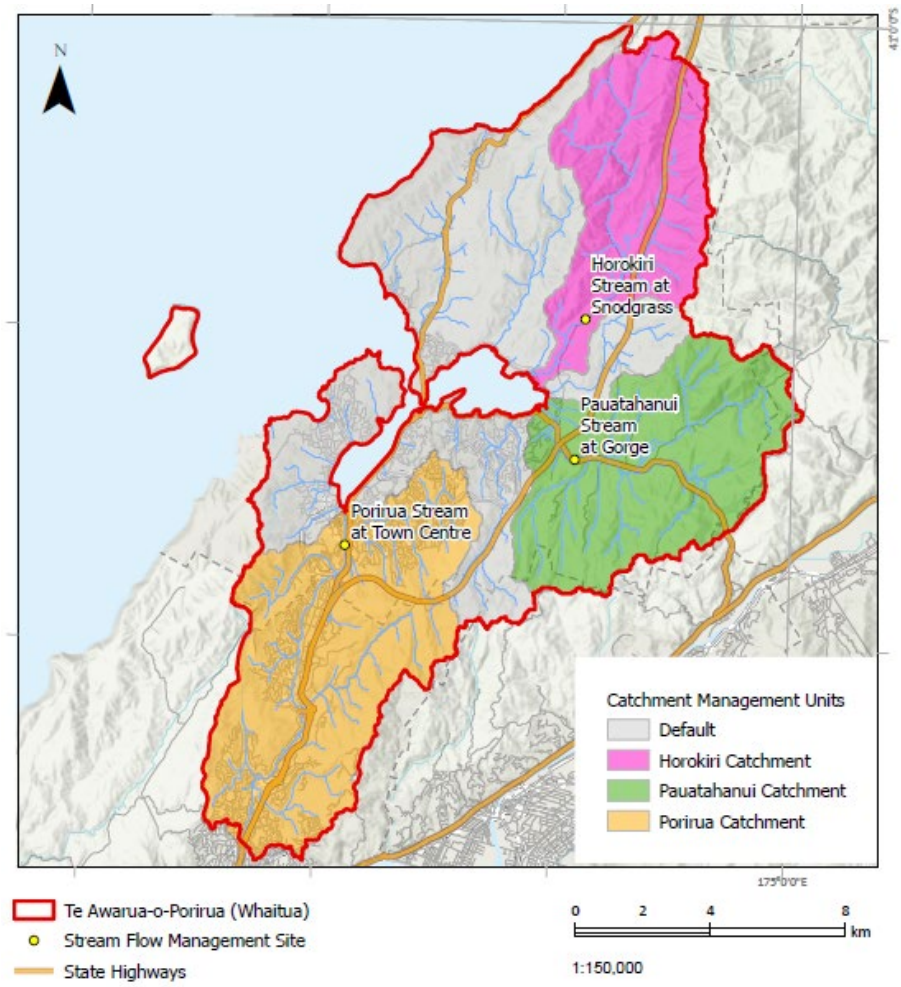

Figure B5: Te Awarua-o-Porirua Whaitua Catchment Management Units

73. Porirua, Pāuatahanui and Horokiri have been identified as specific CMUs because there is sufficient hydrological information to enable specific environmental flows and allocation limits to be set. The default CMU applies to those parts of the Whaitua where a default environmental flow and a default allocation limit will continue to apply (see Section 3.19 below for further discussion).

74. Part FMUs have not been identified for groundwater in TAoP. This is considered appropriate as there is not a substantive groundwater resource in the whaitua.

3.4.10 Other spatial units for the management of water quality – Both whaitua

75. There are other spatial areas identified within PC1. These are briefly described here:

- TWT coastal water management units form part of PC1, and the spatial extent of these areas is set out in a definition of '*coastal management unit*'

and shown on a new map, Map 83, as an amendment to Chapter 13 of the NRP. These have been developed using the coastal water areas identified in the TWT WIP as the basis. The coastal water areas identified in the TWT WIP have been merged where the objective, to maintain at current state, is common across areas. Areas where the TWT WIP sought improvement are separated out and have their own coastal water management unit and improvement objective.

- Coastal water management units identified in the TAoP WIP form part of PC1, and the spatial extent of these areas is set out in a definition of '*coastal management unit*' and shown on a new map, Map 82, as an amendment to Chapter 13 of the NRP.
- For TAoP the harbour arm (Onepoto and Pāuatahanui) coastal catchments are shown on a new map, Map 84, as an amendment to Chapter 13 of the NRP. These maps are relevant to harbour arm catchment load reductions required to achieve the coastal water objectives.

3.5 Identification of sites required by NPS-FM within FMUs

3.5.1 Primary contact sites

76. The NPS-FM requires regional councils to identify primary contact sites[26], if present, within each FMU.

77. The TAoP Committee did not identify specific primary contact sites. However, they did express a value statement related to contact with waterbodies and the coastal environment[27].

78. The TWT WIP did not identify specific primary contact sites but did identify human contact (primary) as a value that applies to all fresh and coastal waterbodies of all types and sizes[28].

79. The Te Mahere Wai vision statement included a short-term vision that tamariki can safely swim at all traditional swimming places like the Double Bridges, Kaitoke, Māoribank, Taitā Rock, Pākuratahi Forks and the Akatārawa and Pākuratahi Awa within 10 years[29].

80. The Council monitors a number of popular freshwater swimming spots around the region during the summer months. There are 11 freshwater sites within TWT and no sites with TAoP. The sites are located at:

- Pākuratahi River at Hutt Forks
- Pākuratahi River at Kaitoke Campground
- Akatarawa River at Hutt Confluence
- Hutt River at Birchville
- Hutt River at Māoribank Corner
- Hutt River at Poets Park

[26] Defined in the NPS-FM 2020 as a site identified by a regional council that it considers is regularly used or would be regularly used but for existing freshwater quality, for recreational activities such as swimming, paddling, boating, or water sports, and particularly for activities where there is a high likelihood of water or water vapour being ingested or inhaled.
[27] Te Awarua-o-Porirua Implementation Programme, page 16.
[28] Te Whaitua Te Whanganui-a-Tara Implementation Programme, page 98.
[29] Te Mahere Wai o Te Kāhui Taiao: A Mana Whenua implementation plan to return mana to our freshwater bodies, page 40.

- Hutt River at Silverstream Bridge
- Hutt River upstream Silverstream Bridge
- Hutt River at Taita Rock
- Hutt River at Melling Bridge
- Wainuiomata River at Richard Prouse Park.

81. New map, Map 85, is an amendment to Chapter 13 of the NRP and identifies these sites as primary contact sites as per the NPS-FM. These sites align well with the swimming places named in Te Mahere Wai. They also align well with the significant contact recreation freshwater bodies already identified in Schedule H1 of the NRP.

82. No freshwater primary contact sites have been identified within TAoP due to an absence of known freshwater swimming sites in this whaitua. Streams are small, and with poor water quality, and have been unsuitable for swimming for some time. In general, there is a preference in the community to swimming in the harbour. Notwithstanding this, the quality of freshwater and coastal water for human health and bathing is managed through all waterbodies *E. coli* TAS which seeks significant improvement for all waterbodies.

3.5.2 Habitats of threatened species – plan change

83. The NPS-FM requires Council's to identify the habitats of threatened species. This is a new requirement inserted into the NPS-FM in 2020. Neither the TWT nor TAoP Committee sought technical advice on the location of habitats of threatened species. Through the plan change development process, the Council has identified the nationally threatened species as per the NPS-FM definition[30] within the Wellington region and their known locations using a wide range of information sources[31].

3.6 Identification of values

84. Having identified the FMUs and part FMUs, the next step of the NOF requires regional councils to identify values and environmental outcomes for each FMU or part FMU. The NPS-FM (Clause 3.9) identifies four compulsory values[32] that the Council must apply to each FMU or part FMU and lists a number of other values[33] that must be considered.

3.6.1 Identification of values in Te Whaitua Te Whanganui-a-Tara

85. The TWT Committee and Te Kāhui Taiao undertook separate value identification processes. Both the TWT WIP and Te Mahere Wai contain value statements.

[30] Threatened species means any indigenous species of flora or fauna that: (a) relies on water bodies for at least part of its life cycle; and (b) meets the criteria for nationally critical, nationally endangered, or nationally vulnerable species in the New Zealand Threat Classification System Manual)
[31] Crisp P. 2023
[32] Compulsory values are listed and described in Appendix 1A of the NPS-FM and are ecosystem health (including the five components water quality, water quantity, habitat, aquatic life, ecological processes), mahinga kai, human health and threatened species
[33] Other values are listed and described in Appendix 1B of the NPS-FM and are natural form and character, drinking water supply, wai tapu, transport and tauranga waka, fishing, hydro-electric power generation, animal drinking water, irrigation, cultivation, and production of food and beverages, commercial and industrial use

86. At the start of the TWT whaitua process the TWT Committee developed a kawa[34] which they then considered values against. The TWT Committee noted the kawa directed them *"to the importance of spatial, social, and intergenerational equity, which means that all waterbodies (from small streams to larger rivers, aquifers, wetlands, lakes, estuaries and coastal waters) need to be thriving in all awa. Upholding Te Mana o te Wai means striving for wai ora everywhere. We may need to prioritise in the short term to make progress achievable, but it is not possible to trade off the mana of one water body for another in the long term."* [35]

87. The TWT Committee conducted a range of community engagement events throughout its duration to be informed on community values, views on issues and solutions. These included:

- In their first year, hosting stalls at 4 suburb / festival events across Karori, Aro Valley, Island Bay, and Waiwhetu; a workshop with Karori/Kaiwharawhara community and interest groups at a Sanctuary to Sea event.
- Four Have Your Say based public surveys on the topics on permitted water use and septic tanks, wastewater network issues, stormwater network issues and drinking water supply and network issues.
- A Facebook live event on urban freshwater management with TWT Committee representatives and then local Govt. Minister Nanaia Mahuta.
- In their final year to test proposed decisions and solutions, held evening community-based workshops in Hataitai, Mākara, Wainuiomata and Mangaroa areas.
- Throughout the process the community representatives were frequently in communication with stakeholders' groups and networks they were connected, and the feedback was brought into committee deliberation in meetings.
- Te Kahui Taiao led in person engagements at two maraes, with Ngāti Toa resource users and mātauranga experts, and a hui with Taranaki Whānui mātauranga experts. The findings of these were shared back to the full TWT Committee as well.

88. Through this the TWT Committee engaged with community at various stages, first to understand values and aspirations across the three cities, then for understanding community views on four areas of major freshwater management issues and then to test responses to proposed recommendations and solutions that the committee was developing. Through this understanding of community values the TWT Committee took a whole of whaitua approach and found that for a large intensively populated urban area of diverse communities that for each catchment area all for the identified values apply. They also found that the compulsory and national values of the NPS-FM do not adequately account for the way densely populated urban communities have strong contact with interest in, and connection to the waterways through the

[34] Te Whaitua Te Whanganui-a-Tara Implementation Programme, page 3.
[35] Te Whaitua Te Whanganui-a-Tara Implementation Programme, page 15.

places they live and work – despite what current state it might be in. The TWT Committee chose to call this freshwater value '*community connection*'.

89. The TWT WIP[36] identified and described the values that could apply to all waterbodies in the TWT whaitua as:

- Freshwater ecosystem health.
- Mahinga kai.
- Threatened species.
- Natural form and character.
- Māori customary use and wai tapu.
- Drinking-water supply.
- Human contact (primary).
- Community connection.
- Animal drinking water.
- Commercial, industrial use and the production of food and beverages.
- Transport and Tauranga waka.
- Fishing.

90. The TWT WIP also set out a catchment-by-catchment summary of where the state of water quality is currently far from TWT Committee aspirations for supporting the values. These statements also set out the main causes for the values being compromised.

91. In addition to the values assessment undertaken by the TWT Committee, Te Kāhui Taiao considered each spatial area and identified values for the awa specific to those areas. To identify values, Te Kāhui Taiao used existing sources of information and held four hui[37] across the whaitua. The origins of the values are set out in Te Mahere Wai[38]. The values identified for TWT within Te Mahere Wai are set out in Table B1 below.

Table B1: Ngāti Toa and Taranaki Whānui values for all the awa in Te Whanganui-a-Tara

Spatial unit	Values identified in Te Mahere Wai[39]
Te Awa Kairangi	Ngā awa tipua. Wai ora. Te Mātāpuna (headwaters). Āku Waiheke (small streams), ngā wai huna (concealed waters and aquifers). Tiaki whenua. Āhua. Ngā Mahi a ngā Tūpuna. Te nui o te Wai. Te Mana o te Tangata.

[36] Te Whaitua Te Whanganui-a-Tara Implementation Programme, pages 15 and 96 to 99.
[37] Hui held at Takapūwahia Marae 12 April 2021, at Te Tātau o te Pō Marae on 16 March 2021, at Te Wai nui o Mata Marae on 18 March 2021 and at Parangārehu Lakes workshop on 17 February 2021.
[38] Te Mahere Wai o Te Kāhui Taiao: A Mana Whenua whaitua implementation plan to return mana to our freshwater bodies, pages 65 to 67.
[39] An explanation of each value can be found in Te Mahere Wai on pages 65 to 67.

	Te Mana Whakahaere o ngā awa ki uta ki tai. Wāhi tapu. Wai Māori. Te Mahi Kai/mahinga kai. Wāhi Whakarite. Taonga species. Contact recreation and Māori customary use for identified sites. Swimming. Repo. Te mahi mātaitai. Takutai Moana.
Korokoro	Ngā awa tipua. Te Mātāpuna (headwaters). Āku Waiheke (small streams), ngā wai huna (concealed waters and aquifers). Āhua. Ngā Mahi a ngā Tūpuna. Te nui o te Wai. Te Mana o te Tangata. Te Mahi Kai/mahinga kai. Wāhi Whakarite. Taonga species. Wāhi Mahara (places of learning and where local knowledge and histories are etched into the landscape).
Kaiwharawhara and other Wellington urban streams	Ngā awa tipua. Te Mātāpuna (headwaters). Āku Waiheke (small streams), ngā wai huna (concealed waters and aquifers). Āhua. Ngā Mahi a ngā Tūpuna. Te nui o te Wai. Te Mana o te Tangata. Wāhi tapu, wāhi tupuna, wāhi maumahara. Te Mahi Kai/mahinga kai. Taonga species. Contact recreation and Māori customary use/taunga ika (fishing grounds). Swimming. Takutai Moana.
Karori, Mākara and other coastal streams and estuarine areas	Ngā awa tipua. Āku Waiheke (small streams), ngā wai huna (concealed waters and aquifers). Tiaki whenua. Ngā Mahi a ngā Tūpuna. Te nui o te Wai. Te Mana o te Tangata. Wāhi tapu, wāhi tupuna, wāhi maumahara. Te Mahi Kai/mahinga kai. Taonga species. Contact recreation and Māori customary use. Takutai Moana.

Wainuiomata	Ngā awa tipua. Wāhi tapu. Te Mātāpuna (headwaters). Āku Waiheke (small streams), ngā wai huna (concealed waters and aquifers) – George Creek is fully forested and in pristine condition. Tiaki whenua (land conservation). Āhua (natural form). Te nui o te Wai. Te Mana Whakahaere o ngā awa ki uta ki tai. Wai Māori. Mahinga kai. Taonga species. Contact recreation and Māori customary use. Swimming. Takutai Moana.
Ōrongorongo	Ngā awa tipua. Te Mātāpuna (headwaters). Āhua. Ngā Mahi a ngā Tūpuna. Te nui o te Wai. Te Mana o te Tangata. Wāhi tapu. Wai Māori. Te Mahi Kai/mahinga kai. Taonga species. Contact recreation and Māori customary use for identified sites. Swimming. Repo.
Parangarahu	Ngā awa tipua. Te Mātāpuna (headwaters). Āku Waiheke, ngā wai huna (piped streams and aquifers). Āhua. Ngā Mahi a ngā Tūpuna. Te Mana o te Tangata. Wāhi tapu. Te Mahi Kai/mahinga kai. Wāhi whakarite. Taonga species. Repo. Te mahi mātaitai. Takutai Moana.
Wai Tai	Te Mahi Kai/mahinga kai/kai moana. Wāhi Mahara (places of learning and where local knowledge and histories are etched into the landscape). Tauranga waka.

3.6.2 Values from TAoP WIP

92. At the beginning of the TAoP Whaitua process the TAoP Committee undertook a comprehensive process to identify mana whenua and community values

associated with TAoP. The process began in October 2015 with values being finalised late 2016. This process is documented in two reports to the TAoP Committee (dated 11 February 2016[40] and 16 May 2016[41]). The values assessment spanned both freshwater and coastal water environments.

93. The TAoP Committee identified three questions to ask community members. In December 2015 the TAoP Committee undertook an initial exercise to answer the three questions themselves, which were:

- How would you like our streams, harbour, and coast to be in the future?
- How do you and your friends, family and whanau use streams, the harbour and coast around here?
- What's important to you about streams, the harbour and coast around here?

94. The TAoP Committee values exercise[42] formed the foundation of the draft values which were written by a working group that included GW staff, TAoP Committee members and Ngāti Toa representatives. Ngāti Toa provided descriptions of their values at this stage. The draft values were further considered as information was gathered from community engagement.

95. The TAoP Committee agreed and led a community engagement exercise that involved:

- Values brochure – this explained the purpose of the TAoP Committee and included the three questions with an attached tear-off, free post response form. The brochure was given out to community members at every opportunity and placed at key locations around the whaitua.
- Community events – the TAoP Committee attended four community events in early 2016. At these events there was the opportunity to fill in a survey to answer the three values questions (across the four events, 352 surveys were completed). The values brochures were also handed out to attendees.
- Public engagement events – the TAoP Committee identified some areas of the whaitua that they considered required further community engagement and proposed a series of '*open access*' public meetings where community members could meet and greet Committee members. Public attendance at these meetings was limited.
- Online survey – an online survey called '*Bang the Table*' was linked to the TAoP Committee website and featured the three values questions. The survey was live from 13 December 2015 to 31 August 2016. Bang the Table has a suite of tools, such as the ability to collect demographic information. Initial analysis showed a favourable correlation to overall demographics of

[40] GWRC report to Te Awarua-o-Porirua Whaitua Committee, Draft values for Te Awarua-o-Porirua whaitua, 11 February 2016. REPORT-TAoPW-Draft-values-for-Te-Awarua-o-Porirua-whaitua-11.02.2016.pdf (gw.govt.nz)
[41] GWRC report to Te Awarua-o-Porirua Whaitua Committee, Development of Te Awarua-o-Porirua Whaitua refined values for fresh and coastal water, 19 May 2016. Microsoft Word - 2016-04-05_Development of values report.doc (gw.govt.nz)
[42] Notes from this workshop are set out in this minute Minutes-TAoPWC-Workshop-03.12.2015.pdf (gw.govt.nz)

the catchment which enabled the Committee to feel confident with this part of the community engagement.

96. There were a total 510 responses to the values questions from all the engagement mediums. Word clouds were generated to identify high frequency words. In May 2016 the working group provided the TAoP Committee with a revised set of value statements that brought together the community engagement, analysis of values material and incorporated community and mana whenua language. These were refined over the following months and finalised in late 2016 and included in the final TAoP WIP.

97. The TAoP WIP identified a number of values that apply across the Whaitua. These are shown in Figure B6.

Figure B6: Values of Te Awarua-o-Porirua identified in the TAoP WIP

3.6.3 Additional information from Ngāti Toa Rangatira post Whaitua processes

98. Council has received additional information from Ngāti Toa on their values associated with Te Awarua-o-Porirua. In October 2022, Ngāti Toa provided the Council with a freshwater vision statement as part of their submission on RPS Change 1. This statement described their values associated with freshwater and connected coastal waters. These values and a description are set in Table B2.

Table B2: Excerpt from Ngāti Toa RPS submission on RPS Change 1 setting out their values

Value	Value description
Ahikā	The value of maintaining a Ngāti Toa presence and connection. Ahikā includes names and boundaries which express the identity of Ngāti Toa. Names are indicators of the complex connections of mana whenua with te Taiao.
Āhua	Āhua is the natural character of an area, and may include exceptional natural, iconic, or aesthetic features. Matters contributing to the natural form and character are biological, visual, and physical characteristics valued by Ngāti Toa.
Customary use and contact recreation	The interaction of Ngāti Toa with fresh water and coastal waters for cultural purposes includes a spiritual relationship with water expressed through Māori practices, recreation, and harvest of natural materials. Contact recreation also supports people being able to connect with the water through a range of activities, such as swimming, surfing, waka, boating, fishing, diving, underwater photography, mahinga kai in a range of different flows or levels.
Wai Ora	Wai ora is pure healthy water. This is water in its purest form. It contains the source of life and wellbeing. It is used in rituals to purify and sanctify and has the power to give life, sustain wellbeing and counteract evil. Waiora also means health. In the wai ora state, stream flow is steady with ripples and the stream or riverbed is stony. Children and kaumātua can drink the water and eat the food that comes from streams without hesitation. Mahinga Kai is abundant and able to be sustainably harvested. Knowledge of mahinga kai is abundant and transferred to younger generations. The abundance and vitality of mahinga kai express te ha o te ora of water bodies. Hau ora (well-being) is available.
Kaimoana	Kaimoana is the values associated with customary gathering of food and natural materials from the sea, as well as the food and resources themselves and the places where those resources are gathered.
Mahinga Ika	Mahinga ika are fishing grounds of significance to Ngāti Toa.
Mahinga Kai	Mahinga kai is the customary gathering of food and natural materials, the food, and resources themselves and the places where those resources are gathered. Te mahi kai is the utilisation of the resources of this awa for spiritual sustenance and is its highest value.

Ngā mahi o ngā tūpuna	Ngā mahi o ngā tūpuna are values associated with the interaction of Ngāti Toa with fresh and coastal waters in relation to exercising kaitiakitanga and other purposes. This includes cultural and spiritual relationships with freshwater and the coast (Te Moana o Raukawa) expressed through daily practices, recreation, and the harvest of natural materials.
Ngā tohu o te moana	Landmarks, prominent hills, rocks, and reefs which aided navigation and guidance to locate fishing grounds and maritime wayfinding.
Papakāinga	Ngāti Toa settlements and villages including mārae.
Pou whenua	Pou whenua are boundary markers. They could be significant landmarks, streams, headlines, or posts.
Taonga species	All of the environment is sacred and associated with the ancestors. However, some plant, animal and freshwater species have particular importance for spiritual or cultural purposes.
Wāhi maumahara	Wāhi maumahara are memorial places and are often associated with a significant event or person connected to the history of Ngāti Toa. Sometimes these places consisted of a memorial stone or marker associated with an ancestor (Kōwhatu whakamaharatanga). Wāhi maumahara includes places of learning and where local knowledge and histories are etched into the landscape. These are places that have been central to intergenerational knowledge transmission of Ngāti Toa tūpuna and could be used as such again in the future.
Wāhi tapu	Wāhi tapu are sacred placed that are revered by Ngāti Toa for their traditional, spiritual, ritual, and mythological values.
Wāhi tūpuna	Most wāhi tapu are also wāhi tūpuna. Wāhi tūpuna are significant places associated with the ancestors of Ngāti Toa. Wāhi tūpuna includes places associated with wāhi ahurea or traditional places integral to the cultural identity of Ngāti Toa.
Wāhi whakarite	Some sites are the location of specific and restricted activities which have been undertaken by Ngāti Toa for many centuries. This is a place of ritual related especially related to mahinga kai activities that require a specific environment to function. These practices differ from day to-day activities like Ngā Mahi a ngā Tūpuna. Wāhi whakahaumanu and wāhi rongoā: Wāhi whakahaumanu are places of restoration and healing. They are often associated with sources of rongoā materials and cultural harvesting.
Wāhi whakahaumanu and wāhi rongoā	Wāhi whakahaumanu are places of restoration and healing. They are often associated with sources of rongoā materials and cultural harvesting.

Karakia and rāhui as tikanga expressions of Kaitiakitanga	Tikanga expressions of kaitiakitanga include karakia and rāhui. Karakia is an expression of the relationship between atua and tangata. These prayers often sought the assistance of Tāwhitimātea, Tāwhiti or other divine entities for assistance and support. Tamihana Te Rauparaha witnessed of the use of karakia for the winds to blow from a central direction to assist in battle. These types of karakia were called '*whakawhiro*'

3.6.4 Consistency of TAoP process with the requirements of the NPS-FM 2020

99. The value statements set out in the TAoP WIP and those provided by Ngāti Toa are both products of community and/or mana whenua engagement processes. They have both considered a wide range of values to develop these value statements. The compulsory values required to be identified by the NPS-FM can be seen in both sets of the value statements. These value statements have formed the foundation of the plan change.

3.7 Environmental outcomes

100. Environmental outcomes were introduced through the NPS-FM 2020 and are required to be included as objective(s) in the regional plan[43]. They are intended to be a high level, narrative expression(s) of the tangata whenua and community desired outcomes for their waterbodies. They must be set to achieve the identified long-term vision. The '*environmental outcomes*' then reach down to direct the setting of TAS.

3.7.1 Environmental outcomes – TWT WIP

101. The 2020 version of the NPS-FM was gazetted during the development of the TWT WIP. A decision was made to focus on the value statements and the TAS rather than develop environmental outcomes by the TWT Committee. Values were at the foundation of the TAS setting conversations.

102. The TWT WIP included a statement that all awa in all spatial areas set a long-term vision of wai ora for all water quality indicators. A pathway of short-to-medium term steps was set out in the TWT WIP. This pathway was articulated by setting TAS for three time periods. Those being:

- The first two time periods – entitled '*short-term*' and '*generational*' – show the changes that are expected from implementing the Committee's recommendations.
  - The short-term objectives (within 10 years) set an intention to hold the line given the prospect of expected declines.
  - The generational objectives (within 20 – 30 years) describe the environmental conditions that are expected to result from the full implementation of the Committee's recommendations.

[43] Clause 3.9(4) of the NPS-FM states that the regional council must include the environmental outcomes as an objective, or multiple objectives, in its regional plan.

- The final time period represents a longer-term target state that illustrates the TWT Committee's aspirations and intention for continuous improvements towards wai ora throughout the Whaitua in subsequent generations.[44]

103. Te Mahere Wai identified a number of environmental outcomes for each of the eight spatial areas. The timeframe to achieve each environmental outcome varied as some were short term outcomes and others were medium or long-term outcomes. In total, Te Mahere Wai set over 100 individual environmental outcomes. Te Mahere Wai also included a short, medium, and long-term vision statement and seventeen Te Mana o te Wai statement.

104. All the material in both the TWT WIP and Te Mahere Wai has been used to develop the environmental outcome objectives for TWT in PC1. Further detail on the development of these objectives is included in Part C of this report.

3.7.2 Environmental outcomes – TAoP WIP

105. The TAoP WIP was completed prior to the NPS-FM 2020 and therefore does not explicitly identify environmental outcomes. However, the TAoP WIP did include value statements that also expressed mana whenua and community desired outcomes (see Figure B5 above), freshwater and coastal water objectives to be achieved by 2040 and some narrative habitat objectives[45].

106. The TAoP WIP also included an acknowledgement that these objectives generally represent the expected change from the full implementation of the TAoP WIP. The achievement of the 2040 objectives was intended as the first measurable step to improving the health and wellbeing of the Whaitua and further improvement would be required to fulfil Ngāti Toa and community visions.

107. The Ngāti Toa Statement provides a mana whenua vision for Te Awarua-o-Porirua and sets out expectations for improvements.

108. This material has been used to draft environmental outcome objectives for the plan change. Officers have also been working with Ngāti Toa officers during this drafting process. Further detail on the development of these objectives is included in Part C of this report.

3.8 Identification of attributes

3.8.1 Attributes identified for TWT WIP

109. The TWT WIP set river and lake target attribute states for the attributes identified in the NPS-FM 2020, except ecological metabolism. The TWT WIP also set attributes for dissolved copper and dissolved zinc in rivers for the same reasons as the TAoP Committee.

[44] Summarized from the Te Whaitua Te Whanganui-a-Tara Implementation Programme, page 69.
[45] Te Awarua-o-Porirua Whaitua Implementation Programme – value statement page 18, freshwater objectives page 31, coastal water objectives page 32 and habitat objectives page 33.

110. Te Mahere Wai began work on Te Oranga Wai which is an indigenous assessment model developed by Te Kāhui Taiao for setting target attribute states for each of the kaupapa (core) values[46]. Te Kahui Taiao identified a complete set of 42 tikanga (attributes) for its kaupapa values[47]. Te Oranga Wai included a rating system describing the different states of attributes, from wai ora (water which gives life) through to wai mate (water that does not sustain life). It is intended that this framework would enable mana whenua to assess existing baseline state and then set target states and monitor progress towards them. Appendix 2 of Te Mahere Wai sets out the Te Oranga Wai assessments for Te Awa Kairangi, Waiwhetū, Kaiwharawhara/Wellington Urban, Korokoro and Wainuiomata.

3.8.2 Attributes identified for TAoP WIP

111. The TAoP Committee considered attributes at the same time as values, at the beginning of 2016, with the aim to identify a simple but robust group of attributes that could work for scenario testing within the Whaitua process, set objectives, calculate limits, and monitor progress into the future. A long list of attributes was presented to the TAoP Committee in May 2016[48] these were then refined to the WIP river attributes. These were the NPS-FM 2017 NOF attributes with the addition of dissolved copper and dissolved zinc.

112. The Whaitua Committee introduced dissolved copper and dissolved zinc as they can sometimes act as proxies for some of the other contaminants found in urban areas. Additionally, copper and zinc often pose the greatest toxicity risk in freshwater and marine environments that are impacted by urban stormwater due to their widespread use in construction and automotive products.

113. The TAoP WIP include attribute state band tables for both zinc and copper[49] which were developed to align with the attribute state tables for the NPS-FM attributes.

3.8.3 Attributes in Plan Change 1

114. The NPS-FM 2020 introduced new compulsory attributes for both lakes and rivers. The NPS-FM states that each regional council:

- Must use all the relevant attributes identified in Appendix 2A and 2B.
- May identify other attributes for any compulsory value.
- Must identify, where practicable, attributes for all other values
- If attributes cannot be identified or attributes are insufficient to assess a value, then the council must identify alternative criteria to assess whether the environmental outcome of a value is being achieved.[50]

[46] The kaupapa values are water quality, water quantity, habitat assessment, flora/fauna, mahinga kai, taonga species, wāhi tapu, relationship audit and mātauranga.
[47] Te Mahere Wai Wai o Te Kāhui Taiao: A Mana Whenua whaitua implementation plan to return mana to our freshwater bodies, pages 151 to 153.
[48] Microsoft PowerPoint - PRESENTATION TAoPWC Attributes - refining Hauora Kaiao - Ecosystem health 19.05.16.pptx [Read-Only] (gw.govt.nz)
[49] Te Awarua-o-Porirua Whaitua Implementation Programme – Appendix 2
[50] Summarised from section 3.10 of the NPS-FM

115. Through the Whaitua processes, mana whenua and communities have identified rich and complex values of freshwater environments that speak to how integral freshwater is to health and wellbeing. The NPS-FM does not require regional councils to identify an attribute for each value, but regional councils must have a suite of attributes and/or alternative criteria to measure the extent to which the values are provided for.

116. During the plan change development process, additional attributes, over and above the WIP attributes and compulsory NOF, were considered. It was concluded that the aquatic life and human contact attributes were integrating attributes and provide a measure for a wide range of values. The merits of a number of specific attributes were considered and it was decided to:

- Include a fish community health attribute as an additional measure of aquatic life. The Fish Index of Biotic Integrity (Fish IBI) is a very narrow measure of presence or absence of fish species. The fish community health attribute includes abundance, structure, and composition elements[51].
- Not include a specific freshwater habitat attribute as the existing multimeric habitat metrics were not fit for this purpose and the existing compulsory attributes, such as fish, deposited sediment, macroinvertebrates and periphyton already manage for some of the key components of habitat and they require habitat to be managed to achieve them[52].
- Retain the wetland objectives in the NRP as these objectives are the best available for wetlands.
- Set narrative alternative criteria to maintain groundwater flows and levels, and water quality for a range of values.

3.9 Identification of target attribute state sites

117. Both of the WIPs divided their whaitua into smaller spatial units and set numeric objectives (akin to target attribute states) that applied to all waterbodies within those smaller spatial units.

118. The NPS-FM requires regional councils to set TAS and identify the site or sites to which the TAS applies. TAS monitoring sites are one of the key elements of the plan change and NPS-FM implementation monitoring programme. Other elements include state of the environment monitoring and targeted investigations into specific catchments or activities.

119. As part of the plan change development a technical work programme was undertaken to identify TAS sites and delineate part FMUs. The TAS site selection was based on the existing monitoring network refining the number of sites but still captured the variation in the WIPs and detect the impact of practice change on water quality and ecology across each whaitua[53]. This work fed into the

[51] Greer et al (2023), Section 4 – Torlesse Memo – Recommended approach to dealing with new attributes and values introduced in the NPS-FM 2020, pages 38 and 39.
[52] Greer et al (2023), Section 5 – Habitat attribute review, pages 41 to 43.
[53] Greer et al (2023), Appendix B - Collaborations Memo – Spatial assessments of target attribute and monitoring sites, and consideration of Freshwater Management Units for 2022 plan change

technical work required to delineate the part FMUs which then in turn drove a further refinement of TAS sites[54].

120. The TAS sites for each part FMU within TWT and TAoP are:

- Whakatikei River at Riverstone
- Hutt River at Boulcott
- Mangaroa River at Te Marua
- Hulls Creek adjacent Reynolds Bach Drive
- Waiwhetu Stream at Whites Line East
- Black Creek at Rowe Parade end
- Wainuiomata River Downstream of White Bridge
- Mākara Stream at Kennels
- Korokoro at Cornish Street Bridge
- Kaiwharawhara Stream at Ngaio Gorge
- Karori Stream at Mākara Peak Mountain Bike Park
- Wai-O-Hata on Duck Creek at Tradewinds Drive Bridge
- Taupō Stream at Plimmerton Domain
- Horokiri Stream at Snodgrass
- Pāuatahanui Stream at Elmwood Bridge
- Porirua Stream at Milk Depot.

121. In addition to the above TAS sites the plan change also includes additional *E. coli* TAS sites at each primary contact site. These are set out in section 3.5.1 above.

3.10 Current state

122. The plan change document does not include current state. However, current state was identified and documented in each of the Whaitua processes. Current state was determined through a range of methods and expressed at either a site scale or an expected state across an area.

3.11 Identifying baseline attribute state

123. The concept of baseline state was introduced and defined[55] through the NPS-FM 2020. Regional councils must identify a baseline for each attribute at the TAS site using best available information.

3.11.1 Baseline state assessment for rivers in TAoP and TWT

124. In summary for PC1, the baseline state for all of the compulsory NOF attributes is the state of the attribute on 7 September 2017 as the regional council has not set freshwater objectives under previous NPS-FMs.

[54] Greer et al (2023), Section 3 – Torlesse and Collaborations Memo – Recommended part FMUs and TAS sites for Te Awarua-o-Porirua Whaitua and Whaitua Te Whanganui-a-Tara

[55] The NPS-FM definition: Baseline state, in relation to an attribute, means the best state out of the following:

a) the state of the attribute on the date it is first identified by a regional council under clause 3.10(1)(b) or (c)
b) the state of the attribute on the date on which a regional council set a freshwater objective for the attribute under the National Policy Statement for Freshwater Management 2014 (as amended in 2017)
c) the state of the attribute on 7 September 2017

125. Baseline state for the copper and zinc attributes is when the attribute was first identified, which was in the WIP processes. Therefore, baseline state is the state of the attribute at the time the Whaitua Implementation Programme was produced, being 2019 and 2021, for TAoP and TWT respectively.

126. The Council's ability to calculate baseline states varies across attributes and across TAS sites. Where information was available, PC1 has used the best available information to set baseline states. There are three baseline state setting scenarios:

- Insufficient data – is where a baseline state cannot be calculated – this occurs in three circumstances:
  - where the proposed TAS site is not in the same place as an existing monitoring site (these are called '*new TAS sites*' in Table B4)
  - where the TAS site is an existing monitoring site but not all attributes are currently monitored at that site
  - where the attribute is a new attribute that the Council has not monitored before (i.e., ecosystem metabolism).
- Baseline state is based on the best information available – there are two circumstances here:
  - Baseline state is calculated from monitoring data, but the monitoring record is too short and does not meet the data requirements of the NPS-FM
  - Baseline state is calculated from modelled data.
- Baseline state is calculated using monitoring data that meets the data requirements of the NPs-FM.

127. Table B4 below in section 3.13 summaries how baseline state for each attribute was set for each part FMU.

3.11.2 Baseline state assessment for the Parangarahu lakes

128. As part of the plan change development, the Council has undertaken an updated assessment of the baseline/current state of the lake attributes identified for the Parangarahu lakes. The TWT WIP estimated baseline state of the lakes using the best available data and expert opinion. The WIP process highlighted the paucity of water quality data available, and the current states presented can only be estimates rather than accurate state assessments. The one exception to this is the baseline state of aquatic plant attributes in the WIP these are considered robust as both lakes have been assessed on several occasions following appropriate methods.

129. Due to the paucity of water quality monitoring data for the Parangarahu Lakes, all available data has been used to inform baseline state, therefore, baseline state is effectively current state. For the aquatic plant attributes, a 2016 baseline state could be determined.

130. The technical work[56] to update the current state assessment and recommend baseline states has used all the data available. The revised baseline/current states for the Parangarahu Lakes are set out in Table B3. The technical work notes that *"even with the inclusion of more recently collected data to determine these current states, these data still fall well short of the data requirements in the NPS-FM 2020 and those recommended by Burns et al. (2000) for understanding lake water quality. Hence, there is still low confidence in the accuracy of these current state assessments"*[57].

Table B3: Excerpt from technical memo[58] – Recommended current (water quality attributes) and baseline (submerged plant attribute) states for selected NPS-FM water quality attributes to be included in PC1. An * indicates where these differ from the baseline states presented in the WIP.

Attribute	Lake Kōhangapiripiri	Lake Kōhangaterā
Total nitrogen	"C"	"B"
Total phosphorus	"C"	"C"
Chlorophyll *a*	"A"	"C"*
Cyanobacteria	"A"	"A"
Ammoniacal nitrogen (toxicity)	"A"	"A"
E. coli	"A"	"A"
Submerged plants (natives)	"C"*	"A"*
Submerged plants (invasive species)	"C"	"B"

3.11.3 Baseline state assessment for primary contact sites

131. As part of the plan change development the Council has used monitoring data to calculate baseline states as at 7 September 2017 for the primary contact sites identified in section 3.5.1 of this report with the exception of three sites that were established after 2017[59].

3.12 Setting target attribute states

132. The NPS-FM 2020 refined the approach to setting detailed objectives. Earlier NPS-FM required freshwater objectives to apply across the spatial unit but monitored at a site. The NPS-FM 2020 required setting '*target attribute states*' and required them to apply to a site. Both WIPs set banded objectives for the relevant NOF attributes at the time they were developed that applied across all waterbodies within the relevant spatial area. These have been used as the starting point for the TAS tables in the plan change.

133. Clause 3.11(1) of the NPS-FM requires the Council to set TASs for every attribute identified for a value and identify the site that the TAS applies. The

[56] Greer et al (2023), Section 7 – Alton Perrie Memo – Assessment of the current state of the Parangārehu Lakes.
[57] Greer et al (2023), Section 7 – Alton Perrie Memo – Assessment of the current state of the Parangārehu Lakes, page 70.
[58] Greer et al (2023), Section 7 – Alton Perrie Memo – Assessment of the current state of the Parangārehu Lakes, page 71.
[59] SLR Consulting NZ (2023), Technical Memorandum: Baseline (2017) and current (2023) *E. coli* attribute states for primary contact sites across the Wellington Region.

TAS is set at a site and indicates whether the entire part FMU needs to be maintained or improved and whether it is below the national bottom line. If an attribute cannot be identified for a value Clause 3.10(1)(d) allows Council to identify alternative criteria to assess achievement of the environmental outcome.

3.12.1 Maintaining the baseline

134. A large number of the freshwater TAS and coastal water objectives are set to maintain at baseline. The NPS-FM is clear that '*maintain*' means maintain at the actual level rather within an attribute state band. A footnote has been added to these objectives to define maintenance.[60]

3.12.2 Objective setting for rivers – TWT WIP

135. The TWT Committee developed target attribute states for rivers over a period of ten months from October 2020 to July 2021.

136. In late 2020 the TWT developed whāinga/principles that provide structure for their target attribute state setting. These were refined through early 2021 to guide the setting of targets across three time periods:

- Immediate actions (2020-2030)
  - Stop further degradation.
  - Take measurable actions that improve water within 5 years.
  - Lock in any expected improvements from actions currently in train
  - Begin actions that contribute towards longer term water quality improvements.
- Generational change (2030-2050)
  - Reverse past damage to bring our waterways and ecosystems to a healthier state.
  - Achieve the national bottom lines.
  - Achieve the types of improvements associated with the '*water sensitive*' scenario.
- Long-term outcomes (2050-2100)
  - Achieve desired environmental outcomes.

137. In November 2020[61] the TWT Committee explored a potential decision-making framework for TAS using two key catchments Kaiwharawhara and Te Awa Kairangi. This process was informed by their vision, kawa and Te Mana o te Wai.

"Kei te pūtake o te whaitua o te Whanganui-a-Tara tōna mauri mana motuhake... hei oranga mō te katoa. The mauri of Whaitua te Whanganui-a-

[60] Greer et al (2023), Section 2.8, page 10.
[61] TWT Committee meeting records and documents can be found here: Greater Wellington — Whaitua te Whanganui-a-Tara Committee meetings (gw.govt.nz)

Tara and the communities who live within it is nurtured, strengthened and able to flourish.

Our kawa are an immutable injunction to provide for te wai mouri – the essence of life that is water, te wai ora – the water that nourishes life.

Our kaupapa is Te Mana o te Wai – to restore the dignity and esteem of water as a life giver and to have respect and regard for water bodies as living entities. We put the wellbeing of water and waterbodies first. Te Mana o te Wai will be achieved through the integrated management of water including its physical and spiritual properties which are fundamental to providing for its wellbeing and the wellbeing of all who rely upon it for existence.

Our tikanga implement Te Mana o te Wai - Ki uta ki tai; He taonga te wai; Mana whakahaere; Mana tangata; Mana kaunihera"[62]

138. In November[63] and December[64] 2020 the TWT used the decision-making framework to explore target attribute state setting the Kaiwharawhara catchment.

139. In February 2021[65] the TWT Committee were presented a set of place-based memos that set out the draft water quality and ecology state scenario predictions which informed their decision making on target attribute states for Te Awa Kairangi.

140. The TWT Committee returned to target setting in June and July 2021 with a slightly different approach, that remained grounded in their kawa, to setting target attribute states for the remaining spatial areas and finalising Kaiwharawhara and Te Awa Kairangi which also included consideration of the expert panel assessments. At a workshop on 14 June 2021[66] the TWT Committee discussed the principles of target setting and had a debate about how effort should be prioritised. At a workshop on 30 June 2021[67] the Committee were presented draft targets to discuss. These discussions continued at a workshop on 21 July 2021[68]. The expert panel assessments were used to guide the medium-term target setting as these targets align with the expected result from the water sensitive scenario.

3.12.3 Freshwater objectives development for rivers – TAoP WIP

141. The TAoP Committee considered freshwater objective setting over an extended period of time. The Committee used the spatial units developed for the scenario modelling for understanding and expressing values and intended changes at a very fine scale. Throughout this '*target setting*' period, the Committee were given regular opportunities to reflect on the draft objectives

[62] TWT Committee meeting records and documents can be found here: Greater Wellington — Whaitua te Whanganui-a-Tara Committee meetings (gw.govt.nz)
[63] Ibid
[64] Ibid
[65] Ibid
[66] Ibid
[67] Ibid
[68] Ibid

and refine them as further information was presented. Continuity of objectives was considered up/downstream and for coastal receiving environments.

142. Consideration began with understanding the current state of all the spatial units in March 2018. The model developed scenario outputs for all these reporting points – current state and potential changes in state based on different scenarios.

143. The TAoP Committee began objective setting in April 2018. The objective setting exercise was facilitated through a workshop held on 19 April 2018 with information presentations to the full Committee and group exercises to work through draft targets for all the reporting points. Through these group exercises, Committee members were invited to consider and recall the information they'd previously heard about the values of the whaitua, mana whenua and community expectations, the sources of contamination, how improvements could be made, the current state information and the scenario results. A summary of that process and the results are described in the meeting record for 19 April 2018[69][70].

144. The TAoP Committee went on to consider and set draft ecological targets for a smaller set of points, which aimed to include one reporting point in each FMU type. As for water quality targets, this was done through a mixture of presentations to the full Committee and group exercises, which is described in the relevant meeting record[71][72][73].

145. Next the TAoP Committee was provided further information on the economic and social implications from scenarios, and analysis of downstream consistency freshwater quality objectives and recommended some modifications to targets. This was introduced in one meeting (21 June 2018), with further reflection time offered before being invited to reconsider the draft targets with this further information presented at the next meeting (12 July 2018) and documented.[74][75][76][77][78]

146. Once a full set of draft freshwater and coastal water objectives were set, the TAoP Committee undertook an exercise of consolidating and expressing values and intended changes at a broader scale. The project team undertook an exercise that recommended consolidating the reporting point targets and catchments together. Many factors were considered here – similarity in values and targets set, current state, predominant land use, scale, and uncertainty. Primarily, consolidation was based on consistency of target states. As part of

[69] https://www.gw.govt.nz/assets/Documents/2022/05/RECORD-Te-Awarua-o-Porirua-Whaitua-Committee-Workshop-19-April-2018.pdf
[70] https://www.gw.govt.nz/assets/Documents/2022/05/RESULTS-TAoPW-Information-for-Objective-Setting-freshwater-scenario-modelling-19-April-2018-1.pdf
[71] https://www.gw.govt.nz/assets/Documents/2022/05/FINAL-RECORD-Te-Awarua-o-Porirua-Whaitua-Committee-Workshop-10-May-2018.pdf
[72] https://www.gw.govt.nz/assets/Documents/2022/05/TAoPW-information-for-objective-setting-Ecological.pdf
[73] https://www.gw.govt.nz/assets/Documents/2022/05/PRESENTATION-Scenario-assessment-of-ecological-attributes-in-Te-Awarua-o-Porirua-10May18.pdf
[74] Rounding out the objectives (gw.govt.nz)
[75] https://www.gw.govt.nz/assets/Documents/2022/05/MEMO-Key-messages-from-life-cycle-cost-analysis-of-TAoPWC-scenarios-for-21.06.2018.pdf
[76] https://www.gw.govt.nz/assets/Documents/2022/05/Final-Workshop-Notes-Te-Awarua-o-Porirua-Whaitua-Workshop-21-June-2018.pdf
[77] https://www.gw.govt.nz/assets/Documents/2022/05/PRESENTATION-Distilling-the-messages-from-the-economic-analyses-11.07.2018.pdf
[78] https://www.gw.govt.nz/assets/Documents/2022/05/FINAL-Record-TAoPW-Committee-Workshop-12-July-2018.pdf

this exercise if the target state objectives differed across the grouped catchments the Committee had a conversation about each one to determine what the target state objective would be for that grouping. The advice and recommendations to the Committee are provided in footnoted links below, along with the Committee's discussions and decisions[79][80].

3.12.4 Target attribute state development for rivers – plan change

147. As part of the plan change development the numeric objectives (akin to TAS) recommended in the WIPs were adopted, where available, and used as the basis to develop a full suite of target attribute states as per the NPS-FM requirements.

148. A technical work was undertaken to:

- Determine if the TASs were consistent with each other and the values identified for the whaitua (e.g., are the water quality TASs likely to achieve the aquatic life TASs)
- Review the objectives from the WIPs to ensure that they align with the requirements of the NPS-FM 2020
- Set TASs for new NPS-FM 2020 attributes that were not set through the WIP processes.

149. This technical work resulted in a small number of minor departures from, and additions to, the WIP numeric objectives. These are set out here:

- For all rivers:
  - TAS that were set below the new national bottom lines were adjusted to meet the new national bottom lines.
  - TAS that were set below a new estimate of baseline state were adjusted to be the new baseline state.
  - Include a fish community health attribute[81] (without a baseline state) and set the TAS at the same band as those for macroinvertebrate community index (MCI) and quantitative macroinvertebrate community index (QMCI), including a default TAS for the part FMU that aligned with the direction of change required to meet the MCI and QMCI TAS.
  - Do not set a baseline state for ecosystem metabolism[82] and set a narrative '*maintain*' TAS objective.
  - The macroinvertebrate Average Score Per Metric (ASPM) TAS was set to align with the QMCI and MCI TAS.
  - For the DRP attribute the TAS for the median concentration was set to reflect the recommended nutrient outcome

[79] https://www.gw.govt.nz/assets/Documents/2022/05/MEMO-Spatial-scale-for-objective-setting-3.12.2018.pdf
[80] https://www.gw.govt.nz/assets/Documents/2022/05/Presentation-to-TAoPWC-03.12.18-Spatial-scale-for-objective-setting.pdf
https://www.gw.govt.nz/assets/Documents/2022/05/Te-Awarua-o-Porirua-Whaitua-Committee-Workshop-Notes-3rd-December-2018.pdf
[81] Fish IBI was considered to be a fulsome measure of fish health. Fish community health is a narrative attribute that encompasses abundance, structure, and composition of fish communities.
[82] Ecosystem metabolism that was added to the NPS-FM in 2020 and the Council does not currently monitor this attribute.

- For the new attributes not included in the TAoP WIP:
  - Dissolved oxygen no baseline state could be identified so the TASs were set to maintain.
  - Deposited sediment and suspended fine sediment TAS were set at the baseline state, except where the national bottom line is not currently met.
  - National Fish Index of Biotic Integrity (F-IBI) no baseline state could be identified so the TASs were set to maintain.
  - DRP TAS for the 95th percentile concentration was set at baseline state and a separate TAS for the median concentration was set to reflect the recommended nutrient outcome.

150. Table B4 below in section 3.13 provides a summary of how the target attribute states for each attribute within each part FMU.

3.12.5 Target attribute state setting process in Te Whanganui-a-Tara for lakes

151. Rōpū Tiaki is a group that jointly manages the Parangarahu Lakes its member are representatives from Greater Wellington and Taranaki Whānui. The project team that supported the TWT Committee worked directly with Rōpū Tiaki and TWT Committee representatives to develop the desired outcomes and TAS for the Parangarahu Lakes through two workshops. One introductory workshop and then one main workshop were held where the outcomes and TAS were discussed. Rōpū Tiaki reviewed the draft material to be incorporated into the final TWT WIP and were supportive of the TWT WIP direction. The TWT Committee[83] received the direction and adopted this direction from the Rōpū Tiaki as the co-management board for the Parangarahu Lakes.

3.12.6 Target attribute state development for the Parangarahu Lakes – plan change

152. Two approaches to determining water quality target attribute states for the Parangarahu Lakes were considered during the plan change development, given the lack of baseline/current state data. A simple, '*maintain*', or '*improve*', direction was also considered[84] instead of adopting the objectives recommended in the TWT WIP. The plan change has however followed the TWT WIP and included the objectives recommended by the TWT Committee as TAS, as these represent mana whenua and community desired outcomes.

153. For the aquatic plant TASs the objectives recommended in the TWT WIP were included as TAS in the plan change.

3.13 Summary of baseline and target setting for rivers in PC1

154. Table B4 provides a summary of how the baseline states and target states have been set for rivers attribute in the plan change.

[83] TWT Committee meeting records and documents can be found here: Greater Wellington — Whaitua te Whanganui-a-Tara Committee meetings (gw.govt.nz)
[84] Greer et al (2023), Section 7 – Alton Perrie Memo – Assessment of the current state of the Parangārehu Lakes

Table B4: Summary of baseline states and target attribute states for river attributes in the plan change

Attribute	TAoP[85]		TWT	
	Baseline[86]	**Target[87]**	**Baseline**	**Target**
Periphyton	Everywhere: Insufficient data to determine baseline states Except: Taupō – N/A[88] Pouewe – Baseline state based on limited data (best information available)	Everywhere: TAS set as recommended by the WIP Except: Taupō – N/A	Everywhere: Insufficient data to determine baseline states Except: Te Awa Kairangi lower mainstem Te Awa Kairangi rural streams and rural mainstems Wainuiomata rural streams Kaiwharawhara Stream	Everywhere: TAS set as recommended by the WIP.
Ammonia (toxicity)	Existing TAS sites: baseline states based on monitoring data. New TAS sites: baseline states based on model results (best information available)	Everywhere: TAS set as recommended by the WIP Except: Te Riu o Porirua as the WIP TAS did not meet baseline state or NPS-FM national bottom line	Everywhere: baseline states based on monitoring data Except: Korokoro – insufficient data to determine baseline state	Everywhere: TAS set as recommended by the WIP except where baseline state is better [89].
Nitrate toxicity	Existing TAS sites – baseline states based on monitoring data.	Everywhere: TAS set as recommended by the WIP.	Everywhere: baseline states based on monitoring data Except:	Everywhere: TAS set as recommended by the WIP.

[85] Existing TAS sites are Pouewe, Takapū, Te Riu o Porirua. New TAS sites are Taupō and Wai-O-Hata
[86] The TAoP Committee did not set baseline states.
[87] Wai-O-Hata was part of the Takapū water management unit in the TAoP WIP it has been split out as its own part FMU in the plan change the TAS have been based on the Takapū freshwater objective recommendations in the TAoP WIP.
[88] Taupō is naturally soft bottomed so unlikely to support periphyton.
[89] Baseline state has been found to be better in Kaiwharawhara and Wellington Urban

Attribute	TAoP[85]		TWT	
	Baseline[86]	**Target[87]**	**Baseline**	**Target**
	New TAS sites – baseline states based on model results (best information available)		Korokoro – insufficient data to determine baseline state	
Suspended fine sediment[90]	Existing TAS sites – baseline states based on monitoring data. New TAS sites – baseline states based on model results (best information available)	Everywhere: Maintain at baseline state except where baseline state is below the national bottom line[91].	Everywhere: baseline states based on monitoring data Except: Korokoro – insufficient data to determine baseline state	Everywhere: TAS set as recommended by the WIP except where baseline state is better[92].
***E. coli*[93]**	Existing TAS sites – baseline states based on monitoring data. New TAS sites – baseline state based on model results (best information available)	Everywhere: TAS set as recommended by the WIP.	Everywhere: baseline states based on monitoring data Except: Korokoro – insufficient data to determine baseline state	Everywhere: TAS set as recommended by the WIP except where baseline state is better [94].
Fish- IBI[95]	Everywhere: Insufficient data to determine baseline states	Everywhere: TAS is set at maintain	Everywhere: insufficient data to determine baseline state	Everywhere: TAS set as recommended by the WIP.
Fish community health	Everywhere: Insufficient data to determine baseline states	Everywhere: TAS is set at the same level as MCI and QMCI	Everywhere: Insufficient data to determine baseline states	Everywhere: TAS is set at the same level as MCI and QMCI

[90] Suspended fine sediment was introduced to the NOF in 2023 so TAoP Committee did not consider this attribute when setting freshwater objectives.
[91] Means Takapū requires an improve from D state to C state.
[92] Baseline state has been found to be better in Te Awa Kairangi urban streams and Wellington Urban.
[93] Council officers are proposing an extended timeframe for the achievement of the *E. coli* TAS.
[94] Baseline state has been found to be better in Wainuiomata rural streams.
[95] Fish IBI was introduced to the NOF in 2023 so TAoP Committee did not consider this attribute when setting freshwater objectives.

Attribute	TAoP[85]		TWT	
	Baseline[86]	**Target[87]**	**Baseline**	**Target**
MCI and QMCI	Existing TAS sites: baseline states based on monitoring data. New TAS sites: Insufficient data to determine baseline state	Everywhere: TAS set as recommended by the WIP.	Everywhere: TAS set as recommended by the WIP. Except: Korokoro, Te Awa Kairangi urban streams and Wainuiomata urban streams – insufficient data to determine baseline state	Everywhere: TAS set as recommended by the WIP[96].
ASPM[9798]	Existing TAS sites: baseline states based on monitoring data. New TAS sites: Insufficient data to determine baseline state	Everywhere: Set to align with the approach for MCI	Existing TAS sites: baseline states based on monitoring data. Except: Korokoro, Te Awa Kairangi urban streams and Wainuiomata urban streams – insufficient data to determine baseline state	Everywhere: TAS is set at the same level as MCI and QMCI (except where baseline state is higher)
Deposited fine[99] sediment	Existing TAS sites: baseline states based on monitoring data. New TAS sites: Insufficient data to determine baseline state.	Everywhere: TAS set at maintain	Everywhere: baseline states based on limited data (best information available) Except: Korokoro – insufficient data to determine baseline state	Everywhere: TAS set as recommended by the WIP[101].

[96] Noting in Wainuiomata urban streams the TAS is set at C state instead of D state as the TAS must be set above the national bottom line.
[97] ASPM was introduced to the NOF in 2023 so TAoP Committee did not consider this attribute when setting freshwater objectives.
[98] The TWT Committee only recommend one macroinvertebrate attribute.
[99] Deposited fine sediment was introduced to the NOF in 2023 so TAoP Committee did not consider this attribute when setting freshwater objectives.
[101] Noting the TWT WIP did not set TAS in Te Awa Kairangi urban streams and Waiwhetū these have now been set at B state and C state respectively.

Attribute	TAoP[85]		TWT	
	Baseline[86]	**Target[87]**	**Baseline**	**Target**
	Except: Taupō – N/A[100]			
Dissolved oxygen[102]	Everywhere: Insufficient data to determine baseline states	Everywhere: TAS is set at maintain	Everywhere: insufficient data to determine baseline state	Everywhere: TAS set as recommended by the WIP
Dissolved inorganic nitrogen[103]	Existing TAS sites: baseline states based on monitoring data. New TAS sites: baseline state based on model results (best information available)	Everywhere: TAS is set to achieve nutrient outcomes set in accordance with 3.13 of the NPS-FM Except: Taupō – where TAS is set to achieve nitrate and ammonia TAS[104]	Existing TAS sites: baseline states based on monitoring data. Except: Korokoro – insufficient data to determine baseline state	Everywhere: TAS is set to achieve nutrient outcomes set in accordance with 3.13 of the NPS-FM
Dissolved reactive phosphorus[105]	Existing TAS sites: baseline states based on monitoring data. New TAS sites: baseline state based on model results (best information available)	Everywhere: TAS is set to achieve nutrient outcomes set in accordance with 3.13 of the NPS-FM Except Taupō – where TAS is set to maintain baseline state[106]	Existing TAS sites: baseline states based on monitoring data. Except: Korokoro – insufficient data to determine baseline state	Everywhere: TAS is set to achieve the WIP recommendations and nutrient outcomes set in accordance with 3.13 of the NPS-FM

[100] Taupō is naturally soft bottomed.
[102] Dissolved oxygen was introduced to the NOF in 2023 so TAoP Committee did not consider this attribute when setting freshwater objectives.
[103] Refer to Technical Memo for detailed explanation of how the nutrient exceedance criteria have been set.
[104] Taupō is naturally soft bottomed and does not support periphyton growth.
[105][105] Refer to Technical Memo for detailed explanation of how the nutrient exceedance criteria have been set.
[106] Taupō is naturally soft bottomed and does not support periphyton growth.

Attribute	TAoP[85]		TWT	
	Baseline[86]	**Target[87]**	**Baseline**	**Target**
Dissolved copper	Everywhere: baseline state based on model results (best information available) Except: Te Riu o Porirua – baseline states based on monitoring data	Everywhere: TAS set as recommended by the WIP.	Everywhere: baseline states based on monitoring data Except predominantly rural areas and new TAS sites: New TAS site - Korokoro – insufficient data to determine baseline state. Predominantly rural areas – Whakatikei, Mangaroa, Wainuiomata downstream, Mākara Stream	Everywhere: TAS set as recommended by the WIP except where baseline state is better [107].
Dissolved zinc	Everywhere: baseline state based on model results (best information available) Except: Te Riu o Porirua – baseline states based on monitoring data	Everywhere: TAS set as recommended by the WIP.	Everywhere: baseline states based on monitoring data Except predominantly rural areas and new TAS site: New TAS site - Korokoro – insufficient data to determine baseline state. Predominantly rural areas – Whakatikei, Mangaroa, Wainuiomata downstream, Mākara Stream	Everywhere: TAS set as recommended by the WIP except where baseline state is better [108].

[107] Baseline state has been found to be better in Te Awa Kairangi urban streams and Wainuiomata urban streams.
[108] Baseline state has been found to be better in Te Awa Kairangi urban streams, Wainuiomata urban streams and Wellington urban.

Attribute	TAoP[85]		TWT	
	Baseline[86]	Target[87]	Baseline	Target
Ecosystem metabolism[109]	Everywhere: There is no monitoring or modelling data for this attribute	Everywhere: Set at maintain	Everywhere: There is no monitoring or modelling data for this attribute	Everywhere: Set at maintain

[109] Ecosystem metabolism was introduced to the NOF in 2020 and neither whaitua committee set TAS for this attribute.

3.14 Coastal water objectives

155. Clause 1.5 states that the NPS-FM applies to all freshwater (including groundwater) and, to the extent they are affected by freshwater, to receiving environments[110]. Clause 3.5 requires local authorities to adopt an integrated approach, ki uta ki tai, as required by Te Mana o te Wai, so that the fresh waterbodies are managed to avoid, remedy, or mitigate adverse effects on the health and wellbeing of the receiving environments. Additionally, Clause 3.11 requires Councils when setting TAS to have regard to the environmental outcomes and TAS of any receiving environments and the connection of water bodies to receiving environments. Hence, while the NPS-FM only requires objectives to be set for freshwater, these objectives must be set to achieve any relevant coastal objectives. Both whaitua committees considered and articulated coastal water objectives given the value of the coastal receiving environments to mana whenua and the community, and the potential impacts of contaminants received from freshwater bodies and surrounding land-uses.

156. Both TWT and TaoP have areas where whole river catchments are piped, flowing through the local authority stormwater network then into the coastal environment via a stormwater outfall. Whilst daylighting of these streams and monitoring of freshwater would be preferrable, these areas are necessarily managed to achieve coastal water objectives.

3.14.1 Coastal water objectives – TWT WIP

157. In September 2020 the TWT Committee was introduced to coastal water objective setting and commissioned a coastal expert panel. In July 2021[111] the TWT Committee returned to coastal water objective setting as part of their target setting workshops and applied the same methodology to setting the coastal water objectives.

3.14.2 Coastal water objectives – TAoP WIP

158. The majority of the TAoP whaitua area flows into either the Onepoto Arm or the Pāuatahanui Arm of Porirua harbour. These areas are highly sensitive receiving environments, and their health is heavily influenced by the freshwater bodies that flow into them.

159. The TAoP Committee was introduced to coastal water objectives at the same time as setting the freshwater objectives. The TAoP Committee developed a draft set of targets in May 2018[112][113]. These were then further built on with scenario modelling outputs and draft harbour targets were refined. The information, advice and TAoP Committee directions are described in the 23

[110] The NPS-FM defines receiving environment to include but is not limited to, any water body (such as a river, lake, wetland or aquifer) and the coastal marine area (including estuaries).
[111] TWT Committee meeting records and documents can be found here: Greater Wellington — Whaitua te Whanganui-a-Tara Committee meetings (gw.govt.nz)
[112] https://www.gw.govt.nz/assets/Documents/2022/05/MEMO-RESULTS-TAoPW-Key-Messages-Expert-Analysis-Results-Harbour-Attributes-31-May-2018.pdf
[113] https://www.gw.govt.nz/assets/Documents/2022/05/FINAL-Workshop-Notes-TAoPW-Committee-Meeting-31-May-2018.pdf

August 2018 meeting record[114][115]. Further work was requested which came to the TAoP Committee over workshops held 27 and 28 October 2018 which enabled the TAoP Committee to confirm the outstanding harbour targets[116][117][118].

160. These coastal water objectives then drove the development of freshwater load reductions recommendations metals, sediments, and nutrients.

3.14.3 Coastal water objectives – plan change

161. The technical work programme for PC1 undertook additional technical work to support the development to the coastal water objectives[119]. In summary:

- The enterococci attribute state framework used in both WIPs was found to be inappropriate for use in PC1. It is recommended that the '*Percentage of exceedances over 500 Enterococci per 100ml*' statistic was not included in PC1.
- A precautionary approach to maintaining zinc (Zn) and copper (Cu) concentrations in harbour sediments was found to be justified.

3.15 Nutrient outcomes

3.15.1 Nutrient approach – TWT WIP

162. The TWT Committee (guided by the NPS-FM 2020) set banded current and forecasted attribute states for dissolved reactive phosphorus (DRP) for each spatial unit. The TWT Committee did not go as far to recommend instream concentrations or exceedance criteria, and this was left to the plan change process.

3.15.2 Nutrient approach – TAoP WIP

163. The TAoP Committee (guided by the NPS-FM 2017) recommended setting limits to maintain the load of total nitrogen and total phosphorus entering each harbour arm to support the achievement of the macroalgae objectives in the Onepoto Arm and Pāuatahanui Inlet. The TAoP Committee also recommended setting concentration criteria for dissolved inorganic nitrogen (DIN) and dissolved reactive phosphorus (DRP) to help achieve the periphyton objectives.

3.15.3 Nutrient approach set out in the NPS-FM

164. The direction for setting nutrient outcomes has been amended over subsequent versions of the NPS-FM. The concept of instream concentrations and exceedance criteria was introduced through the NPS-FM 2020 and then subsequently amended in 2023. For these reasons, the approach taken in the

[114] https://www.gw.govt.nz/assets/Documents/2022/05/Recommended-harbour-objectives-Final.pdf
[115] https://www.gw.govt.nz/assets/Documents/2022/05/RECORD-Te-Awarua-o-Porirua-Whaitua-Committee-Workshop-23-August-2018.pdf
[116] https://www.gw.govt.nz/assets/Documents/2022/05/MEMO-Further-advice-and-recommendations-for-harbour-Enterococci-objectives.pdf
[117] https://www.gw.govt.nz/assets/Documents/2022/05/MEMO-Further-advice-and-recommendations-for-harbour-sediment-metals-objectives.pdf
[118] https://www.gw.govt.nz/assets/Documents/2022/05/TAoPW-Committee-Workshop-Record-27th-and-28th-October-2018.pdf
[119] Greer et al (2023), Section 12 – Dr Megan Oliver Memo – Technical memo to support coastal attribute implementation in TAoP and TWT.

WIPs is outdated now given the changes in more recent NPS-FM versions. MfE has also provided guidance related to setting instream nutrient concentrations.

165. Clause 3.13 of the NPS-FM requires regional councils to set appropriate instream concentrations and exceedance criteria, or instream loads, for nitrogen and phosphorus (nutrient outcomes). The 2023 version of Clause 3.13 is less prescriptive than the 2020 version. There is now a level of discretion provided to regional councils to determine '*appropriate*' nutrient criteria leading to less clarity in how councils should set nutrient criteria.

166. The plan change has developed median DIN and DRP concentrations that can be used as nutrient outcomes[120] by following the guidance provided by MfE (released 2022a and 2022b). There are numerous steps and decision points set out in the guidance to set nutrient criteria. Key elements of the plan change approach were:

- Nutrient outcomes have been set as instream concentration thresholds (ICT)
- ICT have been developed using Strategy 1 (using already published nutrient criteria technical reports and papers) consistent with MfE guidance[121]
- Strategy 1 is as recommended by the MfE guidance as *"practical to implement Strategy 1 in the short term"*[122] given the time constraints regional council's face to notify a plan change by 2024.
- ICTs were set under the guidance of Dr Snelder in relation to the NPS-FM periphyton biomass TAS and calculated according to the associated guidance[123]
- ICTs using the look-up tables within the published guidance were found to be too permissive[124]
- ICTs were then calculated using an updated look-up tables developed by Dr Snelder[125]. These have been found to be generally consistent with council monitoring data and as such represent the best available option for implementing Strategy 1 of the MfE guidance.

3.16 Sediment load reduction targets required to achieve sedimentation rates in TAoP.

167. The TAoP WIP included recommendations to reduce the harbour arm catchment sediment load reduction to achieve the sedimentation rate and

[120] Greer et al (2023), Section 2.4, page 8.
[121] Ministry for the Environment. 2022. Setting instream nutrient concentration thresholds for nutrient-affected attributes in rivers: Guidance on implementing Clause 3.13 of the NPS-FM, pages 77 to 78. Setting instream nutrient concentration thresholds for nutrient-affected attributes in rivers | Ministry for the Environment
[122] Ministry for the Environment. 2022. Setting instream nutrient concentration thresholds for nutrient-affected attributes in rivers: Guidance on implementing Clause 3.13 of the NPS-FM, page 92. Setting instream nutrient concentration thresholds for nutrient-affected attributes in rivers | Ministry for the Environment
[123] Snelder T, Kilroy C & Booker DJ. 2022. Derivation of nutrient criteria for periphyton biomass objectives. Report to Ministry for the Environment by Land Water People.
[124] Greer et al (2023), Appendix E – Dr Ton Snelder Memo – Validation of nutrient criteria to achieve periphyton target attribute state in the Greater Wellington Region.
[125] Greer et al (2023), Appendix F – Dr Ton Snelder Memo – Update of nutrient criteria to achieve periphyton target attribute states in the Greater Wellington Region.

muddiness objectives within each harbour arm (Table B5). The TAoP Committee considered setting load reductions for each freshwater catchment but recognised that uncertainties in the information available warranted caution against recommending load reductions at the finer catchment by catchment scale.

Table B5: Total sediment load limits and targets to be achieved by 2040 in Te Awarua-o-Porirua Whaitua (adapted from Te Awarua-o-Porirua Whaitua Committee, 2019)[126]

	Pāuatahanui	Onepoto
Sedimentation rate objective (2040)	Net average sedimentation rate is less than 2mm/year in Pāuatahanui Inlet (rolling average over the most recent 5 years of data)	Net average sedimentation rate is less than 1mm/year in Onepoto Arm (rolling average over the most recent 5 years of data)
Current total sediment loads Annual average (tonnes/yr)	5,200	2,800
Sediment limits Annual average (tonnes/yr)	5,200	2,800
Sediment target % reduction from limit	-40%	-40%

168. As part of the plan change development process the technical work programme reviewed the sediment load reductions required to achieve the sedimentation rate objective[127] and this review was peer reviewed[128]. The percentage reduction in sediment load expressed in the TAoP WIP was from the annual average sediment load of the 2005-2014 time period. This review found that:

"Using the 2005-14 period sediment load averages to express the current sediment load and load limit in the WIP may not have been appropriate. These levels reflect a lower level of sediment input than the historical levels. Instead, the current sediment load should be expressed using the longer-term average annual load (2004-2014)"[129]

[126] Note references to '*limit*' and *'target*' in this table refer to the NPS-FM 2017 version definitions.
[127] Greer et al (2023), Section 11 – Brent King Memo – Review of the sediment load reductions required to achieve sedimentation rate targets in Te Awarua-o-Porirua, pages 91 to 98.
[128] Greer et al (2023), Appendix J – Peer review of sediment load target setting process for TAoP.
[129] Greer et al (2023), Section 11 – Brent King Memo – Review of the sediment load reductions required to achieve sedimentation rate targets in Te Awarua-o-Porirua, page 97.

169. Revised sediment input baseline and load reduction targets were therefore developed for the plan change (Table B6)130.

Table B6: Revised sediment input baseline and load reduction targets for the plan change

	Pāuatahanui	Onepoto
Sedimentation rate objective (2040)	Net average sedimentation rate is less than 2mm/year in Pāuatahanui Inlet (rolling average over the most recent 5 years of data)	Net average sedimentation rate is less than 1mm/year in Onepoto Arm (rolling average over the most recent 5 years of data)
Long-term average annual load (2004-14) (tonnes/yr)	8,000	5,200
Sediment limits Annual average (tonnes/yr)	8,000	5,200
Sediment target % reduction from limit	-40%	-40%

170. There is some uncertainty around the calculated total annual sediment load which is needed to achieve the sedimentation rate reduction and therefore greater emphasis has been placed on the sediment load percentage reductions when developing provisions.

3.17 Sediment loads required to achieve the visual clarity target attribute state.

171. Visual clarity is a new attribute introduced by the NPS-FM 2020. The visual clarity TAS is influenced by the sediment load. This relationship is not linear. The sediment loads required to achieve the visual clarity TASs have been calculated at the existing monitoring sites [131]. The part FMUs that require reductions are set out in Table B7.

[130] Greer et al (2023), Section 11 – Brent King Memo – Review of the sediment load reductions required to achieve sedimentation rate targets in Te Awarua-o-Porirua, page 98.
[131] Greer et al (2023), Section 9 Collaborations Memo – Plan Change 1 Sediment – Clarity relationship assessment.

Table B7: Sediment load reductions required to meet the visual clarity TAS

Part-FMU	Target Attribute Site	Baseline clarity median (m)	Clarity target (m)	Baseline dSedNet mean annual TSS load (t/year)	TSS load reduction required to meet clarity target
TWT TAS					
Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems	Whakatikei R. @ Riverstone	4	4	3,189	0%
Te Awa Kairangi rural streams and rural mainstems	Mangaroa R. @ Te Marua	**1.5**	**2.22**	**10,965**	**-51%**
Te Awa Kairangi urban streams	Hulls Ck adj. Reynolds Bach Dr.	1.2	1.2	181	0%
Te Awa Kairangi lower mainstem	Hutt R. @ Boulcott	**2.4**	**2.95**	**102,303**	**-24%**
Waiwhetū Stream	Waiwhetū S. @ Whites Line E.	1.1	1.1	228	0%
Wainuiomata urban streams	Black C. @ Rowe Parade end	**1.3**	**2.22**	**382**	**-50%**
Wainuiomata rural streams	Wainuiomata R. DS White Br.	**2.1**	**2.22**	**12,243**	**-7%**
Kaiwharawhara Stream	Kaiwharawhara S. @ Ngaio Gorge	3.2	3.2	290	0%
Wellington urban	Karori S. @ Mākara Peak	3.2	3.2	2,159	0%
Parangarahu catchment streams and South-west coast rural streams	Mākara S. @ Kennels	**1.6**	**2.22**	**4,437**	**-34%**
TAoP TAS					
Pouewe	Horokiri Stream @ Snodgrass	2.3	2.3	764	0%

Part-FMU	Target Attribute Site	Baseline clarity median (m)	Clarity target (m)	Baseline dSedNet mean annual TSS load (t/year)	TSS load reduction required to meet clarity target
Takapū	Pāuatahanui S. @ Elmwood Bridge	**1.8**	**2.22**	**2311**	**-25%**
Te Riu o Porirua	Porirua S. @ Milk Depot	1.7	1.7	1705	0%
Taupō	Taupō S. @ Plimmerton Domain	1.2	1.2	15	0%
Wai-O-Hata	Duck Ck at @ Tradewinds Dr. Br.	1.2	1.2	526	0%

3.18 Metal load reduction targets required to achieve the coastal water objectives in TAoP.

172. The TAoP WIP set metal load reductions for both zinc and copper (Table B8) for each harbour arm catchment to ensure that the concentration of metals in the harbour sediments would not increase as the sediment inputs into the harbour arms decreased. To achieve this, the TAoP WIP recommended that a reduction in total zinc and copper load is required to match the reduction in sediment load.

Table B8: Zinc and copper load reductions set out in the TAoP WIP (adapted from Te Awarua-o-Porirua Whaitua Committee, 2019)

WMU	Current total zinc load Annual average (kg/yr)	Total zinc target % reduction	Current total copper load Annual average (kg/yr)	Total copper target % reduction
Onepoto Arm	2,650	40	240	40
Pāuatahanui	580	40	70	40

173. As part of the development of PC1 the technical assumption in the TAoP WIP that harbour sediment metal concentrations require a commensurate reduction in metals was tested by NIWA. The assumption was found to be supported by being the best available information[132].

[132] Greer et al (2023), Section 9 NIWA Memo – Metal reductions to achieve metal-sediment targets.

3.19 Setting environmental flows and take limits for Te Awarua-o-Porirua.

174. The TAoP Committee considered environmental flows for the rivers and streams in the Whaitua in the form of minimum flows. They determined that the existing NRP default minimum flow (90% MALF) is environmentally conservative and recommended that this be retained for TAoP. However, for clarity the TAoP Committee recommended that the defaults be expressed as numbers (L/sec) where sufficient hydrological information is available to support this. The plan change has adopted the TAoP WIP recommendations and expresses the minimum flow as numbers in three catchment management units (Porirua, Pāuatahanui and Horokiri).

175. The TAoP WIP considered take limits for consented takes in the Whaitua. They again determined that the NRP defaults were appropriate but that they should be expressed as numbers where sufficient information is available.

176. Since this recommendation was made the amended NPS-FM was gazetted, strengthening the concept of Te Mana o te Wai. Further technical advice[133] was received which takes this amendment into account. This advice recommends a more conservative approach be taken to default take limits on smaller streams (such as those in TAoP) and that the take limits should be reduced from 30% to 20% of MALF. This more recent advice is reflected in the plan change.

[133] Thompson, M.J. 2023.

Section 32 report: Part C

Evaluation of the Appropriateness of the Objectives relating to implementation of the NPS-FM for Te Awarua-o-Porirua Whaitua and Whaitua Te Whanganui-a-Tara

for Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region

Contents

1. Introduction

1. Part C of this report fulfils the requirements of section 32(1)(a) of the RMA. In summary, section 32 requires an evaluation of the extent to which the objectives are the most appropriate way to achieve the purpose of the RMA.

2. Part C of this report explains the suite of objectives proposed in PC1 and provides an assessment of their appropriateness.

2. Objectives framework for Te Whanganui-a-Tara and Te Awarua-o-Porirua

3. PC1 proposes a suite of new freshwater and coastal water objectives (refer to Table C1 for details) that direct the management of land and water to achieve the desired catchment-based outcomes of the community and mana whenua in TWT and TAoP. The proposed objectives sit alongside the existing Chapter 3 objectives in the NRP and in some cases replace these objectives (refer to Table C1 for details). The existing objectives that do not apply are indicated the following symbols in the plan change document. 

4. No objective takes precedence over another and a number of the existing objectives in Chapter 3 of the NRP remain relevant to the policies, rules in Chapters 8 and 9 and other methods relating to these two whaitua.

Table C1: Summary of new and amended objectives within PC1.

Nature of change	Objective No.	Brief description of objective
Existing NRP objectives that no longer apply within TWT and TAoP	Objective O2	Importance of air, land, water, and ecosystems
	Objective O5	Availability of sufficient freshwater
	Objective O6	Benefits of taking and using water
	Objective O17	Maintain or improve water quality
	Objective O20	Estuaries
	Objective O25	Outstanding waterbodies
	Objective O28	Ecosystems and habitats with significant indigenous biodiversity values
	Objective O34	Land use activities
	Objective O35	Livestock access
	Objective O36	Runoff or leaching of contaminants
	Objective O37	Sediment-laden runoff
	Objective O38	Stormwater

Amended objectives in Chapter 3 of the NRP	Objective O25	Outstanding waterbodies in TWT and TAoP
	Objective O28	Ecosystems and habitats with significant indigenous biodiversity values in TWT and TAoP
	Objective O18	Fresh waterbodies and the coastal waters are suitable for contact recreation and Māori customary use
	Objective O19	Biodiversity, aquatic ecosystem health and mahinga kai are safeguard
New objectives within Whaitua Te Whanganui-a-Tara Chapter 8	Objective WH.O1	Long term environmental outcome
	Objective WH.O2	Short term environmental outcome
	Objective WH.O3	Coastal water, ecosystems, and habitats
	Objective WH.O4	Nationally threatened freshwater species
	Objective WH.O5	Lakes
	Objective WH.O6	Groundwater
	Objective WH.O7	Groundwater
	Objective WH.O8	Primary contact recreation
	Objective WH.O9	Target attribute states for rivers
New objectives within Te Awarua-o-Porirua Whaitua Chapter 9	Objective P.O1	Long term environmental outcome
	Objective P.O2	Short term environmental outcome
	Objective P.O3	Coastal water, ecosystems, and habitats
	Objective P.O4	Nationally threatened freshwater species
	Objective P.O5	Groundwater
	Objective P.O6	Target attribute states for rivers

2.1 New objectives in Chapter 8 (TWT) and Chapter 9 (TAoP)

5. The proposed objectives for both the TWT and TAoP chapters of the NRP focus on implementing the NOF. The proposed objectives work together as a package and are illustrated in Figure C1 below. The objective package sets direction for:

- all waters – groundwater, rivers, lakes, natural wetlands, estuaries, harbours, and open coastal areas.
- achievement of the vision objectives in Variation 1 to the RPS.
- all values associated with freshwater.
- achievement of community and mana whenua outcomes at two timesteps – 100 years and 20 years.

- improving degraded freshwater waterbodies and areas of coastal water and maintaining all other waterbodies and areas of coastal waters.

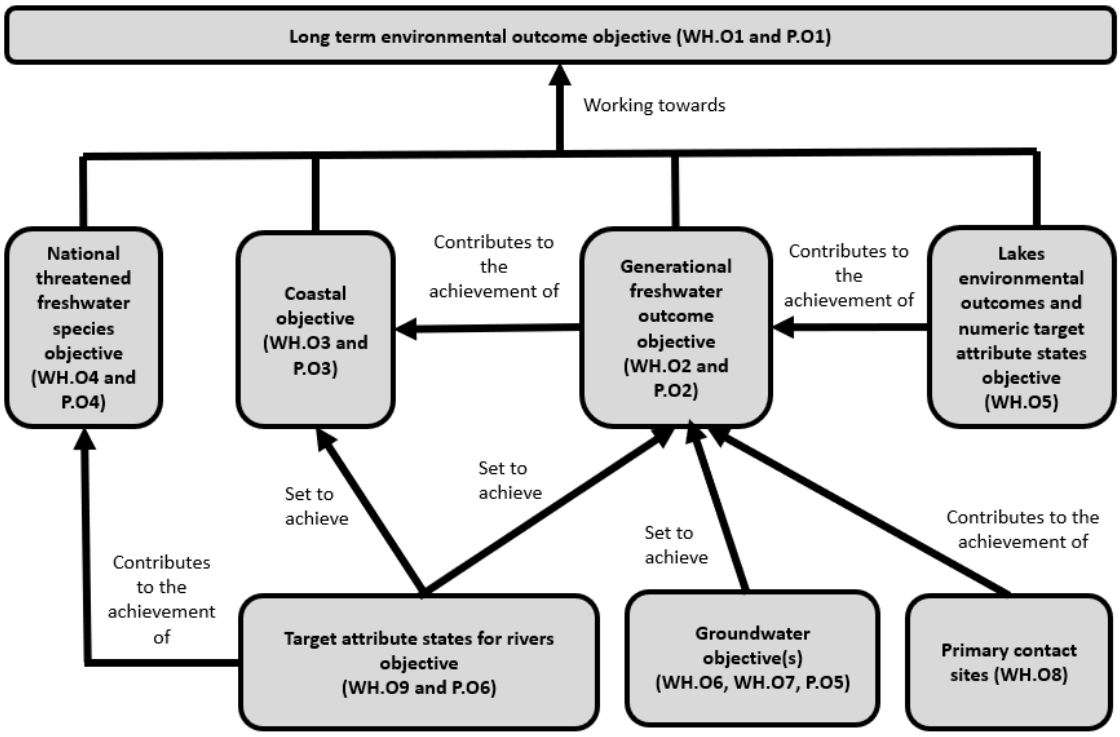

Figure C1: Summary of objectives package

2.1.1 Long term environmental outcomes: Objectives WH.O1 and P.O1

6. The plan change has responded to the proposed vision objectives in Variation 1[1] to RPS Change 1 by setting environmental outcome objectives at two timesteps.

7. Each chapter begins with an objective (Objectives WH.O1 and P.O1) that sets a long-term environmental outcome for all freshwater bodies and coastal receiving environments within each whaitua. The whaitua is identified as an FMU and the whaitua definition has been amended to identify the individual whaitua. These objectives are set to achieve the proposed vision objectives for both TWT and TAoP within Variation 1 to RPS Change 1. This plan change does not set TASs that align with these objectives nor are the provisions seeking to achieve these objectives. The purpose of these objectives is to signal the ultimate aspiration that mana whenua and the community hold for fresh waterbodies and the coastal environment. Both Ngāti Toa and Taranaki Whānui have expressed their desire to return the awa to a state of wai ora and restore the mauri of the awa. This is consistent with the concept of "*putting the water body first*" as required by the priorities of Te Mana o Te Wai in the NPS-FM objective.

[1] Variation 1 to RPS Change 1 has been approved for notification.

8. These objectives have been developed from the documents produced by the whaitua processes and conversations with Ngāti Toa.

2.1.2 Generational environmental outcomes: Objectives WH.O2, WH.O5 and P.O2

9. Both the TWT and TAoP chapters of PC1 set a shorter term (generational) environmental outcome objective (Objectives WH.O2, WH.O5 and P.O2) that have been derived from the documents produced by the whaitua processes. These objectives set the desired outcomes for groundwater, rivers, and natural wetlands[2]. The plan change also includes a definition of '*environmental outcome*' to make it clear which objectives within the plan change fulfil this requirement of the NPS-FM.

10. The generational outcome objectives are the first step toward wai ora. They provide clear narrative descriptions of environmental improvements to be achieved within the next 20 to 40 years[3]. They express an outcome for the freshwater values identified by mana whenua and the community. The TAS have been set to at a level that will fulfil these environmental outcomes and both the regulatory and non-regulatory provisions proposed in PC1 will achieve these objectives.

11. They set outcomes for critical elements and values for freshwater bodies, including:

- Managing all the components of ecosystem health to maintain or improve aquatic life.
- Improving erosion processes to reduce sedimentation.
- Increasing the extent and improving the condition of riparian vegetation.
- Improving the health and abundance of mahinga kai.
- Improving water quality to enable safe connection with freshwater.
- Improving water quality to enable the enjoyment of a wider range of customary and cultural practices.
- Maintaining or improving huanga of mahinga kai and Māori customary use at locations identified in Schedule B.

12. Objective WH.O5 for the lakes within TWT includes both the environmental outcomes and the TAS in one objective. The streams within the Parangārehu Lakes catchment are managed to achieve the rivers TAS which in turn will contribute to the achieve of the lake TAS, alongside tailored Freshwater Action Plan for the Parangārehu Lakes.

2.1.3 Coastal water objectives: Objectives WH.O3 and P.O3

13. Plan Change 1 also includes coastal water objectives for both TAoP and TWT (Objectives WH.O3 and P.O3). These objectives replace the existing coastal water objectives in the NRP (Objectives O18 and O19) for TWT and TAoP.

[2] There is a separate environmental outcome for the Parangarahu Lakes which is discussed below.
[3] Further explanation of the timeframes for the environmental outcomes are discussed below in sections 2.3

14. Objectives WH.O3 and P.O3 are shorter term generation objectives (20 to 40 years) and include measurable narrative and numeric components as the first step towards wai ora. These objectives have been derived from the documents produced by the whaitua process and set outcomes for critical elements and values in the coastal environment including:

- Maintaining or improving ecological health across the coastal environment.
- Improvements areas such as estuaries and low energy receiving environments that suffer from excessive sedimentation.
- Reducing widespread enterococci contamination.
- Reducing areas of high contamination.
- Improving the health and abundance of mahinga kai.
- Maintaining or improving huanga of mahinga kai and Māori customary use that are identified by mana whenua.
- Increasing the extent and condition of estuarine vegetation.
- Improving water quality to enable safe connection with coastal water.
- Improving water quality to enable the enjoyment of a wider range of customary and cultural practices.
- Improving water quality to enable the enjoyment of a wider range of recreation activities.
- Supporting at-risk and threatened species and taonga species.

2.1.4 The relationship between the management of freshwater catchments and the coastal water objectives differs for different environments. Along the more dynamic areas of the coast the freshwater inputs have little impact on the achievement of the coastal water objectives. In the lower energy environments such as estuaries and harbours the freshwater inputs have a significant influence on the health and wellbeing of the coastal environment. Meaning that in these instances the freshwater bodies must be managed to achieve the coastal water objectives. The areas where this occurs within TAoP and TWT are:

- Pāuatahanui Inlet for enterococci, sedimentation and zinc and copper contaminations
- Onepoto Arm of Porirua Harbour for enterococci, sedimentation and zinc and copper contaminations
- Makara Estuary for sedimentation and muddiness
- Te Whanganui-a-Tara (harbour and estuaries) for enterococci.

The plan change includes maps of the coastal management units (Maps 82 and 83) and the harbour arm catchments (Map 84).

2.1.5 Nationally threatened freshwater species objectives: Objectives WH.O4 and P.O4

15. Objectives WH.O4 and P.O4 set an environmental outcome objective for the habitats of nationally threatened freshwater species and the species themselves across each FMU. The objective is supported by a definition of '*nationally threatened freshwater species*' which has the same meaning as the

NPS-FM. The nationally threatened freshwater species and their critical habitats within TWT and TAoP are identified in an additional column within Schedules A2, F1 and F2 of the NRP and identified on Map 77. It is noted that some of these freshwater species also rely on habitats within the CMA, these are also identified. The objective requires an increase in the extent, condition, and connectivity of the habitats to support an increase in the long- term population numbers of these species.

2.1.6 Te Whanganui-a-Tara Lakes objective: Objective WH.O5

16. Objective WH.O5 includes both the shorter generational environmental outcome and the target attributes states for the Parangārehu Lakes and other lakes. This objective sets the first measurable steps towards wai ora for the lakes. This objective was derived from the documents produced by the TWT whaitua process and replaces the existing lake objectives in the NRP (Objectives O18 and O19) for TWT. The objective focuses on the critical elements and values that contribute to the health and wellbeing of the lakes; these include:

- Maintaining, or meaningfully improving where degraded, water quality, habitats, water quantity and ecological processes to achieve the target attribute states.
- Supporting healthy native aquatic plans.
- Functioning as a productive nursery for indigenous species.
- Riparian vegetation around their perimeter.
- Improving the health and wellbeing of mahinga kai.
- Enabling mana whenua to safely connection with the lakes and undertake a wider range of customary and cultural practices.
- Maintaining and improving huanga of mahinga kai and Māori customary use identified by mana whenua.

17. The target attribute states have been set to achieve the environmental outcomes.

2.1.7 Groundwater objectives: Objectives WH.O6, WH.O7 and P.O5

18. PC1 also sets objectives specific to groundwater flows, levels, and water quality for both TAoP and TWT. These objectives replace the existing groundwater objectives in the NRP (Objectives O18 and O19) for TWT and TAoP. The TAoP and TWT WIPs did not recommend specific objectives for groundwater. These objectives have been derived from the existing NRP objectives to set alternative criteria for critical elements and values associated with the groundwater flows and levels, and water quality, including:

- Protection of groundwater dependent ecosystems.
- Protection of connected surface water bodies.
- Water quality is sufficient for human and stock drinking water.
- Avoidance of saltwater intrusion.
- Avoidance of aquifer consolidation.

- Protection of the physical integrity of aquitards
- Maintain confined aquifer pressures.

2.1.8 Groundwater objectives: Objectives WH.O6, WH.O7 and P.O5

19. PC1 sets objectives for groundwater flows and levels, and water quality. The objectives in each chapter are tailored to each specific whaitua.

20. In TWT there are extensive groundwater resources that interact with both surface waterbodies and coastal waters. They are also actively used for human and stock drinking water. Objectives WH.O6 and WH.O7 set outcomes for the critical elements and values of groundwater, including baseflows and levels, ecosystem health, water quality, aquifer pressures and physical integrity of aquitards.

21. In TAoP there is limited groundwater resource, and it is not actively used. Therefore, Objective P.O5 is focuses on the protection of groundwater dependent ecosystems and the values of connected surface water bodies.

2.1.9 Primary contact site objective: Objective WH.O8

22. PC1 identifies a number of primary contact sites within freshwater (Map 85) as required by Clause 3.8 of the NPS-FM. Objective WH.O8 identifies the *E. coli* baseline and sets target attribute states at these sites. The target attribute state is set to either maintain baseline state or improve to C band where the baseline state is below the national bottom line. This means that all sites will be suitable for swimming by 2040. The site identification and baseline state assessments are set out in Part B of this report.

23. WH.O8 also sets an objective for benthic cyanobacteria. This objective has been brought through unchanged from the existing NRP objective (Objective O18).

2.1.10 Target attribute states for rivers objective: Objectives WH.O9 and P.O6

24. Objectives WH.O9 and P.O6 set out councils' approach to target attribute states in rivers. The council is required to set target attribute states by Clause 3.11 of the NPS-FM. The NPS-FM does not stipulate where in the regional plan target attribute states should be located. PC1 includes the target attribute states as objectives within the plan change as they set a measurable narrative or numeric state for a selected site within each part FMU.

25. Objectives WH.O9 and P.O6 set the requirement to maintain water quality in rivers and improve degraded[4] rivers, specifically:

[4] NPS-FM definition of **degraded**, in relation to an FMU or part of an FMU, means that as a result of something other than a naturally occurring process:
(a) a site or sites in the FMU or part of the FMU to which a target attribute state applies:
(i) is below a national bottom line; or
(ii) is not achieving or is not likely to achieve a target attribute state; or
(b) the FMU or part of the FMU is not achieving or is not likely to achieve an environmental flow and level set for it; or
(c) the FMU or part of the FMU is less able (when compared to 7 September 2017) to provide for any value identified for it under the NOF.

- No part of a river can deteriorate in state even if it is in a higher state than the TAS.
- Maintain water quality for all rivers within the part FMU where the TAS is met at the designated site.
- Where a TAS is not met at the designated site all the rivers within that part FMU are regarded as degraded and require improvement.
- Require the achievement of the TAS at the designated site.

26. These objectives set TAS in each whaitua for all the compulsory NOF attributes for rivers. The plan change includes three additional attributes – fish community health narrative, dissolved zinc and dissolved copper for the reasons set out in Section 3.8.3 of Part B.

27. In addition to setting TASs at a specific site, as required by the NPS-FM, these objectives set default TAS for all rivers and river reaches within each part FMU. For example, where improvement is required at the TAS site, these objectives set out the level of improvement required at the TAS site and then also require improvement for all rivers or river reaches within the part FMU.

28. Setting default TAS for all rivers and river reaches is crucial to the implementation of the NOF and to effectively guide resource consent decision making. The environmental outcome objectives set objectives that apply across all rivers within each FMU (whaitua scale) and then TASs are set for one site within each part FMU. The part FMUs within TWT and TAoP are generally not single catchments, they tend to include numerous small individual catchments that are similar in existing and potential future land-use, baseline state and objective state. This means that there are areas within each part FMU that are not connected to the TAS site and therefore do not influence whether that TAS is met or not met. However, the TASs are intended to indicate and direct the level of change required to achieve the environment outcome objectives. The expectation is this direction and level of change is required across all rivers and river reaches within the part FMU and is set as a default objective.

29. The TASs have been set to be achieved within a generational timeframe – between 20 and 40 years as set out in Tables 8.4 and 9.2, within Objectives WH.O9 and P.O6 respectively. These are not considered to be long term objectives and therefore no interim TASs are set within this plan change.

30. The Council's ability to set scientifically robust baseline states and TASs varies significantly across sites and across attributes. Where the Council has existing monitoring data the Council has been able to set baseline states and TASs with a high degree of certainty. For new TAS sites and/or for newer attributes the Council has relied on the best information available[5] and has not been in the position to set TAS that set a defined scale of improvement. Tables 8.4 and 9.2 set out where the Council has insufficient data to set a baseline state. Footnotes

[5] As provided for by Clause 1.6 of the NPS-FM

are used to indicate where the Council is relying on limited data or model results to define baseline state.

31. Objectives WH.O9 and P.O6 also set maintain objectives for the rivers on the islands within each whaitua. The islands are managed as public conservation land by DOC and are thought to be in relatively good ecological health. A maintain objective for these rivers has been deemed appropriate.

2.1.11 Meaning of '*maintain*' within the objectives.

32. Objectives WH.O5, WH.O9 and P.O6 all include tables that in some instances set maintain objectives for certain attributes. Each of these tables includes a footnote that sets out how '*maintain*' will be determined.

2.1.12 Wetlands

33. Wetlands are included in both the long-term and generational environment outcomes (Objectives WH.O1, WH.O2, P.O1 and P.O2). Wetlands are then managed by the existing provisions of the NRP. Objectives O18 and O19 remain relevant to natural wetlands and discharges into wetlands are managed by the existing discharge policies.

34. This is primarily because the Council has no new information to set more detailed place-based wetland attributes at this stage. The existing narrative wetland type objectives are considered to be the most appropriate.

3. Evaluation of the appropriateness of the objectives

35. Section 2 of this part of the section 32 report assesses whether the proposed objectives are the most appropriate way to achieve the purpose of the RMA. Appropriateness has been assessed with reference to the following criteria[6]:

- Relevance:
  - Are the objectives related to addressing resource management issues?
  - Are the objectives focussed on achieving the purpose of the RMA?
  - Do the objectives give effect to national direction?
  - Do the objectives give effect to RPS direction?
- Feasibility:
  - Acceptable risk and level of uncertainty
  - Realistically able to be achieved within Council's powers, skills, and resources.
- Reasonableness:
  - Are the objectives consistent with identified mana whenua and community outcomes?
  - Can the objectives be reasonably achieved?
  - Will it impose an unreasonable cost and disruption to the community?

[6] These criteria are adapted from the MfE guide to section 32 (A guide to section 32 of the Resource Management Act | Ministry for the Environment) and practice developed in undertaking section 32 evaluations

36. The new objectives proposed to be inserted into Chapters 8 and 9 of the NRP have been assessed as a group as they are all interrelated and their primary purpose is to implement the NOF and give effect to the objective and policies of the NPS-FM. A detailed assessment is set out below.

37. The appropriateness evaluation does not need to consider alternative options.

38. The existing water quality and ecological health objectives (Objectives O18 and O19) set a region-wide approach to freshwater management. These region-wide objectives were appropriate in the context of the existing NRP where the overarching philosophy was to maintain existing water quality and ecological health and work towards achieving the narrative or numeric objectives within Objectives O18 and O19 within a reasonable timeframe[7]. The intention was always to develop more specific localised timebound numeric or narrative objective[8] for specific waterbodies that responded to the requirements of the NPS-FM. Particularly, the requirements to develop objectives that responded to community and mana whenua values of water and enabled limits to be imposed to contribute to their achievement. Objectives O18 and O19 were not developed through the NOF process and therefore retaining these is not a viable option as they set a region-wide direction, do not capture the mandatory attributes, and were not informed by a community planning process. Therefore, PC1 is needed to give effect to the NPS-FM and meets the requirements to include the mandatory attributes and has been informed by a community planning process.

3.1 Relevance

Are the objectives related to addressing resource management issues?
Are the objectives focussed on achieving the purpose of the RMA?
Do the objectives give effect to national direction?
Do the objectives give effect to RPS direction?

3.1.1 Addressing a resource management issue

39. The NPS-FM directs councils to address a nationally significant issue – the continuing degradation of the health and well-being of fresh waterbodies and their ecosystems.

40. Community and mana whenua have identified their values for waterbodies and coastal waters. These values are rich and complex, and they are centred around the importance of freshwater bodies and coastal environments. Both Whaitua Committees have stated that freshwater is not at the quality that mana whenua or their communities desire. This is the key resource management issue that PC1 addresses. The entire suite of PC1 objectives seek to improve water quality,

[7] There is a note on these objectives that states: *For the purposes of this objective 'a reasonable timeframe' is a date for the applicable water body or coastal marine area inserted into this Plan through the plan change/s required by the RMA to implement the NPS-FM 2020, or 2050 if no other date is specified by 31 December 2026.*

[8] Described as target attribute states within the NPS-FM.

habitats, and ecosystems in both fresh and coastal waters. Where values are not realised and mana whenua and communities seek improvements in water quality and ecological health there is a resource management issue. Accordingly, the proposed new objectives in PC1 are appropriate insofar as they address a resource management issue.

3.1.2 Focused on the purpose of the Resource Management Act

41. The purpose of the Act is set out in Section 5 and is then further defined by the principles set out in sections 6, 7 and 8 of the Act. There is additional direction for matters relating to freshwater quality and ecosystem health set out in the NPS-FM and NZCPS.

42. The NPS-FM, the RPS Change 1 and Variation 1 to RPS Change 1 provides the direction for the most appropriate way to give effect to the purpose of the Act as set out in s5 and the principles in s6, s7 and s8.

43. PC1 must give effect to any national policy statements[9], the NZCPS[10], the RPS[11] and have regard to the Proposed RPS Change 1 and Variation 1[12].

3.1.3 Do the objectives give effect to the NPS-FM?

44. PC1 is focused on implementing the NOF for TAoP and TWT. Except for those areas noted in Part A that will be addressed in future plan changes.

45. The proposed objectives in Chapters 8 and 9 will implement the NOF to the extent set out in Part A. The NOF is a specific sub-Part of the NPS-FM. It focuses on communities and mana whenua understanding their values and expressing their desired outcomes for freshwater and then developing regional plan provisions and action plans to achieve these outcomes. In doing so the plan change must give effect to the objective and policies of the NPS-FM to the extent applicable to the scope of this plan change. All the policies in the NPS-FM 2020 are to some extent relevant to this plan change. There are some policies that the plan change directly gives effect to and other policies that the plan change has considered during the development of the objectives.

46. The key policies that the objectives in PC1 gives effect to are:

- **Policy 1:** Freshwater is managed in a way that gives effect to Te Mana o te Wai.
- **Policy 2:** Tangata whenua are actively involved in freshwater management (including decision-making processes), and Māori freshwater values are identified and provided for.
- **Policy 3:** Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.

[9] Required by section 67(3) of the RMA.
[10] Required by section 67(3) of the RMA.
[11] Required by section 67(3) of the RMA.
[12] Required by section 66(2)(a) of the RMA.

- **Policy 4**: Freshwater is managed as part of New Zealand's integrated response to climate change.
- **Policy 5:** Freshwater is managed through a National Objectives Framework to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.
- **Policy 11:** Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided.
- **Policy 15:** Communities are enabled to provide for their social, economic, and cultural well-being in a way that is consistent with this National Policy Statement.

47. The other policies that have been considered during the development of the plan change and the plan change is consistent with are:

- **Policy 6:** There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.
- **Policy 7:** The loss of river extent and values is avoided to the extent practicable.
- **Policy 8:** The significant values of outstanding water bodies are protected.
- **Policy 9:** The habitats of indigenous freshwater species are protected.
- **Policy 10**: The habitat of trout and salmon is protected, insofar as this is consistent with Policy 9.
- **Policy 12:** The national target (as set out in Appendix 3) for water quality improvement is achieved.
- **Policy 13:** The condition of water bodies and freshwater ecosystems is systematically monitored over time, and action is taken where freshwater is degraded, and to reverse deteriorating trends.
- **Policy 14:** Information (including monitoring data) about the state of water bodies and freshwater ecosystems, and the challenges to their health and well-being, is regularly reported on and published.

Te Mana o te Wai

48. In order to give effect to the NPS-FM, specifically Te Mana o te Wai, both the process of developing the objectives and the outcomes sought by the objectives must align with the direction of the NPS-FM and Te Mana o te Wai.

Te Mana o te Wai principles

49. The whaitua process has been an integral part of the Council's plan development process. The Whaitua Committees have been '*Te Mana o te Wai*' in action. They have evolved over time and the approach in TWT was different to the approach in TAoP. The premise of the whaitua implementation programmes has been to facilitate collaborative community catchment planning whilst partnering with mana whenua to implement the NPS-FM. The TWT and TAoP Committees brought their understanding of the values associated with freshwater into the process. These have been expressed as

desired outcomes for specific catchments and coastal areas. The TWT and TAoP whaitua processes are set out in detail in Part B of this report.

50. The TWT whaitua process was grounded in the six principles of Te Mana o te Wai. The TWT Committee worked to create a Te Tiriti o Waitangi partnership approach that enabled Mana Whenua to share their knowledge.

51. The TAoP whaitua process, due to the NPS-FM of its day, did not explicitly express Te Mana o te Wai as a foundational direction. However, the Committee operated in a partnership model with Ngāti Toa that adapted to their needs over the course of the TAoP whaitua process which resulted in the creation of the Ngāti Toa Statement. Since the completion of the whaitua the Council has continued to work in partnership with Ngāti Toa to draft this plan change.

Hierarchy of obligations

52. The objective of the NPS-FM is clear that natural and physical resources must be managed in a way that first prioritises the health and well-being of water bodies and freshwater ecosystems, then the health needs of people and then all other uses.

53. TWT Committee were very explicit that Te Mana o te Wai was one of the foundations of the Committee's thinking. It is clear through the development of the TWT WIP that the health and well-being of water was the first priority, then uses that provide for the health needs of people and then other uses.

54. The long-term outcome of wai-ora and the desire for meaningful improvement through the TAS setting within a generation is evidence of the primacy of the health and well-being of waterbodies and the foundational thinking of the TWT Committee. This direction is reflected in the proposed objectives of this plan change.

55. The TAoP Committee developed a WIP that recognised all values of freshwater and developed freshwater objectives and recommendations that gave the health and well-being of water primacy. The TAoP WIP states that community and mana whenua aspirations for water quality and ecological health go beyond the 2040 freshwater objectives set in the WIP which are the first step of '*meaningful improvement*' in the health and well-being of TAoP. This direction is reflected in the proposed objectives of this plan change.

Implementation of the NOF

56. The NOF is a process that is set out in the NPS-FM that regional council must implement and has been implemented for TAoP and TWT[13] in this plan change. The plan change has been developed from the work of the Whaitua Committees. The plan change:

- Identifies FMUs and part FMUs (NPS-FM Clause 3.8)
- Identifies primary contact sites (NPS-FM Clause 3.8(3)(b))

[13] With the exception of environmental flows and take limits for TWT

- Identifies locations of habitats of threatened species (NPS-FM Clause 3.8(3)(c))
- Sets measurable environmental outcomes as objectives (Objectives WH.O1, WH.O2. WH.O5, P.O1 and P.O2) for every value identified by mana whenua and communities (NPS-FM Clause 3.9(3)(b) and Clause 3.9(5)(a))
- Identifies an environmental outcome for all compulsory values.
- Sets environmental outcomes as objectives (Objectives WH.O1, WH.O2. WH.O5, P.O1 and P.O2) to achieve the proposed vision objectives in Variation 1 (NPS-FM Clause 3.9(4) and Clause 3.9 5(b)).
- Sets TAS for every attribute identified for a value, including all of the compulsory attributes in Appendix 2A and 2B to achieve the generational environmental outcome objectives (WH.O1, WH.O2, WH.O5, P.O1 and P.O2) and downstream sensitive coastal receiving environments (P.O3) (NPS-FM Clause 3.11(1)).
- Sets TAS at or above the baseline state of that attribute (NPS-FM Clause 3.11(2)).
- Sets TAS for the value of human contact above the baseline state of that attribute (NPS-FM Clause 3.11(3)).
- Sets TAS at or above the national bottom line (NPS-FM Clause 3.11(4)).
- Sets nutrient exceedance criteria as objectives (WH.O9 and P.O6).
- Sets objectives to maintain water quality and where required improve degraded waterbodies or coastal areas (Objectives WH.O3, WH.O5, WH.O6, WH.O8, WH.O9, P.O3, P.O5 and P.O6 as required by Policy 5, NPS-FM.

57. This plan change has been grounded in the Te Mana o te Wai principles and prioritises the health and well-being of water (NPS-FM Objective 1, Policies 1, 2 and 5) as discussed above. The strong maintain and improve directive in the objectives which is then translated into provisions that avoid any further over-allocation of freshwater and phases out existing over-allocation (NPS-FM – Policy 11).

58. The water quality and ecological health objectives set out in this plan change will have positive impacts on outstanding water bodies (NPS-FM – Policy 8), the habitat of indigenous freshwater species (NPS-FM – Policy 9), the habitat of trout (NPS-FM – Policy 10) and assist in the achievement of the national target for water quality improvement (NPS-FM – Policy 13).

3.1.4 Alignment with the NZCPS

59. The main purpose of this plan change is to give effect to the NPS-FM for TAoP and TWT. The plan change has set new objectives for water quality and ecological health in the coastal marine area because the NPS-FM requires consideration of downstream coastal receiving environments that are impacted by freshwater catchments.

60. However, the NZCPS does provide national direction on the management of water quality and ecological health within the coastal environment. The key

directions within the NZCPS that might impact on how freshwater catchments are managed are:

- The integrity, form, functioning and resilience of the coastal environment is safeguarded, and ecosystems are sustained (Objective 1, NZPCS).
- Natural biological and physical processes are maintained or enhanced (Objective 1, NZPCS).
- Representative or significant natural ecosystems and sites of biological importance are protected, and diversity of New Zealand's indigenous coastal flora and fauna is maintained (Objective 1, NZPCS).
- Coastal water quality is maintained or enhanced where it has deteriorated, with significant adverse effects on ecology and habitat (Objective 1, NZPCS).
- If water quality has deteriorated so that it is having significant adverse effects on ecosystems, habitat, or water-based recreational activities, or is restricting existing uses, such as shellfish gathering, and cultural activities priority is given to improving the quality by:
  - identifying areas of coastal water.
  - including provisions in plans to address improving water quality in those areas.
  - restoring water quality to at least a state that can support activities and ecosystems and natural habitats.
  - engaging with tangata whenua to identify areas of coastal waters where they have particular interest (Policy 21, NZCPS).
- Subdivision, use or development will not result in a significant increase in sedimentation in the CMA (Policy 22, NZCPS).
- Impacts of vegetation removal on sedimentation is controlled (Policy 22, NZCPS).
- Sediment loadings in runoff and in stormwater systems are reduced through controlling land use activities (Policy 22, NZCPS).
- Human sewage is not allowed to discharge directly to water in the coastal environment without treatment and the discharge of treated human sewage is only allowed if alternatives have been considered that have been informed by an understanding of mana whenua values (NZCPS – Policy 23).
- Steps to avoid adverse effects of stormwater discharges to water in the coastal environment (NZCPS – Policy 23).

61. The existing NRP gives effect to the NZCPS. The proposed coastal objectives in this plan change build on the existing NRP objectives by providing specific timebound numeric objectives where improvements are sought and in areas where no specific improvement is sought setting a clear '*maintain or improve*' approach. The PC1 coastal water objectives are consistent with the direction within the NZCPS and will further assist in giving effect to the NZCPS, particularly in respect of enhancing deteriorated coastal water quality.

3.1.5 Alignment with the NPS-UD

62. The NPS-UD *"recognises the national significance of:*

- *having well-functioning urban environments that enable all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future.*
- *providing sufficient development capacity to meet the different needs of people and communities."*[14]

63. PC1 sets objectives for the health and wellbeing of freshwater bodies and the coastal marine area. To achieve these objectives, the plan change includes policies, rules and other methods that manage the effects of existing urban areas and new urban developments, including brownfield redevelopments.

64. The plan change manages the water quality effects of urban development as set out in Part D of this report. It requires all urban developments and redevelopments to incorporate contaminant treatment and hydrological controls. New greenfield developments within planned urban areas are required to offset any residual contaminant loads via financial contributions. Unplanned greenfield developments are also prohibited in order to enable a future regional plan change to be considered alongside a change to the district plan to facilitate any such urban development. This will enable the suitability of the new urban development site to be considered from a wate quality effects perspectives, and for this to be considered in an integrated manner alongside the normal district council zone change considerations, which currently cannot occur when only a district plan change is required.

65. PC1, while introducing new regulatory requirements for urban development, only does what is needed to achieve water quality outcomes required by the NPS-FM. It should not be regarded as an impediment to urban development, merely the solution to managing the competing directives of the two NPSs.

66. This approach is consistent with the NPS-UD which is focused on providing well-functioning urban environments that have sufficient development capacity, in that PC1 enables authorisation of stormwater discharges arising from urban developments and redevelopments through a resource consent process.

3.1.6 Do the objectives give effect to RPS direction?

Operative Regional Policy Statement for the Wellington region 2013

67. The operative RPS is still relevant to PC1 even though some policies of the operative RPS are not consistent with the current NPS-FM and are proposed to be amended by RPS Change 1. PC1 is still required to give effect to the operative RPS except where there are inconsistencies with new national direction. Areas of inconsistency are highlighted and addressed in the below assessment.

68. The coastal water objectives (WH.O3 and P.O3) are set to maintain water quality and ecological health except where contaminant levels are high. This gives effect to the operative RPS which sets an objective that the quality of coastal

[14] National policy statement on urban development | Ministry for the Environment

waters is maintained or enhanced to a level that is suitable for the health and vitality of coastal and marine ecosystems (RPS - objective 6).

69. The operative RPS policies require that water quality is maintained or enhanced to achieve a range of values (Policies 5 and 40), that the values of Porirua Harbour are recognised and provided for (Policy 6) and that ecosystems and habitats are safeguarded (Policy 37).

70. The coastal water objectives in PC1 give effect to these policies as they set narrative or numeric objectives for a range of values that seek to improve where degraded and maintain in other areas. There is also an objective to increase and improve the extent and condition of estuarine vegetation.

71. The operative RPS pre-dates the current NPS-FM. Objective 12 and Policies 12, 17, 19, 40 of the operative RPS do not accurately reflect the hierarchy of obligations or provide protection for the mauri of the wai; nor do they capture the aspirations/direction of tangata whenua as to how to give effect to Te Mana o te Wai in the local context. Policies 14, 15, 41 and 42 seek to minimise or reduce effects of discharges rather than managing discharges to meet a limit. An assessment has not been undertaken on this objective and group of policies as the current NPS-FM is considered to be the more appropriate direction.

72. The other relevant direction from operative RPS is Objective 13 that requires the region's rivers, lakes and wetlands support healthy functioning ecosystems. This objective is supported by policies 18 and 43 that require protection of the ecological function of waterbodies. The freshwater objectives in this plan change (Objectives TWT.O1, TWT.O2, TWT.O4. TWT.O5, TWT.O6, TWT.O7, P.O1, P.O2, P.O5 and P.O6) set time bound narrative and numeric objectives to improve the health and well-being of all freshwater bodies where the objectives are not met and maintain in other areas. And are therefore considered to give effect to Objective 13 of the operative RPS.

Proposed Change 1 to the Regional Policy Statement for the Wellington Region (August 2022)

73. RPS Change 1 was proposed to implement both the NPS-FM and the NPS-UD in the RPS. To implement the NPS-FM, RPS Change 1[15]:

- Replaced existing Objective 12 of the RPS with a new Objective 12 focused on Te Mana o te Wai that repeats the hierarchy of obligations and the six principles of Te Mana o te Wai set out in the NPS-FM along with Statements from Kahungunu ki Wairarapa and Rangitāne o Wairarapa. The intention is to add expressions of what Te Mana o Te Wai means from each of the six iwi of the region. This plan change includes expressions of Te Mana o Te Wai from Rangitāne o Wairarapa and Kahungunu ki Wairarapa. Others will be added in future plan changes or variations, or as part of the Schedule 1 process through submissions.

[15] RPS Change 1 did not include freshwater vision objectives.

- Noted that Te Mana o te Wai would be given effect to in the region through the new Objective 12 and Policies 12, FW.3, FW.4, FW.6, FW.7, 14, 15, 17, 40, 41, 18, 44, 45, FW.1, FW.2, FW.7[16]
- Deleted Policy 13.
- Amended Policy 14 to direct regional plan objectives, policies and methods including rules to give effect to Te Mana o te Wai.
- Amended Policy 15 to Managed effects of earthworks and vegetation disturbance to the extent necessary to achieve the target attributes states for water bodies and freshwater ecosystems.
- Amended Policy 17 to prioritises the health and wellbeing of the waterbody and freshwater ecosystems first, and then prioritise other uses.
- Amended Policy 18.
- Introduced a new Policy FW.1 to require regional plans to include policies, rules and/or methods to reduce demand of water from registered water suppliers and users.
- Introduced a new Policy IM.1 that requires a plan change to have particular regard to partnering with mana whenua/tangata whenua, ki uta ki tai and Mātauranga Māori.
- Introducing a new Policy IM.2 that requires a plan change to have particular regard to equity and inclusivity.
- Amended Policy 40.
- Amended Policy 41.
- Amended Policy 42.
- Deleted Policy 43.
- Amended Policy 44.

74. RPS Change 1 is focused on giving effect to the NPS-FM at the RPS level. As mentioned above, PC1 has been develop in line with the principles of Te Mana o te Wai and sets objectives that align with the hierarchy of obligations. Thus, giving effect to amended Objective 12 of RPs Change 1. PC1 then goes on to manage discharge and land use activities to give effect to the amended and new policies of RPS Change 1.

Proposed Variation 1 to RPS Change 1 (September 2023)

75. Variation 1 to RPS Change 1 has been approved by Council for notification as an FPI. This variation inserts two vision objectives into RPS Change 1 for TWT and TAoP, respectively. The proposed vision objectives within Variation 1 have been developed from documents produced through the Whaitua processes and ongoing conversations with Ngāti Toa. The environmental outcomes must, when achieved, fulfil the relevant long-term vision[17].

76. PC1 gives effect to Variation 1. PC1 includes environmental outcome objectives for two time periods. There is one long term environmental outcome objective (Objectives WH.O1 and P.O1) for each whaitua that aligns with the proposed vision objectives within Variation 1. The provisions within PC1 are working

[16] Section 32 report – Evaluation of provisions for Proposed Change 1 to the Regional Policy Statement for the Wellington Region page 229
[17] Clause 3.9(b) of the NPS-FM.

towards this objective. However, future plan changes or other inventions will be required to achieve these long-term objectives. PC1 also includes generational environmental outcome objectives (Objectives WH.O2, WH.O5 and P.O2) that are set to be achieved between 2040 and 2060. These are timebound objectives that the TASs have been set to achieve.

3.2 Feasibility

Acceptable risk and level of uncertainty *Realistically able to be achieved within Council's powers, skills, and resources*

3.2.1 Acceptable risk and level of uncertainty

77. The objectives have been developed using the best information available and an understanding of the uncertainties and risks, including both the risk of relying on partial information and the risk to the environment of not acting.

78. The NPS-FM urges in Clause 1.6(3) that a local authority must not delay making decisions solely because of uncertainty about the quality or quantity of the information available; and if the information is uncertain, must interpret it in the way that will best give effect to this National Policy Statement.

79. PC1 gives effect to the NPS-FM for TAoP and TWT. The TAS tables have been developed with the best information available and where the best information has not been available the approach has been adapted. The level of uncertainty associated with the baseline state does not warrant delaying the plan change. The level of uncertainty has been dealt with through the setting of the TAS. Therefore, the risk of imposing an overly ambitious or unduly weak objective is low.

80. There is a greater risk to the environment with delaying the plan change until enough data has been collected to establish baseline states in accordance with the data requirements of NPS-FM (up to 5 years for some of the new attributes and/or new TAS sites). This would delay the development of regulations and action plans that can initiate improvements in the health and wellbeing of freshwater bodies and freshwater ecosystems and associated coastal receiving environments. It would also increase the risk of continued degradation.

3.2.2 Realistically able to be achieved within Council's powers, skills, and resources.

81. The full suite of proposed objectives can be achieved through the use of the Council's powers (s.30 of the RMA). The regional plan can regulate:

- discharges to land that may enter water.
- discharges direct to water.
- the use of land for the purposes of maintaining or enhancing the quality of water in water bodies and coastal water.

- the use of land for the purposes of maintaining or enhancing ecosystems in water bodies and coastal water.
- taking, damming and diversion of water.

82. In exercising these functions, the Council will utilise both regulatory methods (as rules in this plan change) and non-regulatory methods through action plans (outlined in other methods).

3.3 Reasonableness

Are the objectives consistent with identified mana whenua and community outcomes?

Are the generational objectives and TAS to ambitious?

More specifically, are the E. coli TAS and enterococci coastal water objectives reasonable, including the extent of the regulatory impact, within the timeframes set in the WIPs?

3.3.1 Are the objectives consistent with identified mana whenua and community outcomes?

83. The full suite of objectives has been derived from the documents produced during each of the whaitua processes and from further engagement with the Council's Mana Whenua partners. The whaitua process and additional engagement is set out in full in Parts A and B of this report.

84. Both Whaitua Committees considered to some degree the extent of works required and the cost of these works when they set the *E. coli* and enterococci objectives within their respective WIPs. Each Whaitua Committee balanced the strong desire of the community and mana whenua to be able to safely connect with and gather food from waterbodies and the coastal marine area against their knowledge of the costs to achieve these outcomes. Both Whaitua Committees acknowledged the significant amount of effort required to achieve their recommended objectives and that in some catchments this went beyond the modelled scenarios.

85. The Council has taken the position that the plan change objectives must express the desired outcomes of the community and mana whenua within the timeframes recommended by the Whaitua Committees wherever possible. Sections 2.3.2 below examine whether the objectives recommended by the Whaitua Committee are achievable within the recommended timeframes. The officers' recommendation to Council recommended that the plan change depart from the WIP recommendations in one area and that is the timeframe for the achievement of the *E. coli* TAS and enterococci coastal water objectives. The end state for *E. coli* and enterococci remains consistent with the outcomes identified by mana whenua and the community.

86. None of the timeframes set in this plan change are acceptable to Ngāti Toa. Ngāti Toa does not support any provision that allows for the continuation of the

degraded state of TAoP and TWT. Inserting a timeframe into the proposed objectives implies that until that date some level (even if it is improving) of degraded state is acceptable. For Ngāti Toa TAoP and TWT should be wai ora now.

3.3.2 Are the generational objectives and TAS too ambitious?

87. The NPS-FM requires regional councils to develop long term visions, values, environmental outcomes and target attribute states for freshwater waterbodies and their receiving environment together with mana whenua and the community. The regional plan must set objectives that achieve the desired outcomes identified by mana whenua and the community. The WIP process provided a set of objectives that has been used to develop both the vision objectives within Variation 1 and the environmental outcomes and TAS in PC1.

88. The NPS-FM has only one objective. This makes it clear that the health and wellbeing of freshwater bodies and their receiving environments must be the first priority. This is a shift in how objectives are articulated where other values are no longer balanced equally through the setting of the objectives. It is entirely appropriate for mana whenua and the community to set TAS above the national bottom lines set out in the NPS-FM if their values and desired outcomes are met at that state.

Predicted achievement of TASs and coastal objectives

89. The NPS-FM anticipates that councils will use a combination of limits, action plans and consent conditions to achieve the TASs. The combination of these three methods have been carefully considered in the development of the PC1 provisions. Each method has been utilised where it is the most effective and efficient.

90. PC1 acknowledges that there is a limit to what can be achieved by rules. In a practical sense, rules must be reasonable and able to be implemented by Greater Wellington and resource users in an effective way. Accordingly, the regulatory provisions of PC1 have been developed to drive a level of change at a rate where the costs to resource users and the community are manageable.

91. Part D also discusses the role of non-regulatory measures that will be driven through action plan framework to achieve the full realisation of the objectives. That information is relevant to the question of whether the objectives (and specifically the TASs and coastal objectives) are too ambitious and is summarised below.

- In Te Whanganui-a-Tara, 85% of the 215 TASs and coastal objectives are predicted to be met by the regulatory provisions of PC1[18], Twenty-five TASs will require additional non-regulatory methods to be set out in action plans (see section 8). Known and specified actions are likely sufficient to achieve the TASs (in conjunction with the rules) for 17 of those 25 TASs. Achieving

[18] Greer, M. 2023a and 2023b.

that final eight TASs in this whaitua will require actions in addition to those currently specified in the technical evaluation[19].

- In Te Awarua-o-Porirua, approximately 106 of the 117 (89%) of the TASs and coastal objectives are predicted to be met by the regulatory provisions of PC1. Eleven TASs will require additional non-regulatory methods to be set out in action plans. Known and specified actions are likely sufficient to achieve the TASs (in conjunction with the rules) for 7 of those 11 TASs. Achieving the last four TASs/coastal objectives require actions in addition to those currently specified in the technical evaluation[20].

92. In summary, there are 12 TASs across the two whaitua that are not predicted to be fully met by PC1's rules and specified non regulatory methods. However, 89% of TAs should be met by the rule framework and more than 96% by PC1's rules in conjunction with specified other measures.

93. In that sense, as a suite, the objectives are not considered too ambitious although it is acknowledged that some will be challenging[21] to achieve in the timeframes desired by mana whenua and the community.

The highly challenging TASs and coastal objectives

94. The remaining question is whether the small number of TASs/coastal objectives that are not predicted to be met with proposed rules and specified other measures are reasonable and appropriate.

95. In considering that question, it is important to consider two matters. The first is the uncertainty about contaminant sources and trends and the potential ability to intervene in the future to address specific issues. There remains, for example, incomplete understanding about potential sources of nitrogen from gorse or *E. coli* from on-site domestic wastewater systems in rural areas. As better information becomes available, the Council will be able to better target necessary responses through actions plans, or where appropriate, further changes to the NRP. In other words, a degree of adaptive management to addressing specific issues and hotspots as they become known is inevitable. This will change the assessment of achievability.

96. The second factor to consider is that water quality data and monitoring can be imperfect and needs to be interpreted with some care. This is particularly true for the 95th percentile measure of *E. coli* (one of the more challenging targets to meet). This target could be breached because of a single isolated source or could be exceeded because monthly monitoring captures several high rainfall (high run-off) events when monitoring on other days might have produce very different results. Again, these factors influence how effect achieving the TAS may be in reality.

[19] ibid
[20] ibid
[21] The far-right hand side column in Table D12, Part D of this report identifies these more challenging TAS.

97. Overall, although there is some risk that a very small percentage of TASs and coastal objectives will not be achieved by PC1's rules and currently specified non regulatory measures, there is a high level of uncertainty and an opportunity for ongoing adaptive management during implementation. On that basis, these objectives are not considered too ambitious. They will, however, likely require a concerted and sustained action planning investment by the Council, resource users and the wider community.

3.3.3 Are the *E. coli* TAS and enterococci coastal water objectives achievable within the timeframes set in the WIPs?

98. As set out in Part D, the preferred option for wastewater is to require that wastewater network discharges include a wastewater network catchment improvement strategy that shows how a networks' contribution to the concentration of *E. coli* or enterococci in the discharge will be reduced to meet the TAS and coastal objectives. The preferred option directly links the wastewater network discharge and its contribution to the reduction required to achieve the *E. coli* TAS required through the rule framework as a limit. The implication of this policy and rule option is that as part of the consenting process for the wastewater network discharge consents, Wellington Water must set out a programme of works that achieve the scale of improvement equivalent to that required to achieve the TAS and coastal water objective. This means that setting overly ambitious TAS and coastal water objectives could result in consenting or enforcement issues if Wellington Water cannot demonstrate achievement of the objectives. This could, then in turn, result in a perverse outcome of delaying the upgrade work programme.

Feedback from limited consultation on timeframes

99. As part of the development of the plan change the Council undertook a limited consultation on a draft version of Plan Change 1. The Council asked sought feedback on the timeframe for the achievement of the *E. coli* target attribute states and enterococci coastal water objectives. Two options were presented in the limited consultation draft. Those being:

- Option 1 – Achievement of the *E. coli* Target Attribute State and Enterococci coastal water objective by 2040 (shortest timeframe recommended by the whaitua processes)
- Option 2 - Achievement of the *E. coli* Target Attribute State and Enterococci coastal water objective by 2060 (a longer timeframe that places greater emphasis on feasibility and cost)

100. Table C2 provides a summary of the feedback received on the timeframe options.

Table C2: Summary of limited consultation feedback on the timeframe options

Submitter	2040 (Option 1)	2050/2060 (Option 2)	Comments
S5 Te Rūnanga o Toa Rangatira	✓		Remain bold and innovative when it comes to meeting target attribute states and believe that the shortest timeframe recommended will support the investigation into technologies outside of the status quo way in which water is currently managed.
S3 Jonny Osborne member of the TWT reference group	✓	Or develop interim targets to be met in 2040	Supports option 1 or alternatively develop interim targets to be met in 2040. Supports a stringent approach but accepts in some FMU's 2040 may be too soon.
S11 – Anya Pollock member of the TWT reference group	Not stated	Not stated	We cannot design the plan to enable long consent terms for operators that privileges certainty for them over Te Mana o Te Wai and reduces our ability to realise possibilities that might be afforded by changes in water funding arrangements or technology and innovation, we need a regulatory framework that is more adaptive and responsive than that. Option 1. Explicitly connect to timelines for infrastructure improvements OR set out a stepped series of improvements in an appropriate manner. Amend Option 1 to explicitly link with the wastewater system strategy. Include an equivalent hard link to timeline for actions in non-urban areas. For option 2 it is absolutely critical that there is a stepped series of improvements set out in the plan as per comments on Option 1. Explicitly connect to timelines for infrastructure improvements OR set out a stepped series of improvements in an appropriate manner.

Submitter	2040 (Option 1)	2050/2060 (Option 2)	Comments
S13 – Sam Kahui member of the TWT reference group	✓		Adopt option 1. Option 1 should drive innovation.
S12 – Individual member of the TWT reference group		✓	It seems that this achievement level needs to be elongated (at least in target form) to be able to be achieved within current constraints. GW and its partners and communities should be working hard regardless to meet an earlier achievement if possible as technology, workforce changes and national direction assist in expediating the achievement of the TAS.
S4 Upper Hutt City Council – Staff		✓	No commentary provided
S6 – Wellington Water	Not stated	Not stated	The submitter is preparing feedback in this space and will provide it in the near future. No additional feedback has been provided to date.
S7 – Porirua City Council	Not stated	Not stated	Request more information to make an informed decision, including cost benefit modelling of both scenarios, impacts on infrastructure provision and development capacity. Also request technical briefing from Greater Wellington to understand the modelling underpinning limits and targets.
S9 – Kāinga Ora	Not stated	Not stated	Submitter would need to consider the implications of cost that would be imposed by Option 2.
S10 – Wellington City Council	Neutral	Neutral	WH.O3 (coastal water objective) - Amend timeline so the targets are aimed to be achieved by 2050

Submitter	2040 (Option 1)	2050/2060 (Option 2)	Comments
S16 Hutt City Council	Not stated	Not stated	More information is required on the achievability of the proposed *E. coli* and enterococci attribute options for Council to make an informed decision. This should include cost benefit modelling of both scenarios, including impacts on infrastructure provision and development capacity. Reserve the right to provide a fuller response at the formal submission stage once we have clearer information on the impacts of targets.

Wastewater upgrades required to meet the objectives.

101. To meet the *E. coli* TAS and enterococci coastal water objectives within the timeframes recommended within the WIPs will require substantial investment in municipal wastewater networks throughout these two whaitua. Wastewater network contributions of *E. coli* are largely due to the dry weather/continuous component of wastewater, including as a result of aging or broken pipes causing leakage, inflow, and infiltration, as well as dry weather cross connections. However, regular wet weather overflows due to constructed overflows or reduced capacity also increase *E. coli* levels in freshwater. The wastewater treatment plant discharges are less of a source in these whaitua as they are generally well treated and discharge to the open coast rather than freshwater. The types of improvements required include:

- Replacing aging pipes (these leak wastewater into the environment and allow water ingress into wastewater pipes),
- Upgrading constructed overflows, including at pump stations (this includes constructing storage).
- Increasing CCTV monitoring and upgrading broken or leaking pipes to reduce inflow and infiltration into the network, and exfiltration from the network.
- Increasing network capacity through localised storage such as the wastewater retention tank being built adjacent to the Porirua Park and Ride.
- Identification of issues in the private network including cross connections, leaking wastewater laterals and gully traps with insufficient freeboard.
- Sewer/stormwater separations where these are joined.
- Upgrading the stormwater networks locally to remove stormwater in places where private laterals have been upgraded.
- Upgrading wastewater networks locally where these are under capacity, including where private lateral upgrades have occurred.

- Requiring proactive maintenance and monitoring of the network to prevent pipe blockages, breakages, and dry weather discharges.

102. The modelled percentage reductions in *E. coli* load needed to achieve the TASs in TAoP range between 59% (Takapū) and 92% (Te Rio o Porirua and Rangituhi) depending on the part FMU[22]. As noted by Dr Greer, in the urban area, the repair of all cross connections between the wastewater and stormwater network was assumed to achieve a 77% (maximum) reduction of *E. coli* loads from dry weather wastewater discharges and reducing wet weather overflows from 12 on average to 2 resulted in an 83% reduction in load. Other actions, including the replacement of aging pipes and reducing inflow and infiltration, may also be required to meet the TAS, especially in the Te Rio o Porirua and Rangituhi, and Wai-O-Hata part FMUs where the percentage reduction is greater. While a similar assessment was not undertaken for TWT Whaitua, a similar magnitude of reduction in *E. coli* is expected in order to meet the TASs where the receiving water of the part FMU is currently in D or E state.

103. The identification of issues within wastewater catchments is ongoing and iterative. In many cases issues will come to light as remedial works are undertaken, often requiring several rounds of works. Wastewater upgrades have an element of "*learn as you go*".

104. Approximately half of the network, by length, is on private property, and is the responsibility of the private landowner. In some cases, it is appropriate for landowners to be required to fix issues on their properties. However, this can be time consuming. Particularly in older suburbs is far more efficient for the infrastructure provider to do this work. This usually requires work in almost all properties, and there are usually public network upgrades required as well in the same places. These suburb scale projects are large, costly and time consuming.

105. These improvements can only be achieved through significant investment in wastewater networks. At present, this is generally funded through territorial authority rates, with some minor funding from development contributions. Large capital works for things such as treatment plant upgrades are debt funded. In the future some large network upgrade projects will have to be debt funded. New funding mechanisms will be required in the future. As an example, Watercare in Auckland funds projects on the following basis: 53% from revenue (the equivalent of rates), 16% Infrastructure Growth Charges (not development contributions but a charge levied on new connections to networks through the customer contract) and 32% debt funding. This indicates a continued significant reliance on revenue funding (rates) and the need for innovative solutions (growth charges in this case).

[22] Greer, M.J.C. 2023. Technical assessment of alignment of Plan Change 1 provisions and Target Attribute States – Te Awarua-o-Porirua Whaitua. Prepared for Greater Wellington. Torlesse Environmental Report No. 2023-007. Christchurch, New Zealand.

106. Unlike other water quality improvements, non-regulatory actions aimed at the achievement of the *E. coli* and enterococci targets are not practicable – i.e., the change required can only be practically achieved through regulatory means by requiring improvement through consents held in relation to the network, which in turn requires substantial investment by the community, historically through territorial authority rates.

Cost of wastewater improvements

107. An economic assessment has been completed to understand the cost and affordability of the wastewater network improvements required to meet the *E. coli* TAS by GHD. This assessment has used *'% increase cost to ratepayers*' as a metric to understand the scale of investment required to achieve the TAS. It is not a prediction of future rates increases. The report assumes that the wastewater infrastructure upgrades are fully funded by rates. This is unlikely to be the case into the future, but it is a useful metric to understand the cost implications of setting the *E. coli* TAS. The report does comment on other potential funding tools.

108. This report also quantifies some of the benefits of the proposed improvements, but it is not a cost benefit analysis as the social and cultural benefits of reducing wastewater discharges and improvement water quality are important but very difficult to monetarise.

109. The estimated undiscounted costs for the capital works required to upgrade the wastewater network[23] to achieve the *E. coli* TAS has been calculated by GHD as between $344-419 million for Te Awarua-o-Porirua Whaitua and between $2.5-3.1 billion for Whaitua Te Whanganui-a-Tara[24]. These costs are likely to go up as further investigations are completed, and remedial work gets underway.

110. This assessment uses existing wastewater costing material produced during each of the Whaitua processes. The report estimates the percentage increased cost to ratepayers expected when the infrastructure upgrade costs required to achieve the *E. coli* TAS (as set above in Tables 1 and 2) are spread across different time periods. The four time periods considered are 10 years, 20 years, 30 years, and 40 years. The affordability impact calculated by GHD is summarised below in Tables C2 and C3.

[23] The costs do not include any maintenance costs associated with the new and existing wastewater network over this time. It also does not include the cost of upgrading the stormwater network.
[24] Norman, D.; Donaldson, E. 2023. Wastewater improvement affordability – implications of implementation timeframes for affordability. Prepared for Greater Wellington. GHD Limited.

Table C2: Estimated impact by whaitua on rates of wastewater upgrades

Whaitua	% Increased cost to ratepayers (low and high estimates) per year for *x* years			
	10 years	**20 years**	**30 years**	**40 years**
Te Awarua-o-Porirua	22-26%	11-13%	7-9%	5-7%
Te Whanganui-a-Tara	41-50%	20-25%	15-17%	10-13%

Table C3: Estimated impact by city on rates of wastewater upgrades

Territorial authority	% Increased cost to ratepayers (low and high estimate) per year for x years			
	10 years	**20 years**	**30 years**	**40 years**
Porirua City Council	24-29%	12-14%	8-10%	6-7%
Wellington City Council	32-40%	16-20%	11-13%	8-10%
Hutt City Council	49-61%	25-31%	16-20%	12-15%
Upper Hutt Council	59-73%	29-37%	20-24%	15-18%

Time and resources required to undertake the infrastructure upgrades.

111. There are two issues with undertaking network upgrades. Firstly, can the money be raised and secondly can the work be undertaken in the timeframe. The timeframe to meet the TAS recommendations of the whaitua processes is 17 years (2040). The simple answer to the first question is we don't know, but if it was there is likely to be a significant impact on rates assuming the works are funding through the current funding model. The actual impact would depend on how much was debit funded and whether other sources of funding are realised. Debt funding is constrained somewhat by debt caps of the city councils. The dollar quantum also provides an indication of the "*effort*" required to meet the TAS. The "*effort*" required in Te Awarua-o-Porirua is much less than Te Whanganui a Tara so the time to reach the TAS should be shorter, if all other factors such as complexity, are equal.

112. Perhaps the most important consideration when setting an appropriate timeframe for the achievement of the *E. coli* and enterococci objectives is the length of time required to complete the physical works. The infrastructure upgrades are significant. They will require investment and resource that does not currently exist. Time will be required to generate funding, develop

capability and capacity within the workforce and then set up a work programme to investigate, design, procure and then construct the upgrade works. It is likely to take several years to achieve this within each wastewater catchment. The current resource shortages apply to Wellington Water as well as the consulting and construction industry (not just in Wellington but also nationally).

113. Wellington Water considers that the work programme to undertake the infrastructure upgrades will be significant. There are between 26 and 35 sub-catchments that require upgrade works across the two whaitua. Wellington Water expects that for each sub-catchment it will take between six to ten years to complete planning, detailed design, investment, consenting, land acquisition, procurement, construction, and follow-up. This work programme would include both wet weather overflow infrastructure and stormwater infrastructure. Plus, other measures such as infiltration and inflow work programmes, education, monitoring, and modelling. In many catchments the process will be iterative. Some sub-catchments are expected to take several iterations before water quality improvements are seen, and experience elsewhere indicates that some sub-catchments will take several iterations, and hence will take longer than ten years. There is a risk that upgrade works occurring in numerous sub-catchments simultaneously cause an unacceptable level of disruption.

Risks to human health

114. In TAoP, the current *E. coli* concentrations contribute to a simple average risk of infection of 110 per 1,000 people. The proposed improvements reduce this average risk to 26 per 1000 people. In TWT, the current *E. coli* concentrations contribute to a simple average risk of infection of 77 per 1,000 people. The proposed improvements reduce this average risk to 25 per 1000 people. While it would seem that there would be social and health risk impacts of delaying the achievement of the objectives, given the issues raised above, the health impacts will be broadly similar across the two timeframes. Improvements in high-risk sub-catchments and those used for primary and secondary contact are likely to be undertaken sooner than lower risk catchments, regardless of the overall timeframe for the part FMU. If consenting and other implementation issues result in delays to upgrades, this could also result in negative social and health effects occurring for longer.

Achievability of the E. coli TAS and enterococci coastal water objective

115. In summary, the programme of works required to upgrade the wastewater network to achieve the objectives within PC1 is substantial. The capacity to undertake the investigation, design and the physical works is not available at present. The officers' advice was that it would be very challenging that a timeframe of 2040 could be met. A longer timeframe of 25 years in TAoP and 35 years in TWT for completion of the works was therefore recommended to Council by officers to be appropriate. A shorter timeframe for TAoP was recommended because the '*level of effort*' required there is less than for TWT. Officers acknowledged that their recommended timeframe is longer than mana

whenua and the community would like but factored in the considerable amount of work required across the two whaitua.

4. Summary of appropriateness

116. Considering the assessment above, the proposed objectives are considered to be the most appropriate way to achieve the purpose of the Act. The proposed objectives also give effect to the higher order planning documents, include the NPSFM, NZCPS and RPS which all in turn achieve the purpose of the RMA.

Addendum to s32 report

The Council, in reviewing the draft provisions for PC1 at a workshop on 5 October 2023 signalled their position did not align with the officers' recommendation to depart from the WIP timeframes for the *E. coli* TAS and enterococci coastal water objective. Councillors signalled that their decision to notify PC1, which would be made at a Council meeting on 26 October 2023, was expected to confirm that the timeframe for meeting the *E. coli* TAS and enterococci coastal water objective would reflect the 2040 date included in the WIPs for Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua and would not be extended.

Council acknowledged the information presented by officers, including the funding and implementation challenges of achieving this timeframe as summarised above. Also considered was the brief feedback provided by territorial authorities in response to the limited release draft plan change summarised in Table C2 above. The Council is cognisant of the potential impact on territorial authorities responsible for funding wastewater and network improvements to achieve this, along with their water service entity Wellington Water, and the communities that they, along with Greater Wellington serve.

Council however, noted it was of utmost importance to respect the community planning process that was followed to set the water quality objectives for these Whaitua in the first place. Council noted that representatives of the key parties affected by the PC1 water quality objectives and specifically the territorial authorities, Wellington Water, mana whenua and the wider community had been involved in one or more of the Whaitua processes. These processes recommended the 2040 timeframe for achieving safe interaction for the community and mana whenua with the water bodies of these catchments.

Council made its decision to retain the WIP timeframe in its capacity as the agency responsible for environmental protection within the Wellington Region. The Council's priority in this capacity is the environment and community's safe use of our water bodies – consistent with the whaitua process. Councillors also felt they didn't have a mana whenua or community mandate to change what was agreed through the whaitua processes, notwithstanding the officers' advice that an option was available for this under the RMA and NPS-FM 2020 for PC1 not to be bound by the community planning process.

Council acknowledged that its decision had significant implications for infrastructure investment that territorial authorities and Wellington Water, in particular, will need to promptly factor into their immediate and long-term infrastructure and personnel planning. It was also noted by Councillors that not enough information was presented by the territorial authorities or

Wellington Water in response to the draft PC1 engagement to compel the Council to extend the WIP timeframes.

Council would like to see the investment priority for territorial authorities and the wider development community focused on fixing the existing urban wastewater network discharges that occur via overflows, leaks, and poor connections, ahead of further greenfield development, in particular. There is only a finite pool of funds available through ratepayer revenue but noted that debt funding was a potential option for spreading the costs across a longer period. Council concluded that without an ambitious timeframe as proposed, the risk is that action will remain slow and other investment priorities will continue distract investment in this critical area.

In addition, Council noted that every opportunity should be taken to apportion the costs of capacity increases and pipe replacements necessitated by new development, so that new development contributes fairly to the cost of the region's required infrastructure improvements. This should be investigated through review of territorial authority development contributions' policies and likely uplift of contributions required for new development. Additional funding methods, such as targeted rates, water user charges and infrastructure growth charges (as used by Watercare in Auckland) should also be considered by territorial authorities to support achievement of the 2040 timeframe.

The Council will work collaboratively with territorial authorities and Wellington Water, along with the wider community in meeting the ambitious timeframe in anyway it can in order to secure this clear community desired environmental outcome.

The retention of the WIP timeframe of 2040 for satisfying *E. coli* TAS and enterococci coastal water objective has been incorporated into the notified PC1 provisions.

Greater Wellington
Te Pane Matua Taiao

Section 32 report: Part D

Evaluation of Proposed Policies, rules and Other Methods relating to implementation of the NPS-FM for Te Awarua-o-Porirua Whaitua and Whaitua Te Whanganui-a-Tara

in Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region

Contents

1. Evaluation of efficiency and effectiveness of the proposed policies, rules, and other methods to achieve the objectives.

1. This part of the s32 report provides an evaluation of how *effective* the proposed policies and methods of PC1 will be in achieving the objectives. It considers whether the environmental outcomes can be expected to be achieved, over what time frames and with what level of certainty. Where an outcome may not be fully achieved, it also considers whether there are extenuating circumstances why full achievement in the timeframes contemplated by PC1 may not be feasible.

2. This section also evaluates the *efficiency* of PC1's proposed provisions. In accordance with the requirements of section 32 of the Act, it does so by comparing the costs and benefits of the proposed provisions with alternative planning approaches. The option with the lowest net cost (or highest net benefit) is the most efficient. In short, the most efficient option is the one that achieves the desired outcome with least cost.

1.1 Development of the TWT and TAoP Chapters of the NRP

3. PC1 introduces a suite of new policies, rules and other methods supported by new or amended definitions, schedules and/or maps. These new provisions apply to TWT and TAoP focus on the achievement of the proposed objectives for TWT and TAoP. This suite of provisions focuses on managing key activities, to control their impacts on water quality and ecological health, including:

- Existing stormwater discharges
- Stormwater discharges from new urban development and redevelopment
- Wastewater discharges
- Sediment from land disturbance activities such as earthworks, plantation forestry, vegetation clearance and pastoral farming
- Discharges of nutrients and microbial pathogens from rural land uses
- Water allocation (TAoP only)

4. These provisions replace some, but not all, of the existing region-wide provisions in Chapters 4 and 5 of the NRP. The provisions that no longer apply to TWT and/or TAoP are identified by an icon for each whaitua as follows:

- 

icon means no longer applies to TWT, and
- 

icon means no longer applies to TAoP.

5. Where there is no icon the region-wide provision still applies within TWT and TAoP. Some examples of policies and rules, this is not a full list, that still apply to TWT and TAoP are:

   - policies that manage the adverse effects on sites with significant values.
   - policies and rules that control the use of the CMA.
   - policies and rules the control discharges to land.
   - policies and rules that control wetland and beds of lakes and rivers rules.
   - catch all rules for discharges to water.

6. There are a small number of consequential changes to the policies in Chapter 4. Policies P30 and P45 have been amended as a result of the inclusion of new objectives for TWT and TAoP as these policies refer to objectives that no longer apply within TWT and TAoP. Policy P36 has been amended to remove reference to Te Awarua-o-Porirua and Wellington Harbour (Port Nicholson) as the new policies, rules and other methods replace this direction.

7. Plan change 1 also includes policies that apply to all activities guide the achievement of the objectives at a general level. These policies are:

   - Policies WH.P1 and P.P1 (improvement of aquatic ecosystem health)
   - Policies WH.P2 and P.P2 (management of activities to achieve target attribute states and coastal water objectives)
   - Policies WH.P4 and P.P4 (sediment load reductions required)

8. The focus of Plan Change 1 is the key activities of stormwater, wastewater, sediment, nutrients and microbial pathogens from rural land use, and water allocation . All other discharges are still managed under the existing rules of the NRP. The NPS-FM direction has necessitated the inclusion of a number of new policies that replace some of the existing policies of the NRP to ensure that water quality and ecological health is maintained and improved in line with the new PC1 objectives rather than existing NRP objectives for water quality and ecological health. These policies are:

   - Policies WH.P5 andP.P5 (localised effects of point source discharges)
   - Policies WH.P6 and P.P6 (cumulative effects of point source discharges)
   - Policies WH.P7 and P.P7 (discharges to groundwater)

1.2 Approach to meeting target attribute states

9. As discussed earlier, the NPS-FM requires that PC1 set TASs and maximum nutrient concentrations and criteria to achieve environmental outcomes (which must in turn promote the values and the long-term vision).

10. As discussed below, the NPS-FM is clear that the combination of limits (rules), action plans (non-regulatory/operational programmes) and resource consent conditions must achieve the TASs[1]. Limits (as rules) are mandatory for the attributes set out in Appendix 2A of the NPS-FM.

11. To give effect to that framework, the overall policy approach of PC1 to improve the health of freshwater takes a significant step-up in regulatory rigour compared to the operative NRP. This includes:

- A regulatory requirement (policies and rules, including limits) to ensure that water quality and ecological health is maintained. This includes that no new activity can make water quality worse.

- The requirement to improve water quality and ecological health to fulfil community and mana whenua aspirations. Improvements will be achieved through a mix of regulatory (limits) and non-regulatory (action plans) measures. All existing and new activities must improve.

- Across all activities there is an expectation of good management practice. This is irrespective of whether the TAS requires maintenance or improvement.

12. While the NPS-FM makes the setting of limits (as rules) mandatory for all attributes listed in Appendix 2A, it does not require that TASs must be achieved by limits alone. The NPS-FM also allows for action plans and consent conditions to play a part in achieving TASs for Appendix 2A attributes. That is the approach adopted by PC1. It is the *combination* of rules, action plans and consent conditions that will work to achieve TASs for Appendix 2A attributes.

13. The NPS-FM makes the setting of limits optional for all attributes listed in Appendix 2B. At the same time, action plans for Appendix 2B attributes are mandatory. PC1 uses a combination of limits, action plans and consent conditions to achieve TASs for most Appendix 2B attributes as well as other attributes identified by TAoP and TWT WIPs.

1.3 Plan Change 1 approach to limits.

14. Limits on resource use are defined in the NPS-FM to be the maximum amount of resource that is permissible while still achieving a relevant target attribute state or a nutrient outcome needed to achieve an attribute state. (As noted above this is interpreted as referring to achievement in combination with any action plans and consent conditions applied).

[1] NPS-FM Clause 3.12

15. Limits may take the form of:

- an input control (such as a stocking rate threshold),
- an output control (such as a concentration or amount of contaminant permissible in a discharge), or
- a land use control (such as a limit on the extent of a land use in a catchment type, land class or on a site).

16. Limits must be expressed as a rule in a plan. In accordance with the requirements of NPS-FM, PC1 proposes at least one limit in respect of every Appendix 2A TAS. The relevant existing rules and new rules proposed by PC1 containing the limits for the mandatory TASs are listed in Table D1 below and are further described in Sections D2-D6.

17. The limits proposed are a combination of input, output, and land use controls.

18. Rules containing limits aimed at contributing to the achievement of one TAS will commonly have co-benefits in terms of contributing to other TASs. For example, copper and zinc attributes are identified as limits in rules but also act as limits to achieve other attributes affected by stormwater such as suspended fine sediment (see Table D1 below).

19. In some cases, the TAS itself is used as a limit by conditions of rules that require the TAS to be met before a particular land use, or land use change, is permitted. In other cases, for example existing discharges, conditions in rules refer to achievement of the TAS in order for the activity to be assessed as a discretionary or restricted discretionary activity, rather than a non-complying or prohibited activity. The specifics of how limits operate for different land use and discharge activities is discussed in Sections D2-D6 as relevant.

Table D1: Limits to contribute to the achievement of NPS-FM Appendix 2A attributes

Rules containing limits	Attribute
Farming and on-site wastewater rules	
Existing NRP Rules R74, R93, R100	Phytoplankton Periphyton Nitrate Dissolved oxygen Dissolved Inorganic Nitrogen (DIN) Dissolved Reactive Phosphorus (DRP) Suspended fine sediment. Cyanobacteria *E. coli*
Rules in PC1 WH.R32/P.R28	
Forestry and Earthworks rules	
Existing NRP Rules NA	DRP Suspended fine sediment.
Rule in PC1 WH.R23, WH.R26	
Stormwater rules	
Existing NRP rules NA	Phytoplankton Periphyton Nitrate Ammonia Dissolved oxygen DIN DRP Cyanobacteria *E. coli*
Rules in PC1 WH.R11, WH.R12/P.R11	
Wastewater rules	
Existing NRP rules NA	Phytoplankton Periphyton Nitrate Ammonia Dissolved oxygen DIN DRP Cyanobacteria *E. coli*
Rule in PC1 *WH.R16/P.R15*	

1.4 Assessing whether proposed limits will meet target attributes states.

20. The effectiveness of the proposed provisions in achieving the TASs of both Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua have been assessed in Greer 2023a and 2023b.

21. The methodology used by Greer (2023a, 2023b) to assess effectiveness is set out in these technical reports, but in simple terms involved assessing the extent to which the regulatory provisions of PC1 (policies and rules, but not including those for the take and use of water in Te Awarua-o-Porirua whaitua) align with scenarios previously modelled as part of the Whaitua processes. From there, Greer determined how well these provisions, altogether, were at achieving the TASs in each whaitua.

22. While the revised take limits that are proposed for Te Awarua-o-Porirua Whaitua as part of Plan Change 1 were not assessed by Greer, it is considered that the revised take limits will contribute towards the ecosystem health TASs in this Whaitua. In particular, the proposed take limits are sufficiently precautionary to maintain flow regimes that present a low risk of more than minor effects on stream ecosystem health and wellbeing, including instream habitat and life-supporting capacity.

23. The highlights of Greer's evaluations are set out in section 2.3.2 of Part C of this report. In summary, of the 321 TASs across the two whaitua, 285 (89%) are expected to be met by the limits in the rules proposed as part of PC1 (or which are already in the NRP). A small number (36) will require specified non-regulatory methods alongside the regulatory provisions. Achieving twelve of those 36 TASs will require actions in addition to those currently contemplated. The nature and scale of these additional methods will be determined through the action planning process once the TASs and the final stringency of rules and limits has been settled through the plan-making process.

1.5 Plan Change 1 approach to Action Plans

24. Action plans are a requirement of freshwater planning introduced in the 2020 changes to the NPS-FM. They are integral to achieving the target attribute states of PC1. Action plans sit alongside the compulsory requirement for limits under the NPS-FM as one of the key mechanisms for achieving target attribute states.

25. Action planning is part of the policy approach of PC1 for both where it is mandatory under the NPS-FM (i.e., in respect of Appendix 2B attributes) and for attributes where action plans are not mandatory (Appendix 2A, whaitua attributes and load reductions).[2] Following the language of RPS Proposed Change 1, action plans are called Freshwater Action Plans (FAPs) in PC1.

26. The process to prepare action plans is broadly described in the NPS-FM. Where prepared for the purpose of achieving a specified TAS, action plans must identify how the Council intend to achieve the TAS, including through regulatory

[2] Clause 3.12 How to achieve target attribute states and environmental outcomes

measures and non-regulatory measures.[3] Action plans must be prepared for achieving TAS from Appendix 2B of the NPS-FM ('*2B attributes*' herein) and are an optional tool for achieving any other TAS.[4] The NPS-FM provides discretion to local authorities to either append Freshwater Action Plans to a regional plan or publish them separately.[5]

27. As discussed above, GWRC considers that the NPS-FM provides the discretion to use limits, conditions on consents and action plans together as the overall means of achieving the target attribute states of PC1. The proposed approach for Freshwater Action Plans is GWRC's commitment in an '*other method*' to prepare Freshwater Action Plans in identified places to:

- plan and deliver non-regulatory activities to supplement the regulatory actions PC1 requires, and
- support effective regulation (i.e., limits) including of permitted activities.

28. Following the recommendations for PC1 for the management of land use and discharge activities affecting water (Sections D2-D6), a summary of provisions for Freshwater Action Plans and associated non-regulatory methods can be found in Part D Section 7.

1.6 Plan Change 1 approach to consent conditions.

29. Conditions can, outside of the limit's framework, require improvement, particularly for existing activities where a replacement resource consent is being sought. For these types of activities, including wastewater and stormwater discharges, specific conditions tailored to the activity, the infrastructure or the location/receiving environment can direct the implementation of improvement strategies, investigations into new technology, or physical infrastructure improvements for example, which in turn result in water quality improvements.

1.7 Policy evaluation

30. Section 32 of the RMA requires Council to prepare an evaluation report for a plan change that sets out the process and results of what is proposed including:

- the extent to which the objectives are the most appropriate way to achieve the purpose of the Act; and
- whether the provisions are the most appropriate way to achieve the objectives; and
- contains a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated form the implementation of the proposal.

31. In examining whether the provisions are the most appropriate, Section 32 is based on the identification and assessment of the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from

[3] Clause 3.15 Preparing action plans
[4] Clause 3.12(2)(a) and 3.12(1)(c)
[5] Clause 3.15(4)(b)

the implementation of the provisions. This includes consideration of economic growth or employment that may be provided or reduced. Benefits and costs are to be quantified, if practicable.

32. The assessment of the benefits and costs must also assess the risk of acting or not acting if there is uncertain or insufficient information.

33. In identifying and assessing the proposed provisions, and other reasonable options, this has included:

- partnership approach with Ngāti Toa Rangatira
- engagement with key external parties
- workshops and testing with internal teams and specialists
- considering options and outcomes with Councillor's in working groups and workshops.

34. Our approach to considering costs, benefits and efficiency has been influenced by the priorities set by the NPS-FM and in particular the hierarchy of obligations in Te Mana o te Wai that priorities the health and well-being of waterbodies and ecosystems, along with human health, above social, economic, and cultural well-being. By definition, Te Mana o Te Wai, means that environmental benefits must be prioritised and therefore may outweigh social and economic costs to be efficient, where this is necessary to meet the NPS-FM requirements for improvements to water quality.

35. In preparing our section 32 assessment, we have considered the four elements of section 32(2)(a) with the above context in mind, as follows:

- Environmental – our focus has been on the water quality improvements mandated by the NPS-FM.
- Cultural – we have focused on the mana whenua imperatives of the NPS-FM, rather than wider cultural impacts.
- Economic – we have drawn general conclusions on the financial impact of the provisions on people and communities – generally this is cost, as the provisions do not generate a direct financial benefit (e.g., a revenue source)
- Social – we have considered the community sentiment and impact both positive and negative of the plan change provisions.

36. Not all costs have been economically quantified, and the environmental and cultural benefits have not been quantified through a specialist economic impact assessment. The value in doing such an assessment was determined to be very complex and of limited relevance for implementation of the mandatory requirements of the NPS-FM. This is because we consider, had the benefits been quantified (e.g., a financial value assigned to represent how much society is willing to 'pay' for clean water) the benefits would likely not outweigh the significant costs associated with improving the environment in the manner directed by the NPS-FM – particularly in the urban areas. That is, there would

likely remain a gap or an '*economic impact assessment*' disbenefit, which would be counter to a logical economic impact assessment of '*efficiency*' whereby benefits exceed costs in an economic sense. The traditional economic impact approach does not necessarily align well with the hierarchy of obligations in the NPS-FM which prioritises the environmental benefits.

37. Accordingly, the section 32 assessment has been completed as a planning assessment of expected costs and benefits. This draws on professional understanding of the outcomes that that can be expected to arise with the policy/rule options considered in the development of the plan change provisions (policies, rules, and other methods) to implement the objectives of PC1. The objectives arise from the NPS-FM national direction including the WIP (community planning) processes required by the NPS-FM. In this regard, the assessment set out below gives effect to section 32 of the RMA.

2. Stormwater - Existing discharges

2.1 Relevant objectives

44. The discharge of stormwater can affect a range of freshwater and coastal water values, as well as the relationships of mana whenua with their ancestral lands, water, and sites. Management of stormwater discharges is necessary to achieve a number of existing objectives in Chapter 3 of the NRP. Those objectives specific to stormwater include:

> Objective O38 – *The adverse quality and quantity effects of **stormwater** discharges from **stormwater networks** and urban land uses are reduced over time.*

45. PC1 also proposes new short- and long-term objectives for freshwater and coastal receiving environments that the improvement to the quality of existing stormwater discharges will contribute to meeting.

46. Objective WH.O3 seeks that the coastal water objectives in Table 8.1 are met, including that contaminant concentrations within '*hotspot*' areas are reduced, sediment inputs into Makara Estuary are reduced, and mana whenua can enjoy a wider range of customary and cultural practices including mahinga kai gathering. Objective P.O3 also seeks that contaminant concentrations within '*hotspot*' areas are reduced, and that sediment and metal loads entering the harbours are significantly reduced, and that the coastal water objectives in Table 9.1 are met, by the timeframes set out in the table.

47. Objective WH.O9 seek that freshwater quality is maintained or improved including dissolved copper and zinc concentrations are maintained or improved (reduced) where required to meet the target attribute states in Table 8.4. Objective P.O6 is similar and also seeks that freshwater quality is maintained or improved, with dissolved copper and zinc concentrations maintained, or improved (reduced) where required to meet the target attribute states in Table 9.2.

2.2 Policy context – problem/issue

48. Stormwater includes a number of different types of contaminants, including sediment, heavy metals, hydrocarbons, and pathogens, and is currently largely untreated in the Wellington Region. Stormwater infrastructure has historically focussed on the rapid removal of rainfall from urban centres rather than on treatment of contaminants and gross pollutants. During rainfall events contaminants, including from roads, roofs, and paved areas, enter the stormwater pipe networks and are discharged to rivers and the coast. Stormwater discharges are contributing to the degradation of the region's water quality and aquatic ecosystems, particularly in urban streams, estuaries, and harbours.

49. As noted in Part B of this report, neither dissolved copper and zinc nor any other metals are attributes in the NPS-FM. However, the TWT and TAoP WIPs

recommend setting objectives, including load reduction targets for Porirua Harbour, for zinc and copper in both freshwater and marine environments as they are representative of urban stormwater contaminants. Other urban stormwater contaminants include sediment, hydrocarbons, detergents/surfactants, and other toxic metals, such as lead, cadmium, and chromium. By reducing or limiting the discharge of copper and zinc, these contaminants are also likely to reduce, and there will also be an improvement of the compulsory NOF attributes in Appendix 2A of the NPS-FM of ecosystem health, nutrients, visual clarity, and *E. coli*.

50. Sources of copper include vehicle brake pads, plumbing, and industrial activities, and for zinc include vehicle tyres, galvanised roofs and building materials, paints, and industrial activities. The highest concentrations of total and dissolved copper and zinc are in the runoff from the initial rainstorm (the first flush)[1].

51. Metals exist in either dissolved or solid form. Dissolved copper and zinc are the predominant form in freshwater, but as salinity increases in harbours and estuaries, the dissolved forms become attached to sediment particles. Metals can have toxicant effects on aquatic life in both a dissolved state and when attached to sediment particles. They are an important driver of ecosystem health in urban rivers and streams and exert a large influence over macroinvertebrate community health in rivers affected by stormwater discharges and in harbours can accumulate in filter feeding animals such as shellfish (Greer *et al* 2023).

52. Copper is approximately 5 to 10 times more toxic to aquatic life than zinc but occurs in lower concentrations. The Australian and New Zealand Water Quality Guidelines[2] for the 95% level of species protection in freshwater for copper toxicity is 1.4µg/l, and for zinc toxicity is 8.0µg/l, which equates to a B state. The 99% level of species protection equates to an A state (Greer *et al* 2023). The baseline state for a number of the urban streams is higher (more contaminated) than this and so does not afford this level of protection[3].

53. In TWT Whaitua, Karori Stream has a baseline median concentration of copper of 1.3µg/l and a 95th percentile concentration of 5.9µg/l, and the Waiwhetū Stream has a baseline median concentration for zinc of 18.3µg/l, and a 95th percentile concentration of 51.5µg/l, which is classified as a D state. In TAoP Whaitua, the modelled baseline state for copper in Taupo Swamp is 0.61µg/l, but 4.69µg/l for the 95th percentile concentration, and Porirua Stream has a baseline median concentration for zinc of 7.5µg/l, and a 95th percentile concentration of 58µg/l, which is also classified as a D state. Other watercourses with a baseline state of D are set out in Table D4 below.

[1] Blyth, J. M. 2020. Whaitua te Whanganui-a-Tara - An overview of the Wellington City, Hutt Valley and Wainuiomata Wastewater and Stormwater networks and considerations of scenarios that were assessed to improve water quality. Prepared for Greater Wellington Regional Council Whaitua Committee. TWT Whaitua_Wellington_Hutt Valley_and_Wainuiomata_Stormwater_and_Wastewater_network_overview_FINAL (gw.govt.nz)
[2] Waterquality.gov.au
[3] See Table 8.4 of Objective WH.O9 and Table 9.2 of Objective P.O6

54. The discharge of other contaminants, such as paint, oil, cleaners, and fuels into the stormwater system can be wide ranging and significant. A one-off discharge can have acute effects and be lethal to fish but is less likely to have ongoing chronic effects. However, contaminants from industrial sites that are entrained in stormwater may have acute or chronic effects on the receiving environment.

55. Reducing the volume of stormwater discharges can result in less stream bank and bed erosion, which contributes to meeting the NPS-FM compulsory 2A target attribute state for water clarity.

2.2.1 Target attribute states and coastal objectives

56. In many parts of both whaitua, and particularly in the rural areas, copper and zinc are in an A state. For TWT Whaitua, the part FMU in A state is Te Awa Kairangi lower mainstem. There are other part FMUs such as Wainuiomata rural streams and Te Awa Kairangi rural streams and rural mainstems, for which there is insufficient baseline data for copper and zinc but these FMUs are likely to be in A state also. This state needs to be maintained at this level. For TAoP Whaitua, Pouewe and Takapū part FMUs are in an A state.

57. The part FMUs where the baseline state has been identified as less than A state are set out in Table D4 below. For most of these part FMUs the water quality needs to improve by at least one state for dissolved copper and/or zinc.

Table D4: Part FMUs where the Copper and Zinc baseline state is less than A

	Target attribute states	Dissolved Copper µg/L		Dissolved Zinc µg/L	
	Part FMUs	Baseline state	TAS	Baseline state	TAS
TWT	Te Awa Kairangi urban streams	C	B	C	B
	Waiwhetū Stream	C	A	D	B
	Wainuiomata urban streams	C	C*	D	C
	Kaiwharawhara Stream	C	B	B	A
	Wellington urban	D	C	D	C
TAoP	Taupō	D	B	C	A
	Wai-O-Hata	C	A	B	A
	Te Rio o Porirua and Rangituhi	C	C*	D	C

***** For these part FMUs maintenance of the current state as a minimum is required

58. For the coastal water objectives, both whaitua need to maintain or improve the state of copper and zinc in sediment to meet the objectives proposed by PC1. For TAoP, a 40% reduction in zinc and copper loads are proposed as coastal objectives. While Porirua harbour and Pāuatahanui Inlet are considered to be in '*moderate*' health for metals, a 40% reduction in the total copper and zinc loads is sought through the WIPs[4], to match the reduction in sediment load sought. The Onepoto Arm has higher levels of copper and zinc than Pāuatahanui Inlet. There are also '*hotspot*' areas in Porirua and Wellington harbours where metals (attached to sediments) have accumulated, including

[4] See Section B of this report.

the southern end of the Onepoto Arm, and the Queens Wharf and Port areas in Wellington Harbour.

59. The actions needed to meet the TASs for copper and zinc include bioretention or other treatment of existing road runoff, constructed wetlands to treat existing residential areas, and treatment of runoff in existing paved commercial and industrial areas. It is expected that replacement of old roofs with low yielding zinc roofs will occur through attrition and will be undertaken by the private sector. A similar source control approach to copper is unable to be taken, as currently there are few viable alternatives to the use of copper brake pad linings. While some of the copper is likely to come from copper building materials this is only a minor source and is proposed to be restricted further through the new urban development provisions.

60. Consequently, even with all of the mitigations proposed under the water sensitive scenario, Greer 2023b has assessed that only a 15% reduction in copper can be achieved in TAoP from the stormwater network discharge mitigations, compared with a 40% reduction for zinc. To reach the 40% reduction in copper, non-regulatory methods implemented through Freshwater Action Plans will also be required.

61. Further reductions would also be gained if central government phased out the use of copper brake pad linings in cars through national regulation or other means. However, any controls introduced at the national level regulating this use is likely to take some time to implement and then further time for the results to be observed in the water quality. As such, much of the reduction sought for copper is outside the control of Wellington Water Ltd and Waka Kotahi as the entities responsible for existing stormwater network discharges. Following an assessment by Greer (2023b) of what Wellington Water Ltd and Waka Kotahi can feasibly control through stormwater treatment and mitigation, it is recommended that in TAoP a 15% reduction of copper loads be set as the limit for these network discharges.

62. Target concentrations of copper and zinc have been provided in TWT rather than load reductions. While source control of copper is also difficult in TWT, to meet the TASs for copper and zinc will be slightly easier than in TAoP as the load reductions for the TWT FMUs, while not calculated, are likely to be less than the 40% required in TAoP for discharges to meet the reductions required in the harbour arm catchments for sediment, copper, and zinc (refer to Policy P.P4).

63. With the implementation of the preferred option for Plan Change 1, the stormwater contaminant loads will be reduced by more than what was modelled under the water sensitive scenario, as these measures go further than the modelled scenarios (Greer 2023a and 2023b). Even so, to meet the TASs for copper and zinc will require the implementation of a number of actions including substantial investment in stormwater infrastructure throughout these whaitua by local authorities, Waka Kotahi, and private landowners, as

well as a shift away from copper brake pad linings and zinc roofs. This investment has been estimated in Blyth 2020[5] to be in excess of $1 billion over 50 years for TWT Whaitua.

2.2.2 Whaitua Implementation Programmes and Mana Whenua implementation plan recommendations

Te Awarua-o-Porirua Whaitua Implementation Programme

64. The recommendations of the Te Awarua-o-Porirua WIP relevant to this topic are:

- Recommendations 1, 4, 7, 8 and 9 - GWRC to set water quality limits and targets for zinc and copper, *E. coli*, and sediment, and include incrementally decreasing limits for each contaminant over time.
- Recommendation 26 - GWRC to develop clear and cohesive policy direction and align and streamline planning processes for stormwater in conjunction with Wellington Water Ltd and the territorial authorities.
- Recommendation 30 - GWRC along with Wellington City Council and Porirua City Council control hydrological impacts of urban development to mitigate changes in runoff volumes and flow rates, including through good practice in water-sensitive urban design.
- Recommendation 31 - GWRC to manage and progressively improve stormwater discharges to achieve the objectives and targets including tailoring the framework to the different scales and types of stormwater discharges (individual properties, state highways and local authority stormwater networks), having a more stringent rule activity status for stormwater discharges that discharge into waterbodies where the current water quality is worse than the limit or target, include requirements for resource consent applications and stormwater management strategies to demonstrate how they will meet the freshwater and coastal water objectives, limits and targets, including a staged approach to meet progressively reducing limits, include policy direction to target 'priority' areas in both freshwater and coastal environments by prioritising improvements in the stormwater network
- Recommendation 37 - GWRC investigates options to revise the controls on chemical cleaning products.

Whaitua Te Whanganui-a-Tara Implementation Programme

65. The recommendations of the Te Whanganui-a-Tara WIP relevant to this topic are:

- Recommendation 1 - GWRC to set water quality target attribute states.
- Recommendation 17 - GWRC to amend regulatory documents to require Wellington Water Ltd to develop a strategy/plan within the global

[5] Blyth, J. M. 2020. Whaitua te Whanganui-a-Tara - An overview of the Wellington City, Hutt Valley and Wainuiomata Wastewater and Stormwater networks and considerations of scenarios that were assessed to improve water quality. Prepared for Greater Wellington Regional Council Whaitua Committee. TWT Whaitua_Wellington_Hutt Valley_and_Wainuiomata_Stormwater_and_Wastewater_network_overview_FINAL (gw.govt.nz)

stormwater network resource consent to achieve the target attribute states.

- Recommendation 24 - GWRC amends the provisions to require Wellington Water Ltd/territorial authorities to identify all cross-connections (wastewater connected to stormwater) and inflow faults (stormwater connected to wastewater)
- Recommendation 45 - GWRC develop or amend regulatory instruments to reduce the risk of contaminants entering the stormwater system.
- Recommendation 49 - GWRC develops and implements a pollution prevention programme.
- Recommendation 57 - GWRC amends the provisions to retain, restore and enhance the natural drainage system - require hydraulic neutrality and water quality treatment in urban catchments through WSUD.
- Recommendation 58 - GWRC and mana whenua, along with territorial authorities and Wellington Water Ltd, develop regulatory interventions for existing development to be implemented through retrofitting WSUD via a catchment management approach whenever opportunities arise.
- Recommendation 60 - GWRC and TAs develop provisions requiring the minimisation of stormwater effects and achievement of hydraulic neutrality on-site, or otherwise offset effects through a formal programme to fund more efficient centralised systems.
- Recommendation 61 - GWRC amends regulatory documents to reduce the effects of stormwater flooding.
- Recommendation 64 - GWRC amends regulatory documents to ensure that river management enhances habitat restoration and stormwater treatment along the full length of developed rivers.
- Recommendation 97 - GWRC incentivise the attenuation of stormwater, prioritising those suburbs prone to flooding due to capacity issues in the stormwater network.

Te Mahere Wai o Te Kāhui Taiao

66. The recommendations of Te Mahere Wai o Te Kāhui Taiao relevant to this topic are:

- Recommendation 26 - There are no discharges (point source or non-point source) that impact on water quality standards that are set.
- Recommendation 29 - Kaiwharawhara, Korokoro, Wainuiomata and Black Creek are prioritised for an audit of cross connections.
- Recommendation 32 - Stormwater is captured and treated and where possible utilised as a resource. Where released to streams, it is released in a manner aligned with natural flow regimes?
- Recommendation 35 - GWRC reviews and enhances requirements for pre-treatment of trade waste and stormwater from industrial/commercial sites.

67. Those recommendations that are of a regulatory nature have been considered through the options analysis set out below. The non-regulatory

recommendations which GWRC are leading are primarily to be implemented through Freshwater Actions Plans.

2.3 Stormwater - efficiency and effectiveness of provisions

This policy package is part of a suite that contribute to achieving Objectives WH.O3, WH.O9, P.O3 and P.06

The proposed policies and methods for existing stormwater discharges are part of a suite of provisions designed to contribute towards achieving the new copper and zinc related objectives listed above. The purpose of these objectives is to reduce copper and zinc that enters freshwater and coastal water to meet the target attribute states as well as the coastal objectives for copper and zinc for harbours. A co-benefit of this package is that the reduction in copper and zinc will also assist with reducing the levels of other contaminants including other heavy metals, nutrients, *E. coli* and the sediment load to these water bodies as well as the rate of harbour sedimentation.

Intent of this policy package:

New provisions are required to reduce contaminants in stormwater discharges from existing development to meet the objectives of the NPS-FM. While the NRP introduced a step change in 2015 in how stormwater was managed in the Wellington Region, there is still a need for further refinement of the stormwater provisions and a focus on meeting the target attribute states for copper and zinc, as well as supporting meeting the target attribute states for other NOF attributes.

Policy package Option 1 – preferred option

The key feature of the preferred option is to set target attribute states and coastal objectives for copper and zinc to be met by the timeframes set out in the objectives for freshwater and coastal water, and to assist with meeting those for other relevant attributes such as water clarity, deposited sediment, nutrients, *E. coli* and ecosystem health. For the stormwater network discharges, the provisions include a requirement that a stormwater management strategy will be prepared that outlines how the copper and zinc loads in the discharge will be reduced by the percentage needed to meet the target attribute states and coastal objectives. Without this, the application to discharge stormwater is a non-complying activity. In the TWT Whaitua, discharges from the port and airport must maintain, or reduce their copper and zinc loads in accordance with Table 8.1 of WH.03 to meet the coastal objectives for Te Whanganui-a-Tara (Harbour and estuaries) and Wai Tai coastal water management units for the port and airport respectively. There are no ports or airports in TAoP Whaitua. The requirements in these rules are an output limit. This option also proposes to increase regulation for high-risk trade and industrial premises and prohibit specific high-risk contaminants from being discharged to rivers, the coast and via stormwater networks.

The make-up of the preferred option in terms of the policy framework is as follows:

New definitions:

- High risk industrial or trade premises – this definition is to identify industrial or trade premises where on-site contaminants may be entrained in stormwater.

- Hydrological control – this definition is proposed to be the same as that introduced by Change 1 to the RPS, as amended through the recent section 42A report recommendations, and relates to the management and timing of stormwater flows and volumes in a way that replicates natural processes to protect ecosystem health and well-being.
- Stormwater catchment or sub-catchment – this definition provides a distinction between stormwater catchments and sub-catchments, versus wastewater network catchments and river catchments.

Amended definitions:

- Stormwater – adds a new reference to stormwater provisions in the Whaitua chapters of the NRP.
- Stormwater management strategy – Whaitua – new definition for stormwater management strategies required by the TWT and TAoP Whaitua chapters of the NRP.
- Stormwater network – makes clear that the network includes devices which may have a variety of purposes and includes stormwater treatment systems which are also defined (see section 3 below)

New policies:

- General policy to avoid discharges of specific products and waste – this is implemented by a new prohibited activity rule to prevent certain products from being discharged to freshwater and coastal water, including via the stormwater network.
- Stormwater discharges to maintain, or improve where degraded, baseline water quality state for copper and zinc so that the target attribute states and coastal water objectives for copper and zinc will be met by the timeframes in the objectives.
- All stormwater discharges to incorporate water sensitive urban design, hydrological controls, and appropriate stormwater treatment systems where practicable.
- To manage any discharges of contaminants entrained in stormwater from high risk industrial or trade premises.
- For Te Whanganui a Tara Whaitua, manage stormwater from the port and airport sites, as per the existing region-wide policy in the NRP except that it also references the target attribute states and coastal objectives.
- To manage stormwater network discharges from local authority and state highway networks by reducing copper and zinc loads and concentrations, supporting the achievement of other TASs, and implementing a stormwater management strategy

New rules:

- The point source discharge of specific contaminants including paint, chemical cleaning products and agents, and fuels into water or onto or into land, including via the stormwater network, where it may enter a surface water body or coastal water is a prohibited

activity. This rule does not apply to any contaminants entrained in stormwater but rather products directly discharged to water, the stormwater network or to land where it may enter a surface water body or coastal water.

- Discharges of stormwater to land that may enter groundwater are permitted subject to conditions. This rule replicates an existing region-wide rule in the NRP but excludes discharges from high risk industrial or trade premises and in relation to a stormwater network to apply a consistent approach to discharges of this nature and better protect groundwater.
- Stormwater discharges from an existing individual property to surface water or coastal water are permitted subject to conditions. This rule replicates an existing region-wide rule in the NRP but clarifies that the new rule relates to discharges directly to a surface water body or the coast rather than from or via a stormwater network.
- Stormwater discharges from high risk industrial or trade premises are permitted provided conditions are met including that the discharge is not from or into SLUR Category III land (confirmed contaminated land) or that any contaminants are contained on site and unable to enter the stormwater system or an interceptor is used to remove hydrocarbons to an acceptable level. This rule specifically excludes stormwater from ports or airports.
- For Te Whanganui a Tara Whaitua, stormwater from ports or airports is a restricted discretionary activity, which replicates the existing region-wide rule in the NRP except that the target attribute states for copper and zinc must be met and the matters of discretion include that the management of adverse effects of stormwater is to also be undertaken as required by Policy WH.P12 for ports and airports. This activity is also managed by the new localised effects policy WH.P5
- Stormwater from a local authority or state highway stormwater network is a restricted discretionary activity and public notification is precluded, provided the resource consent application includes a stormwater management strategy in accordance with Schedule 30 (stormwater strategy - whaitua) which provides a programme to improve discharge quality, including a reduction of copper and zinc in order for the target attribute states to be met.
- Any discharges of stormwater that are unable to meet the conditions of the applicable rule (including the new rules for new urban development and redevelopment) are non-complying activities.

New schedule:

- A Stormwater Management Strategy for the TWT and TAoP Whaitua that:
  - provides a strategy for how copper and zinc loads and concentrations in stormwater discharges will be reduced, including through management of first flush discharges.
  - identifies the contaminant load for copper and zinc in the discharge, and the reduction needed that is commensurate with that required in the receiving environment.
  - supports achieving other relevant target attribute states.
  - describes actions to use hydrological controls to maintain or re-establish natural flow regimes.

- sets out the methodology/information requirements, to support the decision-making to be used to prioritise all catchments or sub-catchments for implementation actions and mitigation measures to maintain, or improve where degraded, the receiving water quality
- identifies locations and options for improvement where the capacity of stormwater network needs to be increased.
- identifies desired locations for new communal or catchment-based stormwater treatment in existing urban areas.
- requires modelling and monitoring of the stormwater network.
- includes requirements for catchment or sub-catchment specific Stormwater Management Plans.

Non regulatory measures and programmes:

To support the regulatory measures above, a number of non-regulatory measures and programmes are also proposed, including Freshwater Action Plans for the TWT and TAoP Whaitua to assist with meeting the dissolved copper and zinc attributes (refer to Schedule 27). In addition, Method M43 states that GW will undertake programmes to support the health of waterbodies impacted by urban activities. Some of these measures will be done in conjunction with WWL and include:

- the development and implementation of a pollution prevention programme
- the development of stormwater education materials and a programme(s) to support working with industry organisations (e.g., painters and cleaners) to reinforce or improve standards, communication, and training for best industry practice.
- raising the awareness of the effects of copper brake pads and actively promote low-copper/copper-free alternatives.
- investigating options to reduce hydrological effects on freshwater bodies including incentivising and supporting the retrofitting of rainwater tanks.
- encouraging and providing opportunities to develop innovative practices.

The preferred option also provides clarity in terms of the scope of stormwater provisions. The contamination of stormwater as a result of wastewater overflows will be managed as a wastewater discharge, rather than a stormwater discharge and as such, there will be a better focus on reducing the causes of the stormwater and wastewater contamination, rather than classifying the discharge based on the structure through which the discharge occurs. The preferred option proposes to retain the activity status as a restricted discretionary activity, but also includes a new notification clause which limits public notification.

The new schedule for Whaitua Stormwater Management Strategies will assist with the implementation of these strategies, and provide for Stormwater Management Plans (SMP), which will provide details of the actions and locations of stormwater treatment systems to be

implemented. SMPs will be produced based on the prioritisation of sub-catchments or areas set out in the SMS and will set out how stormwater discharges in that sub-catchment will be treated to meet the objectives and policies of the NRP and work towards meeting the target attribute states for copper and zinc.

This option will require assessment and management of high risk industrial and trade premises. Improvements in water quality of receiving environments where there are currently minimally regulated high risk sites is expected as a result of these new policies and rules. In addition, it provides better equity for all high-risk sites rather than the current provisions which only target ports, airports, state highways and local authority networks. It is envisaged that in most cases, owners or operators of high-risk sites will improve on-site practices to avoid entrainment of contaminants in the stormwater discharge rather than seek a site-specific resource consent.

The proposed new rule prohibiting the discharge of paint and other products to water, and the stormwater system will highlight the serious issue regarding this activity and help with enforcement when discharges of this nature are discovered.

The Freshwater Action Plans and other non-regulatory programmes will work with the regulatory provisions to provide education in relation to stormwater contaminants, and the sensitivity of receiving environments to pollutants such as paint and fuel and encourage innovation and best practice in the management of stormwater discharges.

Policy package Option 2 – Status quo

This package would retain the current approach taken in the NRP. The current policies and rules in the NRP control discharges from stormwater networks and state highways, airports and ports, individual site stormwater discharges and from new urban development whether to an existing local authority network or direct to surface water.

For local authority and state highway stormwater network discharges the existing NRP rules provide for a two-stage consenting process

- Stage 1 consents are short term consents (5 years) which allow information to be gathered.
- Stage 2 consents manage discharges through a Stormwater Management Strategy (SMS) set out in Schedule N of the NRP and consent conditions.

All local authority and state highway stormwater networks in TWT and TAoP Whaitua have been granted a Stage 1 resource consent.

The existing NRP SMS requirement has a focus on water quality and requires improvements to be made to the network, but there are no specific numeric water quality targets set. However, stormwater network managers do need to identify timeframes for implementing stormwater treatment improvements.

In addition, there is no requirement to address water quantity except in relation to new development. Consequently, there is no requirement for stormwater network owners to address water quantity issues as a result of inadequate capacity in the existing stormwater network. Stormwater quantity can affect freshwater values including ecosystem health and visual clarity, and result in the entrainment of additional contaminants, including as a result of scour and erosion as stormwater flows over land.

Discharges from individual sites where there is no stormwater network and standards are met are a permitted activity (R48) under the status quo. However, the wording is somewhat unclear that discharges to the stormwater network are intended to be assessed under the Stage 1 and 2 stormwater network rules.

Discharges from airports and ports are a restricted discretionary activity (R54), with minimisation of adverse effects of stormwater being a key focus. Again, there is no specific numeric water quality targets set for this rule.

Policy package Option 3 – Discharge standards

Option 3 would include a rule with a discharge standard for all stormwater discharges, irrespective of the type of discharge. If stormwater discharges were unable to meet the discharge standard, the activity would be a non-complying or prohibited activity. This option would be in addition to many of the policies identified in Option 1. There is likely to be less needed to differentiate between the different types of stormwater discharges with this option, given that all stormwater discharges would need to meet the standard. Limits on contaminants and rates of discharge provide an assurance about environmental effects and certainty in terms of compliance. It is noted that applying discharge standards to stormwater discharges which are intermittent and highly variable can be challenging as it is difficult to sample the more contaminated '*first flush*' of stormwater discharges. This option would avoid the need for prioritisation of stormwater sub-catchments to be improved, as any improvements would be based on meeting the discharge standard, and some waterbodies are likely to meet the standard sooner than others.

	Option 1 (Preferred)	Option 2 (Status quo)	Option 3 (Discharge standards)
Costs:			
Environmental	Low to medium – There is potential for further degradation of the receiving environments before the improvement measures can be implemented.	Medium – there remains a risk from high-risk sites and individual sites once an SMS is in place. There are also potentially some environmental costs if wastewater remains being managed via the stormwater provisions, and if the Stormwater Management Strategy requirements are not updated. Without numeric targets to be met by certain dates, it is likely that there would be further degradation of the environment before improvements would be implemented.	Low to Medium – there could be environmental costs from stormwater network catchment improvements being prioritised only on the basis of compliance with the discharge standard, rather than other factors such as the values of the watercourse, or location of mahinga kai or recreational areas.
Social	Medium (community tension) - There will be some increased costs for property owners that are unable to meet the permitted activity conditions, particularly owners of high risk industrial or trade premises. New rules for these industries are likely to cause concern as regulation of stormwater discharges in this sector has largely been ad hoc and	Low to Medium – Under the status quo option there will be costs for local authorities due to the requirement for stormwater asset management and improvements which may result in increases in rates or tax. This may have wider social implications and costs for communities. However, improvements would likely to be undertaken over a longer timeframe which may reduce the social	Medium - This option is likely to result in more certainty and therefore a more efficient consenting process. The prioritisation of catchments for improvement is likely to be less flexible, with watercourses of less value being given the same priority for improvement as those with high community values or primary recreation sites.

	often as a result of incidents or complaints. There are likely to be increased costs for local authorities for the infrastructure upgrades to meet the water quality targets which may result in increases in rates or tax. This may have wider social implications and costs for communities. While limiting notification may be viewed as a social cost, the strategy requires engagement with mana whenua and the public as part of the prioritisation of improvements which is likely to be more effective engagement than a notified consent process.	implications for communities compared with Option 1.	This option is likely to result in the highest compliance costs for local authorities and property owners from monitoring individual discharge points which may have wider social implications and costs for communities.
Economic	High - There will be financial costs for property owners that are unable to meet the permitted activity conditions - this will be the case for owners of high risk industrial or trade premises in particular, as under Option 2 (the status quo), stormwater discharges from these premises were part of the territorial authorities' global stormwater discharge permit.	Medium - There are medium financial costs for local authorities as a result of this option due to requirements for stormwater infrastructure improvements. However, there costs are expected to be lower than Option 1 or 3 due to the absence of any limits prescribing the target to meet or a specific timeframe to adopt. The consenting costs for this option are	High - This option is likely to result in lower consenting but slightly higher financial costs for the stormwater network operators and local authorities than the other two options (potentially over $1B for TWT). For some catchments significant improvements would be required to meet the discharge standard, and meeting the discharge standard could take many years. There may also be additional

	There will also be high costs for local authorities including as a result of implementing stormwater treatment throughout the stormwater network. As noted above, based on the analysis by Blyth (2020), this option is expected to cost in the order of $1B for TWT, with similar costs likely for TAoP.	likely to be greater than those for Options 1 or 3.	monitoring costs to determine whether the discharge standard is being complied with at the numerous discharge points. A more collaborative and targeted approach to the receiving environment for water quality standards such as that provided by Option 1 is preferred so that money would be used to target priority physical improvement works rather that meeting a universal compliance limit.
Cultural	Low to medium – The cultural costs associated with this option are expected to be low to medium due to the time it will take to implement measures to improve stormwater quality. This is due to the cost, the practicality of physically undertaking the works, as well as legacy issues such as zinc roofs, cross connections and combined wastewater and stormwater systems. However, this option puts in place a framework to progress towards the long-term objective of wai ora.	High - It is anticipated that there would be more cultural costs with this option than Option 1 due to water quality improvements taking longer and/or an indefinite period to implement as there are currently no specific timeframes or numeric targets to meet with this option. This could lead to a possible further deterioration in water quality in the meantime.	Medium – It is anticipated that there would be more cultural costs with this option than Option 1 as waterbodies of significance to mana whenua are less likely to be prioritised due to the focus instead being on achieving the discharge standard for all waterbodies. This option could therefore also limit mana whenua's role as kaitiaki. A discharge standard would also not promote the complete removal of stormwater from some locations of particular significance to mana whenua.

Benefits:			
Environmental	High – this option will provide a regulatory incentive to improve water quality with more urgency than Option 2 and within the timeframes set out in the objectives. In addition, the provisions provide better guidance to property owners that discharge directly to surface water and coastal water or via a stormwater network, as well as stormwater network managers in relation to how stormwater discharges should be managed, improvements that can be made and source control and treatment options. The new provisions make clear that paint and other contaminants must not be discharged to freshwater or coastal water including via the stormwater network. While the majority of existing properties that discharge to stormwater networks will be managed by the network providers, high risk industrial and trade premises, in particular with this option will now need to ensure their site management is	Medium – improvements are likely to be made in relation to the status quo policies and rules which require adverse effects from stormwater to be minimised, but this is likely to be done over a longer time period. This option also has a policy that requires catchment specific stormwater management plans to identify and prioritise actions to improve stormwater quality in accordance with the relevant objectives in the Plan and progressively implement the stormwater management strategy and actions in the stormwater management plan. The adverse effects of stormwater from ports and airports are to be minimised with this option.	High – this option provides a clear standard that water quality must achieve. In general, given the degraded nature of the rivers within the urban areas of the whaitua, it would require a significant improvement in the quality of the discharge. The certainty of the consent expectations will make obtaining resource consent a quicker and more certain process.

	appropriate so that any stormwater discharged does not contain contaminants or hazardous substances from the site. This option also requires areas to be identified for communal stormwater treatment in existing urban areas to provide '*head room*' for any new greenfield developments and avoid water quality reducing as a result of additional urban development.		
Social	High – this option is likely to result in improvements in the receiving waters which improves the quality of life for communities and enables a wider range of recreational activities such as swimming. The provisions of this option should provide better clarity for communities in relation to how stormwater should be managed, and what can and should not be discharged to stormwater networks. Prioritisation of improvements will mean that rivers of importance to communities will be given higher priority than those that are of lesser importance.	Medium – this option is also likely to result in improvements in the receiving waters which improves the quality of life for communities and enables a wider range of recreational activities such as swimming, but this option is likely to take longer before there is an observable improvement in water quality. Prioritisation of improvements will mean that rivers of importance to communities will be given higher priorities than those that are of lesser importance.	Medium – this option provides a clear standard for communities of the stormwater water quality that must be achieved before being discharged and is expected to provide confidence to the community of the water quality of the waterbodies.

Economic	Low - No financial benefits are identified with this option other than the consenting process is likely to be more straightforward the Option 2.	Medium – This option is likely to take longer to realise the required receiving water quality. Therefore, this option offers more economic benefit to ratepayers than Options 1 and 3 as the costs of water quality improvements will be spread across a longer time period, making them comparably more affordable to communities.	Low - No financial benefits are identified with this option other than the consenting process could be more straight forward and therefore less costly in comparison to Option 1.
Cultural	Medium to high – This option provides a framework for working towards the long-term objective of water being clear and pristine, able to support taonga species, mahinga kai is safe to harvest and customary practices can be undertaken by mana whenua. This option requires improvements in water quality with more urgency than Option 2 and within the timeframes set out in the objectives. In addition, there remains a focus on mahinga kai and Schedule C sites and the prioritisation of improvements or removal of stormwater discharges from these areas.	Medium - this option currently has provisions relating to mahinga kai and Schedule C sites, and the prioritisation of improvements, and will result in improvements to water quality. There are also requirements within the status quo provisions to engage with mana whenua as part of any consent process which affects mana whenua values, including Schedule C (mana whenua) sites.	Medium – This option provides a clear standard that water quality must achieve. In general, given the degraded nature of the rivers within the urban areas of the whaitua, it would result in a significant improvement in the quality of the discharge, but would not offer the same focus on prioritising improvements to locations of importance to mana whenua as provided for by Option 1. The current policies in the NRP relating to Schedule C sites and mahinga kai would remain with this option though, as well as the requirements to engage with mana whenua as part of any consent process which affects mana whenua values.

Effectiveness:			
How successful will you be in providing the outcome set by the objective?	This option is likely to be the most successful, especially when combined with the other stormwater provisions for new development, and non-regulatory actions. This option is likely to be the most successful in achieving the water quality outcomes that the community and mana whenua have sought through the Whaitua processes, as it is clearly setting out the target attributes states that need to be met and the timeframes for doing this, while also providing flexibility through the prioritisation of improvements in stormwater catchments. This option also requires areas to be identified for communal stormwater treatment in existing urban areas to provide 'head room' for supporting the offsetting via financial contributions of residual contaminants arising from any new greenfield developments (see Option 1 of Section 3 below).	This option is relatively successful, but it is likely to take longer to see improvements in water quality. In addition, there remains a risk from high-risk sites and new development on individual sites once an SMS is in place, and the regulatory framework for ensuring compliance with the water quality outcomes sought for the receiving environments is not in place for these activities.	This option could be reasonably successful as there would be a clear standard that would need to be met. However, the discharge standards may result in inappropriate prioritisation of improvements. In addition, there is little incentive to remove a discharge from a sensitive receiving environment completely. In addition, the intermittent, highly variable nature of stormwater discharges, the numerous discharge points, and the inability to '*turn off*' stormwater discharges mean that using end of pipe discharge standards for stormwater is difficult to implement and costly to monitor compliance with.

Efficiency:			
Do the benefits of the option outweigh the costs?	This option is the most efficient of the three options at achieving the objectives as it has high environmental and cultural benefits. However, the economic costs to communities are likely to be significant due to infrastructure upgrade costs.	This option is less efficient at providing environmental and cultural benefits than the other options as the timeframes for improvement are likely to be longer for this option. The economic costs of this option are relatively lower than the other options also.	This option is likely to be relatively efficient at delivering the required environmental benefits as it provides a clear standard that must be met which would reduce consenting costs. However, the additional compliance and monitoring costs for assessing the discharge at each discharge point to see whether the discharge standards were being met could be significant, coupled with the infrastructure upgrade economic cost as well. The economic costs to upgrade the infrastructure are likely to be higher than Option 2 and would be the same or higher than Option 1. This option is likely to result in the same environmental outcome as Option 1 but with significantly more compliance costs, so is less efficient overall.
Risks of acting or not acting if there is uncertain or insufficient information:	The modelling and monitoring data undertaken through the Whaitua processes as well as the information gained through the Stage 1 network consents have provided good information in relation to the state of the receiving environments as well as the characterisation of the stormwater discharge for various catchments. As such, there is sufficient information to proceed with Option 1.		

	The risks of acting relate to the cost involved for stormwater network providers, in particular, which are likely to be significant. However, this is also the case for the status quo, albeit that any improvement in stormwater infrastructure would likely occur over a longer timeframe. The risks of not acting relate to a potential further deterioration in water quality before improvements are made, which may require additional treatment options or upgrades of infrastructure as a result. There is a risk that on-site contaminants and hazardous substances from industrial and trade premises could be entrained in stormwater discharges, and that stormwater treatment devices may not be installed where they are urgently needed or take longer to be installed. In addition, there is currently a lack of awareness by some in the community around discharges of paint, cleaning products and other contaminants to the stormwater network, in particular, that needs to be addressed with urgency.
Overall evaluation	After consideration of the foreseeable costs and benefits, effectiveness and efficiencies and the risks of acting or not acting, Option 1 is the best option as it ensures that the objectives of PC1 can be met within the timeframe set, as required by the NPS-FM. Despite the high financial cost of this option, the water quality improvements required are necessary and anticipated by the priorities set by the NPS-FM, and in particular the hierarchy of obligations in Te Mana o te Wai that prioritises the health and well-being of waterbodies and ecosystems. Option 1 provides a refinement of the existing NRP policies and rules as well as more stringent requirements for water quality improvement through the use of policies and rules which require the TASs and coastal water objectives to be met by the timeframe prescribed in the objectives. Stormwater network discharges largely occur as a result of rainfall, are anticipated by the NRP, and must be consented in order for improvements to the environment to be made. The rules require a Stormwater Management Strategy that supports the achievement of the target attribute states and coastal water objectives. The strategy also requires engagement with mana whenua and the public as part of the prioritisation process for improvements to the networks. This type of engagement is much more likely to reach the whole community than a consent notification process. Requiring public notification is also duplicative, as engagement is required as part of the strategy document and plans that support this application. By limiting public notification, costs can be expended on improvements to the networks rather than publicly notified consent processes. Mana whenua will be considered affected parties to these applications, and the applications could still be notified on a limited basis. The increased regulation for high-risk trade and industrial premises and the prohibition of specific high-risk contaminants will highlight the risks of these activities and discharges and provide a platform for better education of these risks. The increased regulation for high-risk trade and industrial premises serves as an

	incentive to manage on-site stormwater better and by doing so, business owners can avoid needing to obtain a resource consent.

3. Stormwater - New Urban Development and Redevelopment

3.1.1 Relevant objectives

66. The provisions and policy approach outlined in this section will contribute to the achievement of the objectives proposed in the two new Whaitua chapters, Te Awarua-o-Porirua (Chapter 8) and Te Whanganui-a-Tara (Chapter 9) of the NRP. They are directly relevant in their contribution to achieving the target attributes states for zinc and copper objectives of P.O6 and WH.O9 and coastal objectives of P.O3 and WH.O3.

3.1.2 Policy context – problem/issue

Background and Interdependence with Existing Discharge Section

67. As outlined in preceding section, *Existing Discharges* (specifically Section 2.1.2) of this report, urban stormwater can impact a range of freshwater and coastal water values due to the wide range of contaminants generated from urban activities that become entrained in stormwater and end up in the receiving environment. Section 2.1.2 also outlines the characteristics of zinc and copper, its impact on the environment and aquatic ecosystems, urban sources, current state, and TAS and coastal water objectives attributed to the metals across FMUs of the two whaitua.

68. While dissolved copper and zinc are not attributes in the NPS-FM, both the TWT and TAoP WIPs recommend load limits and reduction targets for these contaminants. In the context of PC1 and improving stormwater discharge quality, copper and zinc are the key contaminants used to ascribe contaminant load reductions and a directive focus for policies and provisions. However, they are only two elements of the suite of other urban stormwater contaminants such as sediment, temperature, hydrocarbons, detergents/surfactants, and other toxic metals (such as cadmium and chromium).

69. The provisions and policy approach outlined in the *Existing Discharges* section (section 2.1) relate predominantly to stormwater discharges from existing impervious areas across the two whaitua. These stormwater discharges are mainly discharged through local authority stormwater networks and state highway stormwater networks. A small proportion of stormwater from private properties directly discharge to freshwater and coastal receiving environments, however, information on the prevalence and extent of these direct discharges is presently unknown.

70. The new urban development and redevelopment stormwater provisions outlined in this section of the report relate to requirements for management of stormwater discharges generated from impervious surfaces created through new greenfield development, as well as redevelopment of impervious surfaces of a site or property within the existing urban areas (i.e., brownfield or infill development and roading development).

Opportunities through Urban Development and Redevelopment

71. There is currently a significant need and expectation to increase housing capacity and availability through infill housing, brownfield redevelopment and greenfield development. The National Policy Statement for Urban Development 2020 (NPS-UD) specifically directs district councils to provide development capacity and ease planning related housing restrictions in order to enable housing supply and improve housing affordability. The four tier 1 city councils are at various stages of implementing the requirements of the NPS-UD, either through plan changes, variations, or full District Plan reviews[1].

72. In addition, the NPS-UD requires councils to produce Future Development Strategies (FDS) to set long term strategic visions and prioritisation for accommodating urban growth within their jurisdictions. The Draft FDS was recently released for consultation, the document was developed by the Wellington Regional Leadership Committee, made up of local government (including GW), iwi and central government, The Draft FDS was informed by a Housing and Business Assessment (HBA)[2]which modelled future and business demand against the capacity of the existing district plans and infrastructure to accommodate future growth. The HBA found that across the Wairarapa-Wellington-Horowhenua region that additional housing of 99,000 dwellings was required by 2051, however sufficient housing development capacity was already available across the region of 206,613 dwellings (more than double). The HBA identified a likely shortfall in industrial land to meet demand.

73. Informed be the HBA, the draft FDS prioritises growth within existing urban areas and anticipates over the next 30 years, 82% of housing will be provided through brownfield/infill (redevelopment_ activities, while 18% will be within greenfield areas. Specifically, across the two whaitua, greenfield development is accommodated within areas that retain a future urban zone (except for Upper Stebbings, Glenside West and Lincolnshire (residential) within Wellington City). No new greenfield areas were identified in the draft FDS.

74. The intensification of existing urban areas will increase imperviousness with the potential for further degradation of freshwater and coastal water ecological values through increased stormwater volumes and contaminants. However, if done well, redevelopment presents opportunities for substantial '*wins*' for stormwater management with the ability to make gains (improvements) on the treatment of stormwater across sites/existing urban areas. This is particularly applicable for larger scale redevelopment activities where the size of the redevelopment tends to allow a more comprehensive consideration of stormwater treatment opportunities. Ensuring suitable regulatory and non-regulatory levers are in place will allow these opportunities to be fulfilled and will contribute to improving water quality and meeting whaitua TAS.

75. Greenfield development presents a challenge under the direction of the NPS-FM, to not reduce water quality, and in many cases, there is a requirement to

[1] HBA working version (wrlc.org.nz).
[2] Ibid

improve water quality. This directive essentially sets a maximum upper threshold for contaminant concentrations (zinc and copper) for receiving environments to the present-day levels. For degraded receiving environments within the Te Awa Kairangi urban streams, Waiwhetū Stream, Wainuiomata urban streams, Taupō, Wai-O-Hata, Te Rio o Porirua and Rangituhi part-FMUs (where greenfield growth pressures will likely be most present), improvements to zinc and copper concentrations are required to meet mana whenua and community expectations for water quality.

76. All greenfield development comes with an unavoidable increase in stormwater contaminants entering receiving environments, even with best practice contaminant treatment systems in place. Stormwater treatment systems do not treat to 100% removal for most contaminants, often becoming un-economic above a certain level of treatment performance (Farrant, S. 2023). Where councils (across New Zealand) do require stormwater treatment, often a Best Practicable Option (BPO) approach is taken, which allows applicants to consider the context of the site and proposed development including relevant contaminants, devices and approaches for stormwater management, site constraints to arrive at and propose a stormwater treatment approach best suited to the site/development.

77. Effectively, greenfield development is not an appropriate activity under the NPS-FM due to its inevitable increase in zinc and copper (as well as negative impacts on other values including ecosystem health) to receiving environments. However, prohibiting all new greenfield development is unlikely to be consistent with the mandatory national direction of the NPS-UD. To resolve the conflict created by the competing directives of both NPSs, there needs to be a considered approach to how some greenfield development can be accommodated in a regime that does not allow further degradation of water quality and contributes to improvements where this is needed.

Target Attribute States, Coastal Objectives and WIP Recommendations

78. Section 2.1.2 (Existing discharges) outlines baseline states for zinc and copper across the various part FMU's for TWT and TAoP are discussed along with corresponding TAS and where part FMU's are to be either maintained or improved. Coastal objectives for zinc and copper reductions are also outlined in terms of a percentage reduction across the two whaitua. That information provides important context for this section.

79. In addition to the analysis and considerations in Section 2.1.2, relevant TAoP and TWT recommendations from the WIP along with Te Mahere Wai are provided in the table below, and collectively, these all inform and drive the preferred policy package outlined in following sections.

Te Awarua-o-Porirua WIP

Recommendation 1, 7, 8 and 9:	Set water quality limits and targets for zinc and copper, E. coli, and sediment, and include

	incrementally decreasing limits for each contaminant over time
Recommendation 26:	Develop clear and cohesive policy direction and align and streamline planning processes for stormwater in conjunction with Wellington Water Limited and District Councils
Recommendation 27:	Include a policy and rules framework that identifies the urban areas with a more stringent rule activity status outside existing urban areas
Recommendation 28:	Include policy and rules to require WSUD, set a required percentage capture and reduction of stormwater and contaminants, use a mixture of permitted activity conditions and resource consents to manage effects from small infill to larger greenfield and brownfield developments
Recommendation 30:	Control hydrological impacts of urban development to mitigate changes in runoff volumes and flow rates, including through good practice in water-sensitive urban design
Recommendation 31:	Manage and progressively improve stormwater discharges to achieve the objectives and targets including tailoring the framework to the different scales and types of stormwater discharges (individual properties, state highways and local authority stormwater networks), having a more stringent rule activity status for stormwater discharges that discharge into waterbodies where the current water quality is worse than the limit or target, include requirements for resource consent applications and stormwater management strategies to demonstrate how they will meet the freshwater and coastal water objectives, limits and targets, including a staged approach to meet progressively reducing limits, include policy direction to target 'priority' areas in both freshwater and coastal environments by prioritising improvements in the stormwater network.

Te Whanganui-a-Tara WIP

Recommendation 1:	Set water quality target attribute states

Recommendation 45:	Develop or amend regulatory instruments to reduce the risk of contaminants entering the stormwater system
Recommendation 57:	Amends the provisions to retain, restore and enhance the natural drainage system - require hydraulic neutrality and water quality treatment in urban catchments through WSUD
Recommendation 58:	Greater Wellington Regional Council and mana whenua, along with District Councils and Wellington Water Limited, develop regulatory interventions for existing development to be implemented through retrofitting WSUD via a catchment management approach whenever opportunities arise
Recommendation 59:	Develop a standardise tool (by 2025) to assess a development contribution to contaminants and hydrological impacts
Recommendation 60:	Develop provisions requiring the minimisation of stormwater effects and achievement of hydraulic neutrality on-site, or otherwise offset effects through a formal programme to fund more efficient centralised systems
Recommendation 61:	Amends regulatory documents to reduce the effects of stormwater flooding
Recommendation 64:	Amends regulatory documents to ensure that river management enhances habitat restoration and stormwater treatment along the full length of developed rivers
Recommendation 97:	Incentivise the attenuation of stormwater, prioritising those suburbs prone to flooding due to capacity issues in the stormwater network.

Te Mahere Wai o Te Kāhui Taiao

Recommendation 26:	There are no discharges (point source or non-point source) that impact on water quality standards that are set
Recommendation 32:	Stormwater is captured and treated and where possible utilised as a resource. Where released to streams, it is released in a manner aligned with natural flow regimes.

3.1.3 New Urban Development and Redevelopment - efficiency and effectiveness of provisions

This policy package is part of a suite of stormwater provisions designed to contribute towards achieving the zinc and cooper related objectives P.O6 and WH.O9 as well as coastal objectives of P.O3 and WH.O3. The provisions outlined in this section specifically apply to stormwater discharges from impervious surfaces because of new urban development and redevelopment, including through infill, brownfield and greenfield. The provisions will also contribute to sediment load improvements across the whaitua as stormwater treatment inherently reduces sediment loads, while proposed hydrological control requirements will reduce scour and erosion induced sediment in river environments.

Intent of this policy package:

Support whaitua specific objectives to meet TAS and coastal objectives by requiring new urban development and redevelopment at a site/development level to contribute to catchment wide stormwater quality improvements, through stormwater contaminant treatment and hydrological control allowing improvement upon existing stormwater quality and minimisation of new stormwater contaminants from new development. New stormwater contaminants from greenfield development will be managed in a manner that doesn't compromise the NPS-FM directive to maintain or improve water quality.

Policy package Option 1 – Preferred option

The preferred option seeks to manage the use of land and any associated stormwater discharges from new urban development and redevelopment and will apply to all stormwater discharges that will directly or indirectly (i.e., through local authority stormwater networks) discharge to freshwater or coastal waters. The provisions that support the preferred option are as follows:

Definitions	Include new definitions for: impervious surfaces, redevelopment, stormwater treatment system, unplanned greenfield development.
Policies	Include new policies for: • Stormwater contaminant treatment and hydrological control for new and redeveloped impervious surfaces (WH.P14 and P.P13). • Collection of financial contributions from greenfield development to offset residual (post-treatment) effects on water quality; (WH.P15 and P.P14) • Avoiding unplanned greenfield development (WH.P16 and P.P15).
Rules	Include new stormwater discharge rules: • Permitted activity for new and redeveloped impervious surfaces < 1000$m^{2,}$ subject to conditions (WH.R5 and P.R5);

	• Controlled activity for new greenfield impervious surfaces between 1000m^2 and 3000m^2 subject to conditions (WH.R6 and P.R6); • Controlled activity for new and redeveloped impervious surfaces within existing urban areas between 1000m^2 and 3000m^{2,} subject to conditions (WH.R7 and P.R7) • Discretionary activity for impervious surfaces from a new State Highway (WH.R10 and P.R9) • Discretionary activity for new and redeveloped impervious surfaces not captured as a permitted controlled activity or prohibited activity. This rule will typically capture larger (i.e> 3000m^2 of impervious surfaces) development or redevelopment activities (WH.R11 and P.R10); • Prohibited activity for new greenfield development within *unplanned greenfield* areas identified in maps 86-89 (WH.R13 and P.R12).
Schedules:	Include new schedules for: • Stormwater contaminant treatment required for assessment of rules WH.R6, WH.R7, P.R6 and P.R7 (Schedule 28) • Stormwater impact assessments required as a condition of WHR11 and P.R10 (Schedule 29); • Financial contribution to offset residual adverse effects of stormwater contaminants from green field development to inform policies WH.P15, P.P14, rules WH.R6, P.R6, WH.R10, P.R9, WH.R11 and P.R10 (Schedule 30).
Maps:	Include new maps for: • Unplanned greenfield areas to assist assessment of activities against policies WH.P16 and P.P15, rule WH.R13 and P.R12 – (Porirua City Council (Map 86) – Wellington City Council (Map 87) – Upper Hutt City Council (Map 88) – Hutt City Council (Map 89)

The preferred option can be broken down into seven key regulatory approaches to stormwater management, these include:

- consenting regime based on impervious surface area thresholds (both new and redeveloped areas);
- land use and discharge consents to regulate stormwater;
- hydrological control based on the requirements of the RPS Change 1;
- specifying a minimum contaminant treatment requirement;
- requiring water sensitive urban design principles;

- offsetting the adverse effects of stormwater from greenfield development via financial contributions; and
- prohibiting new greenfield development stormwater discharges within '*unplanned*' greenfield areas.

Impervious Surface Area Thresholds

Resource consent activity status is based on amount of impervious surface to be developed or redeveloped. A permitted activity status is set up to 1000m^2 (with conditions), while between 1000m^2 and 3000m^2 is controlled activity where hydrological control and/or contaminant treatment (Schedule 28) is provided either onsite or offsite. Development or redevelopment of greater than 3000m^2 of impervious surfaces requires a discretionary consent.

The permitted activity threshold (1000m^2) is indicative of the challenges for smaller scale urban development and redevelopment activities to treat stormwater contaminants based on size of the land area, topographical constraints (inherently challenging across the two whaitua) as well as cost inefficiencies for stormwater infrastructure at this scale.

At a scale of development or redevelopment of between 1000m^2 and 3000m^2 of impervious surface, it is anticipated that contaminant treatment can, in most circumstances, be achieved, and this is encouraged with a controlled activity status where contaminant treatment can be provided. Where offsite treatment is opted, appropriate evidence is required of the networks' '*or systems*' capability to capture and treat the contaminants from the site, along with evidence of appropriate authorisations to connect.

New and redeveloped impervious surfaces of greater than 3000m^2, or where conditions required under the lower threshold rules cannot be met, discretionary consent is required. A stormwater impact assessment is required, and the development must be in accordance with this. Assessment requirements of the stormwater impact assessment are outlined in proposed Schedule 29. At this scale of development, there is a higher expectation around contaminant treatment, hydrological control, and the incorporation of water sensitive urban design into the development design and layout of the site.

Source control is encouraged by omitting from the *impervious surfaces* definition any area of permeable paving, green/living roofs or imperious surfaces directed to a rain tank for grey water reuse (permanently plumbed). These design considerations present a viable option for development to reduce the treatment footprint of impervious surfaces for not only stormwater contaminants but also the provision of hydrological control.

Hydrological Control

The RPS Change 1, amendments to Policy 42, require hydrological control for both greenfield and brownfield development. The preferred policy approach aligns with this direction through the requirement for all new greenfield impervious surfaces to provide hydrological control, while redeveloped impervious surfaces within existing urban areas must provide hydrological control for any area greater than 30m^2 (as specified in the permitted activity rule). These provisions are specific only to those discharges that will enter a river, including those via existing local authority network. The 30m^2 threshold for redevelopment provides a rational approach to development providing for smaller extensions/changes to buildings and impervious areas without the need to provide hydrological mitigation.

Minimum Contaminant Treatment

The preferred option of capturing and treating 85% of the mean annual runoff volume from a site, is an approach that is supported by industry and forms the basis of design guidance in Wellington Water Ltd.'s *Water Sensitive Design for* Stormwater[3]. Contaminant treatment performance (I.e. contaminant load reduction) has been set at that of a bioretention device/raingarden, this level of treatment and the device itself is considered best practice and an appropriate approach to stormwater treatment in the Wellington region for a number of reasons and they are outlined in technical input received (Farrant, S. 2023). For a bioretention device/raingarden expected performance is 90% for both copper and zinc removal.

Controlled activity rules (i.e., 1000m^2 of new/redeveloped impervious surfaces) for new greenfield, and redevelopment activities within existing urban areas, will need to either: directly meet this treatment requirement, in the case of greenfield development); or take a best practicable option approach to achieve this, or a lessor level of treatment performance where redevelopment activities are proposed. The best practicable option approach to achieve the treatment performance where redevelopment activities (which are deliberately more permissive than for greenfield development) is where stormwater water quality is typically at its worst and '*wins*' are most needed, and any reasonable '*win*' will contribute to water quality improvement. Schedule 28 guides the treatment performance expected on redevelopment and forms part of the regulatory assessment of a controlled activity.

While a bio-retention device/raingarden is considered an optimal treatment device, particularly at the smaller scale sized development[4], the policy does not intend to limit developments to this approach, and other options/devices can be utilised if they meet the same contaminant

[3] WSD for Stormwater Treatment Device Design Guideline December 2019.pdf (wellingtonwater.co.nz)

removal performance for zinc and copper. It is anticipated that large greenfield developments will typically require more complex treatment train approaches ranging from large, constructed wetlands through to site/lot specific measures such as rainwater reuse (Farrant, S. 2023)[5].

Water Sensitive Urban Design

Water Sensitive Urban Design (WSUD) is directed through policy, matters of control and through considerations required under the stormwater impact assessment required in Schedule 29. Applications must demonstrate how opportunities have been incorporated into site design and layout, building and road/paving materials, water re-use, source control and use/enhancement of natural features (green infrastructure). The new requirement for land use consents, as well as discharge permits, will allow GWRC greater scope for the consideration of site layout which is a fundamental principle of WSUD.

Financial Contributions to offset water quality effects from Greenfield Development

Greenfield development comes with an unavoidable increase in stormwater contaminants entering receiving freshwater and coastal environments. Even with best practice contaminant treatment systems in place (including the minimum contaminant treatment requirement required within this preferred option), there is still a level of contaminant load considered '*untreatable*' due to either device design parameters, contaminant characteristics, or cost efficiency reasons. Increases in stormwater contaminant load (from zinc and copper) to the receiving environment would be contrary to the NPS FM requirement to maintain or improve water quality and would likely contribute to water quality moving away from meeting TAS and coastal water objectives. It is proposed that the adverse effect of '*residual*' stormwater contaminant load entering freshwater and coastal receiving environments from new greenfield development will be offset through a financial contribution collected by GW.

Under section 108(2)(a) of the Resource Management Act, a consent authority can impose a condition on a resource consent requiring a financial contribution to be made including for the "*purpose of ensuring positive effects on the environment to offset any adverse effect*"[6]. The level of contribution to be made is to be described in the relevant plan. In this case, Schedule 30 sets out the contribution required for residential and for non-residential greenfield development (i.e commercial, business etc) and new roads/State Highways (not directly associated with a greenfield activity). Schedule 30 outlines the purpose and calculation of the financial contribution as well as how it is to be used. The financial contribution is to be transferred to the relevant water services entity (currently Wellington Water Ltd.) to construct a new

[5] Ibid
[6] Section 108(10)(a) of the Resource Management Act 1991

or upgrade an existing catchment scale stormwater treatment system serving existing urban development within the same whaitua, and if possible, within the same part FMU to offset the contaminant load increase arising from greenfield development.

An economic analysis (Norman, D. & Peck, L. 2023, Norman, D. 2023) was undertaken to determine how the financial contribution could be calculated, along with the potential economic implications on property prices and development in general. Simply put, the calculation (i.e cost per EHU/100m^2) was based: on the likely extent of greenfield development (and associated impervious surfaces) over the next 30-50 years across the two whaitua; the likely post treatment residual contaminants load associated with that development; and an estimation of the size and costings for wetlands to offset the residual contaminant load. In terms on the potential economic implications, the analysis determined that "*evidence from New Zealand and abroad shows that accurately charging to offset these negative impacts will push raw land prices down, not property prices up. The scale of the financial contribution is small relative to the overall price of delivering a dwelling into the market (Norman, D. & Peck, L. 2023, Page i)*"[7]

Care needs to be taken to ensure that financial contributions required under this policy are not imposed on a development where development contributions collected under the Local Government Act 2002 by city councils are also being collected for the same water quality purpose. Across the two whaitua, city councils currently collect development contributions, (Wellington City Council, Porirua City Council and Hutt City Council) including for the purpose of stormwater asset investment. Of importance, is that these development contributions are typically for the installation and/or maintenance of stormwater conveyance infrastructure (pipes) as a matter of ensuring network capacity to accommodate growth, rather than for stormwater assets to achieve better water quality outcomes. In this regard, presently, there is no '*double-dipping*', however an exemption is provided if in the future, city councils begin to collect development contributions for the purpose of water quality improvements.

The intent of the financial contribution is that it will be utilised for the offset of residual contaminant load from new greenfield impervious areas and is not to be utilised as a mechanism for development to avoid providing stormwater treatment integrated as part of a development proposal.

[7] Ibid: Page i

Unplanned Greenfield Development

To ensure the appropriate consideration and assessment of the accumulative effects of stormwater contaminants from new greenfield development in part-FMUs, the use of land for the creation of impervious surfaces and the associated discharge of stormwater from unplanned greenfield development is a prohibited activity. Unplanned greenfield development is defined as part of this preferred approach, and must meet both of the following criteria:

- s greenfield development proposal located in *unplanned greenfield areas* as shown in maps 86, 87, 88 and 89; and
- requires an underlying district plan zone change from a non-urban zone to an urban zone for it to occur at a District Plan level.

This definition allows the continuation of rural development activities within these *unplanned greenfield areas*, as provided for through the relevant district plan, so the regional plan provisions will not impact on rural development activities, roading and even subdivision and development, if it does not require a plan change to rezone the underlying district zone.

The extent of area defined as unplanned greenfield areas identified in the maps was determined by present rural or open space zoning (utilising proposed plans where available). The following tables show how this split (per zone) was made across the four local authorities.

	Planned (Existing Urban and Future Urban)	**Unplanned Greenfield Areas**
Porirua City Council	Future Urban, General Industrial, High Density Residential, Hospital Zone, Large Format Retail, Local Centre, Medium Density Residential, Metropolitan Centre, Mixed Use, Neighbourhood Centre, Settlement Zones, Hospital Zone, Plimmerton Farm Zone	General Rural, Rural Lifestyle, Māori Purpose (Hongoeka), Special Purpose Zone (BRANZ), Open Space Zones, Sport, and Active Recreation Zone
Wellington City Council	Large Lot Residential, Medium Density Residential, High Density Residential, Neighbourhood Centre, Local Centre, Commercial, Mixed Use, Metropolitan Centre, City Centre, General Industrial, Special Purpose (Future Urban, Airport, Hospital, Port, Stadium, Tertiary Education, Waterfront).	General Rural, Natural Open Space, Open Space, Sport, and Active Recreation Special Purpose (Corrections, Quarry, Wellington Town Belt).
Upper Hutt City Council	General Residential, City Centre, Commercial, General Industrial, Special Activity	General Rural, Rural Lifestyle, Rural Production, Open Space Zone

Hutt City Council	Avalon business, central commercial, community health, community iwi, extraction, general business, general residential, hill residential, historic residential, landscape protection (residential) medium density residential, Petone Commercial Area 1 and Area 2,	General Rural, Rural Recreation, General Recreation, Passive Recreation, River Recreation

To undertake greenfield development in unplanned greenfield areas, a plan change would be required to the NRP concurrent with a district plan change. This would force integrated planning for new greenfield growth including a comprehensive consideration of existing catchment water quality (including timelines to TAS), implications of additional stormwater contaminants, broader stormwater infrastructure investment and timing, proposed methodologies, and consideration of Te Mana o te Wai and the NPS FM. This approach allows an accumulative assessment of stormwater discharge contaminants prior to the '*release*' of new urban greenfield growth areas and would allow an integrated approach to growth planning.

Policy package Option 2 – Status quo

The current NRP stormwater provisions for new urban development and redevelopment are contained within two policies and two rules. Activity status of a development is linked to an earthworks area threshold or the presence or otherwise of a stormwater management strategy. Stormwater management strategies are a requirement of local authority or state highway network discharge consents. The status quo provisions are further described below.

Rules

Stormwater discharges from new urban development (including state highways) is either a permitted (Rule R49) or restricted discretionary activity (Rule R50). A permitted activity is determined if earthworks area is less than 3000m^2 (within a calendar year) or if there is an applicable SMS in place (for which no earthwork volumes are applicable). Where a development proposal is permitted under an SMS, it is the intent that the SMS will guide any hydrological control and/or contaminant treatment as urban development or redevelopment occurs.

Where a proposal is not permitted (i.e earthworks greater than 3000m^2 and no applicable SMS), then the activity is a restricted discretionary activity, with matters of discretion that require consideration against relevant stormwater policies, outlined below.

Policies

Two polices provide direction for new urban development. The first policy (P83) requires the minimisation of adverse effects, this includes the consideration of good management practice, source control, water sensitive urban design, improvement of infrastructure, and managing localised effects relating to '*particular attributes*' within the receiving environment. The second policy (P84) relates to hydrological effects of stormwater discharge and outlines the requirement for scour and erosion control, risks to humans and property (from inundation, erosion, and damage) and retaining pre-development hydrological conditions (where practicable).

Policy package Option 3 – Alternative: Option 1 with additional measures

This policy packages seeks to take a more stringent approach than the previous options to meeting TAS across all part FMU's for zinc and copper. It builds on the preferred approach (Option 1) but includes additional provisions within part FMU's requiring improved TAS including Wellington urban, Te Awa Kairangi urban streams, Waiwhetū Stream, Wainuiomata urban streams, Taupō, Wai-O-Hata, Te Rio o Porirua and Rangituhi part-FMUs (where greenfield growth pressures will likely be most present). Additional provisions include:

- Prohibit all new greenfield development until contaminant '*headroom*' is provided within the stormwater catchment;
- Lower threshold of impervious area development/redevelopment for resource consent, requiring contaminant treatment for smaller sized urban development including infill;
- Include rules requiring retrofit of existing sites by a specified date with contaminant treatment, in particular industrial and commercial paved areas (beyond those considered high risk sites under this plan change) and major roads.

	Option 1 (Preferred)	**Option 2 (Status quo)**	**Option 3 (Alternative Option 1 with additional measures)**
Costs:			
Environmental	Low – Medium. The provisions collectively with the existing discharges stormwater provisions and action plans make up a suite of regulatory and non-regulatory measures that will over time, assist	High. Current provisions do not set a clear requirement for contaminant treatment nor hydrological control. The most opportune time to implement stormwater treatment measures is at the point of	Low. This option presents the lowest cost to environment with more stringent stormwater management provisions allowing the highest improvement to stormwater water quality through retrofitting of

	meeting stormwater TAS across the two whaitua, subsequently a low environmental cost is allocated to this option.	development/redevelopment, there is the potential for these opportunities to be missed under the status quo. The use of an earthworks threshold for determining resource consent requirements presents ambiguity in rule interpretation and its eventual implementation, with the ability for development proposals to work around the parameters of the rule to avoid resource consent and subsequently the provision of adequate stormwater management measures. The permitted activity standard also relies on a SMS (where available) to manage stormwater contaminant treatment where development connects to authorised local authority stormwater networks. The ability of the consent holders to self-govern new development connections along with their ability to influence stormwater management measures and WSUD approaches is unknown and presents a substantial risk to meeting TAS across the whaitua.	stormwater treatment and prohibition of all new greenfield development in degraded part FMU's. As with Option 1, collectively with a suite of other regulatory and non-regulatory stormwater measures, zinc, and copper TAS for the two whaitua, will improve or be maintained overtime.

		This option presents a high risk of continued degradation of stormwater quality across the two whaitua.	
Social	Low - Medium. The increased financial cost to developers associated with the implementation of stormwater treatment measures could have wider social implications through housing affordability and potentially availability. There are also ongoing maintenance costs for such devices that may impact on rents, body corporate fees or additional costs to private property owners. While there is a perceived economic cost to greenfield developers for the payment of financial contributions, the likelihood is that raw land prices will drop instead, therefore the cascading impact on society from housing availability and affordability because of the financial contribution, is unlikely.	Low – Medium. the status quo presents the smallest social cost of the options. There are a few uncertainties about the ability for an SMS and network discharge consent holders to require stormwater treatment/hydrological control, therefore it is considered that this approach has lower environmental requirements for land developers. With less regulation this option will have the least impact on the housing affordability and availability as well as costs to business.	Medium – High. This option is likely to result in the highest social costs with increased regulation on greenfield growth and the requirement to meet stringent stormwater treatment standard, including widescale retrofitting, these costs will be passed on with social implications through constrained housing supply and affordability.

Economic	Medium – High. Increased stormwater treatment requirements, and restrictions to development in unplanned greenfield areas will create economic restriction and cost to property development activities across the two whaitua. There is some risk around the ability for development to incorporate treatment to the minimum treatment requirement, particularly for more challenging sites, this may present consenting challenges for some development proposals.	Low – Medium. The cost to new development under this option is likely the lowest due to there being less regulation and constraints on land development and redevelopment. Generally, development will continue to occur in a manner that is less restricted than the other two options, and subsequently with less economic impact.	High. This option would result in significant land development costs (particularly greenfield) and substantial land supply issues with negative impacts on economic growth across the two whaitua, particularly those part-FMU's with degraded catchments. It is possible that urban development/redevelopment opportunities will be lost due to regulatory challenges and associated costs.
Cultural	Low-Medium. The provisions will likely incur environmental and economic costs to Māori business and investment interests because of more regulation and constraints to urban growth. This may have some cultural costs associated.	Medium (overall). The status quo is expected to incur the lowest economic cost to Māori business and investment interests given the lower-level regulatory environment related to stormwater management. However – there would be high environmental/cultural costs due to lack of water quality improvement and possibly further deterioration in water quality.	Medium. May result in potential equity issues associated with restrictions on the ability to intensify and develop Māori land, particularly in those part FMU's where an improved TAS for zinc and copper is required.

Benefits:			
Environmental	High. This option provides high environmental benefits in terms of improving stormwater outcomes through development and redevelopment activities. Setting a minimum contaminant treatment requirement sets an expectation for development for what is to be provided on site. Increasing requirements for WSUD will allow an integrated approach to stormwater management. Financial contributions collected from greenfield development will facilitate financing of catchment wide stormwater infrastructure improvements.	Low – Medium benefits. There is a risk of not achieving desired stormwater quality improvements during urban redevelopment/development activities under current provisions.	High. This option presents high environmental benefits with more stringent stormwater management provisions allowing the highest improvement to stormwater water quality through retrofitting of stormwater treatment and prohibition of all new greenfield development. There is the potential to have a more immediate improvement on water quality, or at the least, it will hold-the-line in terms of water quality when compared to other options, e.g., option 1 where there may be a lag between new development and the physical offsetting of effects through the financial contributions collected.
Social	Medium – High. Benefits may take time to materialise, however, this option will increase social benefits by improved water quality in the receiving environments with associated amenity and recreational benefits.	Low. Social benefits are considered low under this option as there is likely to be a continued degradation in freshwater quality. .	Medium – High. Same as those outlined in Option 1, however as improvements to water quality may improve in a shorter timeframe this option may come at a slightly improved social benefit.

Economic	Low. Option provides a low economic benefit from a developmental perspective due to increased cost for onsite infrastructure and enhanced consideration of WSUD.	High. Presents the highest economic benefit across the options, due to the least regulation of urban development activities.	Low. Would likely incur the least economic benefit and could be make brownfield redevelopment uneconomic.
Cultural	Medium – High. Option will allow improvement of stormwater quality as new urban areas are created and existing urban areas are redeveloped, this will occur over a medium to long term but will allow the eventual reinstatement of the mauri of water through improved freshwater quality.	Low. This option presents an elevated risk of not meeting the objectives and with minimal cultural benefits.	High – Likely highest cultural benefit in terms of improving water quality and the mauri of water, and potential for improvements over the short to medium term.
Effectiveness:			
How successful will you be in providing the outcome set by the objective?	Option is likely to result in meeting the outcome by improving where required and maintaining current zinc and copper levels in other part FMUAs over a medium to long term when considered in combination with other stormwater provisions and Freshwater Action Plans proposed as part of this plan change.	Significant risk that outcomes for zinc and copper would not be met, given there is no specified treatment requirement in the status quo, i.e., existing NRP.	Outcome is most likely to be met across the options, however, this option is likely to have very high economic costs.

Efficiency:			
Do the benefits of the option outweigh the costs?	Most efficient of the three options as it will achieve the outcome more than Option 2 at a reasonable additional economic and societal cost. However, it will likely achieve slightly less towards the outcome than Option 3, but at much less societal and economic cost. Option allows for continued greenfield development (even with degraded part FMU's by requiring an offset for residual contaminants. Allows an approach that considers and incorporates the competing drivers between the NPS-UD (for intensification and development) and the NPS-FM. The prohibiting of greenfield development within '*unplanned greenfield areas*' aligns with the Draft FDS in that it encourages infill/redevelopment activities within existing urban areas over continued greenfield development, except where existing district plans have identified land (i.e., future urban or undeveloped urban zones).	Lower societal cost but lower benefit in likely not meeting objective outcomes. Option has a low efficiency as benefits do not outweigh costs. Does not give effect to NPS-FM but would be enabling of the directives of the NPS-UD.	Likely very high societal and economic cost in achieving the outcome. Medium to low efficiency. Option will likely create a conflict with the NPS-UD as it would restrict all new greenfield development and set high redevelopment requirements within degraded part FMU's.

Risks of acting or not acting if there is uncertain or insufficient information:	The risk of not acting, in terms of Option 1 is high given the substantial urban development pressures across the two whaitua. If the option is not advanced, opportunities to incorporate appropriate stormwater management measures as existing urban areas are redeveloped and new greenfield areas are developed, will likely lead to further deterioration of freshwater and coastal water quality. The risk of acting, in terms of Option 1 and 3, is considered medium given the potential for resistance from the property industry given more regulations, the requirement for a financial offset, and constraining greenfield development beyond existing planned (urban/future urban zoned) land. There is significant risk of exacerbating land supply and housing building cost issues with Option 3 and there would likely be trickledown societal costs. Option 1 though has significantly less risk in this regard than Option 3.
Overall evaluation	Policy requiring minimum contaminant treatment for stormwater discharges will set a clear expectation for development to occur at these standards and will put all development on an even playing field for addressing their own water quality and quantity impact. It does come with inherent risk to some development where constraints may present challenges to treatment, however, overall, the benefits for water quality outcomes outweigh the costs. Financial contributions as an environmental offset for residual contaminant loads from new greenfield is a new approach which will likely draw interest and submissions. However, when considered against the wider mechanisms that councils have for providing infrastructure improvements (financial contributions and development contributions) it is not particularly unusual and presents a practical way to both enable development and ensure all new stormwater contaminants entering the receiving environment are avoided through offsetting. Avoiding new greenfield development (beyond existing zoned urban/future urban areas) until appropriate consideration and assessment of the accumulative effects of stormwater contaminants can be ascertained and avoided will allow the integration of land use and stormwater discharge considerations, facilitating both district and regional statutory responsibilities. A concurrent regional/district plan change process allows the consideration of both the NPS-UD and NPS-FM and their competing directives of enabling urban growth and maintaining/improving water quality in the same process. Taking this approach will ensure greenfield development does not continue unabated with minimal consideration for accumulative stormwater effects and aligns with the Draft FDS where redevelopment within existing urban areas is encouraged over continued greenfield expansion (except within a few defined areas).

	After consideration of the foreseeable costs and benefits, effectiveness and efficiencies and the risks of acting or not acting, Option 1 is the best performing option.

4. Wastewater

4.1 Relevant objectives

79. The discharge of wastewater can affect a range of freshwater and coastal water values, as well as the relationships of mana whenua with their ancestral lands, with water, and sites of cultural significance. Management of wastewater discharges is necessary to achieve a number of existing objectives in Chapter 3 of the NRP. Those objectives specific to wastewater include:

- Objective O39 – Discharges of wastewater to land are promoted over discharges to fresh water and coastal water.
- Objective O40 – Discharges of wastewater to fresh water are progressively reduced.

80. The NPS-FM requires that water quality targets are set for *E. coli* one band above the current state. *E. coli* is a faecal indicator bacterium which signals the presence of microbial pathogens, or human or animal waste, in freshwater. As a result, *E. coli* is one of the key contaminants to manage in respect of wastewater. For coastal water, enterococci are used as an indicator of the risk to human health as enterococci can survive in salt water.

81. As the NPS-FM relates to freshwater receiving environments only, there are no requirements for enterococci. However, through the TAoP Whaitua process, coastal objectives for enterococci in the Onepoto Arm, Pāuatahanui Inlet, and general coastal waters were set.

82. Through the TWT Whaitua process, coastal environment attributes were also identified for enterococci, for Te Awa Kairangi/Hutt Estuary, Korokoro Estuary, Kaiwharawhara Estuary, Te Whanganui-a-Tara (inner harbour), Te Whanganui-a-Tara (outer harbour) and Wai Tai (south-eastern coast). Discharges of wastewater in freshwater that flows to the harbour, may also adversely affect enterococci concentrations in the harbour.

83. PC1 proposes new short- and long-term objectives for freshwater and coastal receiving environments that wastewater discharges are required to meet. The improvement and removal of wastewater discharges in the urban area will contribute to meeting these objectives.

84. Objective WH.O3 seeks that the coastal water objectives in Table 8.1 are met, including that by 2060 the 95th percentile enterococci concentrations in Te Whanganui-a-Tara harbour and estuaries are reduced to less than 200 cfu/100mL. For other coastal water management units (Makara Estuary, Wainuiomata Estuary and Wai Tai) there is a requirement to maintain or improve enterococci loads. Other matters in Objective WH.O3 include that mana whenua can safely connect with the coastal marine area (CMA) and enjoy a wider range of customary and cultural practices including mahinga kai

gathering, and communities can also safely connect with the CMA and undertake a wider range of recreational activities.

85. Similarly, Objective P.O3 seeks that coastal water quality, ecosystems and habitats are maintained or improved as set out in Table 9.1 and by 2050 the 95th percentile enterococci concentrations are improved (reduced) to less than 500 cfu/100 mL in the Onepoto Arm or 200 cfu/100 mL for all other coastal water management units. Other matters in Objective P.O3 include that by 2050 mana whenua can safely connect with the CMA and practice their customary and cultural tikanga, and mana whenua and communities can enjoy a wider range of recreational activities, including shellfish gathering.

86. Objectives WH.O8 and WH.O9 seek that freshwater quality is maintained or improved, including *E. coli* concentrations are maintained, or improved (reduced) where required to meet the target attribute states in Table 8.4, or the fresh water primary contact site objectives in Table 8.3.

87. Objective P.O6 also seeks that freshwater quality is maintained or improved, including *E. coli* concentrations are maintained, or improved (reduced) where required to meet the target attribute states in Table 9.2.

Addendum to s32 report

The Council, in reviewing the draft provisions for PC1 at a workshop on 5 October signalled their position did not align with the officers' recommendation to depart from the WIP timeframes for the *E. coli* TAS and enterococci coastal water objectives. Councillors signalled that their decision to notify PC1, which would be made at a Council meeting on 26 October 2023, was expected to confirm that the timeframe for meeting the *E. coli* TAS and enterococci coastal water objective would reflect the 2040 date included in the WIPs for Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua, and would not be extended.

The retention of the WIP timeframe for satisfying *E. coli* TAS and enterococci coastal water objective has been incorporated into the notified PC1 provisions and this differs from the timeframes noted in the officer's summary of the relevant objectives above, and any timeframe aspect addressed below. Amendments to policies and an additional method were also added to PC1. These provisions are discussed separately in a further addendum to the s32 report below. This follows the primary officer's assessment of the wastewater provisions (i.e., policies, rules and other methods) considered to give effect to the objectives related to the *E. coli* TAS and enterococci coastal water objectives. That assessment stands, except as supplemented by the Addendum below.

4.2 Policy context – problem/issue

88. In TAoP and TWT Whaitua, most households and commercial properties in the main urban areas are connected to the wastewater network which transports

the wastewater to treatment plants. At various points along the network there are pump stations which keep the wastewater flowing to the treatment plants. For the most part, these treatment plants discharge via outfalls to the CMA.

89. Existing wastewater networks are compromised by the poor condition of both the urban stormwater and wastewater pipes, as well as inflows from the urban stormwater network through incorrect connections and constructed overflows (where stormwater and wastewater pipes are interconnected). In addition, some parts of the network do not have adequate capacity for the existing population. This situation will be exacerbated by the projected population increases and intensification of urban development, as well as climate change. This all contributes to increased instances of untreated wastewater discharges to streams, rivers and the coast including via the stormwater network.

90. Wastewater network discharges to freshwater influence the target attribute state for *E. coli* as a result of longer-term discharges, often during dry weather, including cross connections, and pipe leakage and breakages, where wastewater enters the stormwater network, rather than short duration wet weather overflows. However, wet weather overflows contribute to poor enterococci levels at beaches and in the harbours, and adversely affect cultural and recreational values, and primary contact sites in rivers and the coast after rainfall events.

91. The high levels of *E. coli* and enterococci in receiving waters are in part a legacy issue because of the historic development of the networks which focussed on the prevention of transmittable diseases. The development of the network in Wellington City began in the 1800s and included the use of constructed overflows or a combined system to manage wastewater and stormwater. In addition, much of the piped network is old and in poor condition.

92. For TWT Whaitua, Blyth[1] investigated the pipe condition and age of pipes and noted:

- The total estimated length of public wastewater pipes within the whaitua is approximately 1,794 km.
- The estimated length of grade 4 and 5 (poor/very poor condition) pipes in the whaitua is 583 km, or approximately 32% of the total wastewater network.
  - 20.4% of the total wastewater network is considered grade 5 (very poor condition), in need of attention.
  - Wellington City (148.6 km), Hutt River Valley Floor (98.3 km) and Hutt Valley West Urban (66.3 km) contribute 53.7% of the grade 4 and 5 pipes for the entire TWT Whaitua.

[1] Blyth, J. M. 2020. Whaitua te Whanganui-a-Tara - An overview of the Wellington City, Hutt Valley and Wainuiomata Wastewater and Stormwater networks and considerations of scenarios that were assessed to improve water quality. Prepared for Greater Wellington Regional Council Whaitua Committee. TWT Whaitua_Wellington_Hutt Valley_and_Wainuiomata_Stormwater_and_Wastewater_network_overview_FINAL (gw.govt.nz)

- East Harbour (Eastbourne) has the highest proportion of poor/very poor condition wastewater pipes, at ~53% of the catchments network, or 31.3 km.
- The Kaiwharawhara and Waiwhetū Streams also have high proportions of poor/very poor condition wastewater pipes (~42% and 38% respectively) with greater lengths than East Harbour (58 km and 52.3 km, respectively).

93. Blyth notes that these condition assessments are generally reflective of pipe age, where older pipes that are subject to decay and damage (for example, from ground movement and tree roots) are likely to have a poorer condition rating (grade 4 and 5). Age does not always reflect condition however, as new pipes can still fail unexpectedly due to manufacture and installation defects. There are significant lengths of wastewater pipes that are still in use that were installed as far back the early 1900s (for example, an estimated 130 km of wastewater pipe in Wellington City is likely to have been installed between 1900-1920). Pipe breakages result in infiltration where groundwater enters private laterals and Council pipes through cracks, leaking joints, and other faults.

94. Discharges from treatment plants in Te Whanganui-a-Tara and Te Awarua-o-Porirua have usually undergone secondary treatment with UV and have relatively high-quality discharges. When working as designed, treatment plants should not contribute significantly to the concentration of *E. coli* or enterococci in the receiving waters. However, periodically, when rainfall exceeds the design capacity of some treatment plants, screened or partially treated wastewater is discharged. Discharges from the network and pump stations are untreated but diluted if discharged because of a heavy rainfall event. However, all discharges of human wastewater to coastal and freshwater, whether treated or not, adversely affect Te Mana o te Wai and mana whenua values.

95. Rural sources of contamination from microbial pathogens include stock depositing dung directly into water bodies, as well as pathogens being entrained in, and transported by, overland flows during and immediately after rain. The discharge of rural sources of microbial pathogens and nutrients and the associated Plan Change provisions are set out in section 6 below.

4.2.1 Target attribute states and coastal objectives for *E. coli* and enterococci

96. The applicable TASs and coastal objectives are noted above in section 4.1 and set out in full in the PC1 provisions. As noted in Part B of this report, the target attribute states set by each of the Whaitua Committees for *E. coli* represent significant levels of improvement. Limits and targets for *E. coli* have been set using in-stream concentrations rather than loads as calculated for other contaminants. This is because *E. coli*, a faecal indicator bacterium, is used as a proxy for human health and dies off in a relatively short time period.

97. For both whaitua, the only part FMU where the target attribute state for *E. coli* is met, and so the water quality can be maintained, rather than improved is the Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa

Kairangi forested mainstems part FMU, which has an existing or baseline A state.

98. For the coastal water management units in TWT of Makara Estuary, Wainuiomata Estuary and Wai Tai, the coastal objectives are met, and the coastal objective is to maintain (i.e., not increase) or improve enterococci concentrations. In TAoP, the coastal objectives for the Open Coast coastal water management unit outside of certain '*hotspot*' locations is also met and so the objective again is to maintain or improve enterococci concentrations, except for the hotpot areas where enterococci must be reduced to less than 200 cfu/100ml.

99. The part FMUs where the TASs for *E. coli* are exceeded are set out in Table D5 below, and the coastal water management units where the numeric objectives for enterococci are exceeded are set out in Table D6 below.

Table D5: Part FMUs where *E. coli* target attribute states are not currently met, and improvement is required

	Target attribute states		
	E. coli	Baseline state	TAS
TWT	Te Awa Kairangi lower mainstem	D	C
	Te Awa Kairangi rural streams and rural mainstems	D	B
	Te Awa Kairangi urban streams	E	C
	Waiwhetū Stream	E	C
	Wainuiomata urban streams	E	C
	Wainuiomata rural streams	B	A
	Parangārehu catchment streams and South-west coast rural streams	E	D
	Korokoro Stream	No data, but expected to be below B	B
	Kaiwharawhara Stream	E	C
	Wellington urban	E	C
TAoP	Taupō	E	B
	Pouewe	E	B
	Wai-O-Hata	E	C
	Takapū	E	C
	Te Rio o Porirua and Rangituhi	E	C

Table D6: Coastal water management units where enterococci coastal water objectives are not currently met, and improvement is required

	Coastal objectives		
	Enterococci	Baseline state	Objective (cfu/100mL) 95th percentile.
TWT	Te Whanganui-a-Tara (Harbour and estuaries)	>200	≤200
TAoP	Onepoto Arm	>500	≤500
	Pāuatahanui Inlet	>500	≤200
	Open coast	>200[2]	≤200

[2] 'Hotspot' areas only

100. The NPS-FM requires that water quality targets are set for *E. coli* one band above the current state. Given the degradation in urban watercourses, this in itself is a difficult target to meet. However, following consultation through the whaitua processes with the community and mana whenua on the values and desired outcomes for water quality, many target attribute states for *E. coli* seek to achieve an improvement that is two bands about the current state. The timeframes to meet these states, and the percentage improvement that this entails is discussed in Part C of this report.

101. The modelled percentage reductions in *E. coli* load needed to achieve the TASs in TAoP range between 59% (Takapū) and 92% (Te Rio o Porirua and Rangituhi) depending on the part FMU[3]. As noted by Dr Greer (2023b), in the urban area, the repair of all cross connections between the wastewater and stormwater network was assumed to achieve a 77% (maximum) reduction of *E. coli* loads from dry weather wastewater discharges and reducing wet weather overflows from 12 on average to 2 resulted in an 83% reduction in load. Other actions, including the replacement of aging pipes and reducing inflow and infiltration, may also be required to meet the TAS, especially in the Te Rio o Porirua and Rangituhi, and Wai-O-Hata part FMUs where the percentage reduction is greater. While a similar assessment was not undertaken for TWT Whaitua, a similar magnitude of reduction in *E. coli* is expected to meet the TASs where the receiving water of the part FMU is currently in D or E state (Greer 2023a).

102. The estimated cost of achieving the *E. coli* target states has been reported by GHD as $344-419 million for Te Awarua-o-Porirua and $2.50-3.10 billion for Te Whanganui-a-Tara[4]. In addition to the cost of undertaking the works to meet the targets is the ability to implement the measures to achieve the required improvements within certain timeframes.

103. Wellington Water Ltd has undertaken some initial analysis and notes that across the two whaitua there are up to 35 sub-catchments where infrastructure upgrades are required. Planned improvements for each of those catchments is expected to take approximately 6 to 10 years from design to implementation. This work programme would include both wastewater and stormwater infrastructure upgrades and is in addition to other measures such as infiltration and inflow work programmes, education, monitoring, and modelling.

104. Wellington Water Ltd is planning that works for up to 10 sub-catchments could be undertaken concurrently, meaning that the upgrades are currently planned to be done over a period of approximately 35 years. The ability to undertake this work relies on the availability of skilled employees, availability of machinery, and other matters including traffic disruption.

105. To meet the TASs will require substantial investment in municipal wastewater networks throughout these whaitua to reduce dry weather discharges. Unlike

[3] Greer, M.J.C. 2023. Technical assessment of alignment of Plan Change 1 provisions and Target Attribute States – Te Awarua-o-Porirua Whaitua. Prepared for Greater Wellington. Torlesse Environmental Report No. 2023-007. Christchurch, New Zealand.
[4] Norman, D.; Donaldson, E. 2023. Wastewater improvement affordability – implications of implementation timeframes for affordability. Prepared for Greater Wellington. GHD Limited.

other water quality improvements, non-regulatory actions aimed at '*contributing to the gap*' in the achievement of the *E. coli* targets offer limited opportunity for improvement – i.e., the change required can only be practically achieved through regulatory means by requiring improvement through consents held in relation to the network, which in turn requires substantial investment by the community. Historically, this has happened through territorial authority rates, although water reform may provide other funding options.

106. The types of improvements required to reduce dry weather discharges include:

- Identification of cross connections and leaking private wastewater laterals.
- Requiring proactive monitoring and maintenance of the private and public network to prevent pipe blockages and breakages and replace aging pipes.
- Increasing CCTV monitoring and upgrading broken or leaking pipes to reduce exfiltration from the wastewater network.
- Providing contingency measures for mechanical or power failure at pump stations or storage facilities.

107. The types of improvements required to also reduce wet weather overflows include:

- Replacing constructed overflows and separating the stormwater and wastewater networks.
- Upgrading infrastructure to avoid unconstructed wet weather overflows.
- Upgrading pump stations to increase storage capacity and reduce overflows because of wet weather.
- Increasing network capacity through localised storage, such as the wastewater retention tank currently being built adjacent to the Porirua Park and Ride.
- Increasing CCTV monitoring and upgrading broken or leaking pipes to reduce inflow and infiltration where groundwater or stormwater enters the wastewater network pipes.

4.2.2 Whaitua Implementation Programmes and Mana Whenua implementation plan recommendations

Te Awarua-o-Porirua Whaitua Implementation Programme

108. The recommendations of the Te Awarua-o-Porirua WIP relevant to wastewater discharges are:

- Recommendations 1, 4 and 9 - GW to set water quality limits and targets for *E. coli* and include incrementally decreasing limits over time.

- Recommendation 40 - GWRC amends the provisions to manage and progressively improve wastewater discharges, including through wastewater management strategies that must demonstrate how they will meet the objectives, limits and targets, including a staged approach, recognise and address the complexities of the wastewater network, including issues with capacity, overflows, leaks, and cross connections, require assessment of the progress towards achieving the objectives and amendments of programmes and strategies if expected progress is not achieved, acknowledge the interrelationship of stormwater and wastewater

- Recommendation 41 - GWRC amends the provisions, and PCC and WCC amend the district plans, to ensure that new urban development and redevelopment do not exacerbate issues with the wastewater network.

- Recommendation 42 - Wellington Water develops and implements wastewater programmes, strategies and/or plans to improve the wastewater network to achieve the freshwater and coastal water objectives, limits, and targets, including addressing both dry weather wastewater discharges and wastewater network overflows, and adopting an integrated catchment approach.

- Recommendation 45 - PCC, WCC and Wellington Water work together to identify sub-catchments within the Whaitua that have the most widespread issues with private laterals and cross connections and prioritise these sub-catchments for improvement.

Whaitua te Whanganui-a-Tara Implementation Programme

- The recommendations of the Te Whanganui-a-Tara WIP relevant to wastewater are:

- Recommendation 1 - GWRC to set water quality target attribute states.

- Recommendations 18, 19, 20 and 21 - GWRC to amend regulatory documents to require Wellington Water Ltd to develop a strategy/plan within the wastewater network resource consent to achieve the target attribute states and improve wastewater infrastructure, and six yearly targets for reducing wastewater overflows to zero by 2060 except for during large storms.

- Recommendation 24 - GWRC amends the provisions to require Wellington Water Ltd/territorial authorities to identify all cross-connections (wastewater connected to stormwater) and inflow faults (stormwater connected to wastewater).

- Recommendation 25 - GWRC amends the provisions to require Wellington Water Ltd/territorial authorities to identify all groundwater infiltration (to the wastewater network) and wastewater leakage (exfiltration).

Te Mahere Wai o Te Kāhui Taiao

109. The recommendations of Te Mahere Wai o Te Kāhui Taiao relevant to this topic are:

- Recommendation 26 - There are no discharges (point source or non-point source) that impact on water quality standards that are set.
- Recommendation 27 - GWRC along with partners, develop a plan to remove all direct wastewater discharges to freshwater within a generation (20 years).
- Recommendation 29 - Kaiwharawhara, Korokoro, Wainuiomata and Black Creek are prioritised for an audit of cross connections.
- Recommendation 33 - GWRC along with partners, work to remove all untreated wastewater discharges to takutai moana (the sea), within a generation (20 years).
- Recommendation 35 - GWRC develops a wastewater management innovation programme that includes incentivising alternate waste disposal.

110. Those recommendations that are of a regulatory nature have been considered through the options analysis set out below. The non-regulatory recommendations which GWRC are leading are to be implemented through a Freshwater Actions Plan as set out in Schedule 27.

4.3 Wastewater - efficiency and effectiveness of provisions

This policy package is part of a suite that contribute to achieving Objectives WH.O3, WH.O8, WH.O9, P.O3 and P.O6.

The proposed policies and methods for wastewater discharges is part of a suite of provisions designed to contribute towards achieving the new *E. coli* and enterococci related objectives set out above. The purpose of these objectives is to reduce *E. coli* and enterococci concentrations that enter freshwater and coastal water to meet the target attribute states and the coastal objectives. High levels of *E. coli* and enterococci adversely affect a number of values including cultural, mahinga kai and recreational.

Intent of this policy package:

New provisions are required to reduce levels of *E. coli* in freshwater and enterococci in coastal water to meet the objectives of the NPS-FM. *E. coli* is in Appendix 2A of the NPS-FM as an attribute that requires limits on resource use. In addition, *E. coli* at freshwater primary contact sites in lakes and rivers during the bathing season is in Appendix 2B as an attribute requiring action plans. Objective WH.08 sets an objective for primary contact sites within TWT to improve to the national bottom line or maintain at current state if the current state is higher than the bottom line. There are no freshwater primary contact sites within TAoP. Human health is managed for all waterbodies through the *E. coli* TASs which seek significant improvement for part FMUs in TaoP, as well as for most part FMUs in TWT. A co-benefit of this package is that a reduction in *E. coli* or enterococci will also assist with reducing the levels of other contaminants including ammonia, nitrogen, and phosphorus. Note that regardless of the timeframes set within the objectives, the provision options remain as set out below.

Policy package Option 1 – preferred option

The key feature of the preferred option is to set target attribute states and coastal objectives for *E. coli* and enterococci to be met by the timeframes set out in the objectives for freshwater and coastal water, and to assist with meeting those for other relevant attributes such as nitrate, ammonia, phosphorus, and ecosystem health. The provisions include a requirement for the wastewater network discharges to include a wastewater network catchment improvement strategy that shows how a networks' contribution to the concentration of *E. coli* or enterococci in the receiving environment will be reduced to meet the target attribute states and coastal objectives. Without this strategy, the application to discharge wastewater from the network catchment is a non-complying activity. This requirement in the rules is an output control type of limit. To meet the TASs, the preferred option provides a regulatory approach to managing and reducing dry weather discharges by the timeframe set out in the objectives. In addition, wet weather overflows from the network are to be managed by improvements which reduce these discharges to meet or exceed a containment standard of no more than 2 per year.

The make-up of the preferred option in terms of the policy framework is as follows:

New definitions:

- Containment standard – describes the standard that wet weather overflows must meet, and how this will be measured.
- Dry weather discharges – describes what a dry weather discharge is, including the causes of these discharges.
- Wastewater network catchment or sub-catchment – this definition describes that it is the wastewater pipes, pumpstations, storage tanks, manholes and associated devices located prior to a wastewater treatment plant and provides a distinction from stormwater catchments or sub-catchments, and river catchments or part FMUs.
- Wet weather overflows – describes what a wet weather overflow is, including the causes of these discharges.

Amended definition:

- Existing wastewater discharge – adds a new definition for TWT and TAoP only to include dry weather discharges and wet weather overflows from an existing wastewater network sub-catchment in the definition of existing wastewater discharges.

New policies:

- General policy for all wastewater discharges in the whaitua to maintain, or improve where its degraded, the baseline water quality state for *E. coli* or enterococci in order for the target attribute states and coastal water objectives to be met by the timeframes in the objectives.
- Policy that sets the timesteps for progressive improvement as a set percentage, to work towards meeting the E. coli target attribute state[5]
- Policy to manage wastewater network catchment discharges by reducing wet weather overflows to meet or exceed a containment standard of no more than 2 per year, reducing the frequency or volume of dry weather discharges, prioritising the removal from scheduled sites (A, C and H), primary contact sites, mahinga kai, and where discharges may affect drinking water supplies, implementing an inflow and infiltration programme to upgrade the pipe network, avoiding discharges from entering private property or educational facilities, and monitoring and modelling of the wastewater network catchment and discharges to provide information in relation to the *E. coli* or enterococci concentration in the discharge, and changes in discharge frequency, volume and quality over time following improvements in infrastructure.
- Policy to manage existing wastewater treatment plant discharges by maintaining or reducing the *E. coli* or enterococci load, monitoring the discharge quality, engaging with mana whenua, assessing the capacity of the treatment plant, monitoring mahinga kai health, and investigating technological improvements.

New rules:

- Wastewater network catchment discharges to coastal and freshwater or to land where it may enter water are a restricted discretionary activity and public notification is precluded, if the consent application includes a strategy to progressively reduce and remove wastewater network catchment discharges in accordance with the requirements of a Wastewater Network Catchment Improvement Strategy, including a reduction of *E. coli* and enterococci that is the same proportion as that required in the receiving environment to meet the TAS or coastal water objective.
- Existing wastewater discharges from a treatment plant to a surface water body or coastal water are a discretionary activity provided the *E. coli* or enterococci load in the discharges does not increase from that previously consented.
- Wastewater discharges that do not comply with the conditions of the rules or are new discharges to a surface water body are a non-complying activity.

New schedule:

- A Wastewater Network Catchment Improvement Strategy for wastewater network catchment consent applications
  - requires the preparation and implementation of the strategy to progressively reduce and remove wastewater network catchment discharges.
  - states how the wastewater network catchment is to be managed to achieve the containment standards for wet weather overflows,
  - provides a strategy for how the target attribute state for *E. coli* and the coastal objective for enterococci will be achieved including reducing inflow (stormwater into wastewater networks), infiltration (groundwater into wastewater pipes), and exfiltration (wastewater leakage).
  - identifies the methodology, including engagement, to prioritise wastewater network catchments for improvement.
  - includes a programme for increasing repairs and renewals of the public wastewater network catchment infrastructure.
  - requires a reduction in pipe failures as a result of blockages within the network or due to aging infrastructure.
  - includes requirements for Sub-catchment Improvement Plans.

Freshwater Action Plan

- Investigate the development of a wastewater management innovation programme for alternative wastewater disposal technology in accordance with recommendation 35 in Te Mahere Wai.

The current policy and rule framework seeks that discharges be to land, if possible, with discharging to freshwater as the last resort. This policy direction remains with Option 1, the preferred option.

[5] See below, the wording of Policy WH.P18 and P.P17 has been replaced.

While resource consent is currently required for all wastewater discharges under the NRP, dry weather discharges have historically been considered emergency discharges subject to the requirements of section 330 of the RMA and there is no consenting framework for these discharges in the NRP. Proactive management and maintenance of the pipe network, including flushing blockages in the pipes can reduce the likelihood of pipe breakage and groundwater infiltration (to the wastewater network) and wastewater leakage (exfiltration). The amendments to the rules under this option would enable and require all wastewater network catchment discharges to be managed through a consenting framework, and the strong policy direction and implementation of the Wastewater Network Catchment Improvement Strategy and Sub-catchment Improvement Plans would require a reduction in the frequency of dry and wet weather discharges to fresh and coastal water. This focus will enable concentrations of *E. coli* and enterococci to reduce to meet the target attribute states and coastal water objectives. Given the timeframe to meet the challenging *E. coli* target attribute states for freshwater, there may be more of a focus on dry weather discharges than wet weather overflows.

The policies for wastewater network catchment discharges propose that wet weather overflow discharges are progressively reduced to meet or exceed the containment standard of no more than 2 per year through the implementation of the Wastewater Network Catchment Improvement Strategy. It is intended that compliance with the containment standard throughout each whaitua would be achieved over the term of a consent. Prioritisation of sub-catchments or rivers to be improved to meet the containment standard would be determined following engagement with mana whenua, the community, and Greater Wellington, and is intended to be set on the basis of a number of factors, including the existing water quality of a catchment, where new development is to be located, and the values or significance of the catchment, such as Schedule C (mana whenua) sites or the presence of mahinga kai, and recreation or other community values. As this rule and the requirement for an improvement strategy supports meeting or exceeding the containment standards and target attribute states and coastal water objectives, an activity status of restricted discretionary is proposed along with a notification clause which limits public notification.

The main discharges from the wastewater treatment plants (Porirua, Moa Point and Seaview) are largely to the Wai Tai and Open Coast coastal water management units which in TWT Whaitua, has a coastal objective to maintain or improve, and for TAoP Whaitua has an objective of reducing enterococci to less than 200 cfu/100mL. While these objectives will drive some water quality improvements sought by mana whenua and the community, localised effects at the point of discharge are also important. Policies WH.P5 and P.P5 require localised adverse effects from these discharges to also be minimised, and for the water quality requirements of section 107 of the RMA to be met. In addition, there is a policy specific to treatment plants that requires the adequacy of the plant capacity to be assessed, maintained, and upgraded in response to population growth and climate change. For treatment plant discharges under this option, the long-term objective (by 2100) that all freshwater bodies and coastal receiving environments are wai ora is also relevant, which may mean that human wastewater is not discharged to water in the future. To assist with meeting this objective, the policies require that alternative and new technologies be investigated, and the proposed Freshwater Action Plan will work alongside the regulatory measures.

Policy package Option 2 – Status quo

As noted above, current policy and rule framework is for discharges of wastewater to be to land if possible, discharging to the coast is the next preference, and then discharging to freshwater is the least preferred receiving environment. There are no permitted activity rules for wastewater discharges to a surface water body or coastal water in the NRP with resource consent required for all wastewater discharges of this nature. However, dry weather discharges as a result of leakage, cross connections, and broken pipes/pipe bursts are not specifically managed by the NRP. Previously, these discharges have been viewed as one-off occurrences that should be avoided, rather than consent being obtained for them. If consent was to be applied for under the current provisions of the NRP, there is no relevant policy or consenting pathway to manage these types of discharges.

Existing wastewater discharges are generally a discretionary activity (Rule R65) and have a less stringent consenting pathway than new discharges to freshwater, which are non-complying activities (Rule R66).

Wet weather overflow discharge provisions are currently split between the stormwater and wastewater sections of the NRP depending on whether they discharge to the stormwater network (Rule R52/53) or directly to land and water (R65). Those network discharges that occur via the stormwater network are consented, as well as a few that discharge directly to water, but the majority are not. However, as more information has been obtained about wet weather overflows that discharge outside of the stormwater network, resource consent applications have recently been lodged by Wellington Water Ltd for these discharges.

Policy package Option 3 – alternative option with discharge and containment standards

Option 3 would include a rule with a discharge standard for wastewater treatment plant discharges, and for wastewater network catchment discharges a discharge standard and a containment standard. If treatment plants or wastewater network catchments were unable to meet the discharge standard, the activity would be a non-complying or prohibited activity. This option would be in addition to many of the policies identified in Option 1. However, by the nature of the discharge limits, this option would not distinguish between new or existing activities in the rules. In addition, this option would avoid the need for prioritisation, as any improvements would be based on meeting the discharge and containment standards, and some waterbodies are likely to meet the standard sooner than others.

Policy package Option 4 – alternative option providing for decentralised wastewater systems and allowing new discharges to freshwater.

This option would include policies and rules that incentivise decentralised systems in urban settings, such as composting toilet use and disconnection from the wastewater network and allow new discharges to water or land that may enter freshwater. Currently under Option 2 (the status quo) new discharges to freshwater are a non-complying activity, and Policy P94 states "*New wastewater discharges to fresh water are avoided*". This policy is intended to be retained under Option 1 but would not be under Option 4.

The current on-site wastewater provisions, which would also remain with Option 1, allow decentralised systems where there is no wastewater network to the property, and the discharge from these systems is to land.

Whether the on-site system is a modern septic tank or a more comprehensive system, such as the Johkasou system, following treatment, liquid effluent must be discharged to land, water, or the wastewater network. With current technology, decentralised wastewater systems do not reduce pathogens in a discharge to a high (tertiary) standard and require more discharge points than centralised treatment plants. While Johkasou systems in Japan generally discharge the treated effluent to freshwater, studies have shown that these systems have been reported as a major pollution source with insufficient removal of faecal indicators (*E. coli*) and pathogenic bacteria, and especially during colder temperatures[6]. However, Johkasou effluent does result in low concentrations (less than 20mg/L) of BOD and Total Nitrogen. Solids are also generated which need to be stabilised and removed off-site on a regular basis.

Most decentralised systems, including Johkasou or composting toilets, require careful and regular maintenance and management at a household level. In Japan there is a qualification and training programme for Johkasou technicians, involved in the operation and maintenance of the systems, as well as registration and licensing for Johkasou businesses. Maintenance of decentralised systems is generally the responsibility of the property owners or a body corporate type entity.

[6] Fajri, J.A., Yamada, T., Setiyawan, A.S., Li, F. (2015) Evaluation of Water and Sediment Quality in Open Channels that Receive Effluent from Johkasou Facilities. *Journal of Water and Environment Technology*, *13*(3), 207-219. https://doi.org/10.2965/jwet.2015.207

	Option 1 (Preferred)	Option 2 (Status quo)	Option 3 (Alternative with discharge and containment standards)	Option 4 (Alternative with decentralised wastewater systems and allowing new discharges to freshwater)
Costs:				
Environmental	Low to medium – There is potential for further degradation of the receiving environments before the improvement measures can be implemented and results detected in waterbodies.	High – As there are no specific provisions relating to dry weather discharges under this option there could be high environmental costs. In the urban area, it is primarily the dry weather discharges from the wastewater network catchment that influence the *E. coli* TAS in freshwater and the enterococci coastal objective in Te Awarua-o-Porirua. This lack of oversight could result in further degradation of the environment. There is also potential for wet weather overflows to not be well managed if the provisions are split	Medium – There could be some additional environmental costs due to the lack of flexibility in meeting the discharge or containment limits. For network catchment discharges, catchments would likely be prioritised for improvements in order to comply with the discharge or containment standard only, and some catchments would comply sooner than others. As such, this prioritisation for upgrades is likely to be done on the basis of being able to meet the discharge or containment standard, rather than other factors such as the values of the watercourse, or location of mahinga kai or recreational areas. For treatment plants,	High - Due to a lack of suitable land and space for wastewater disposal in established urban areas in these whaitua, the discharge from these systems may be to freshwater. If such systems were also allowed to discharge to freshwater in urban areas, this would lead to a deterioration of water quality in rivers. Freshwater catchments would continue to be degraded as a result of additional pathogenic bacteria load from the decentralised systems. Additional discharge locations could result in an increased number of discharge incidents where wastewater bypasses the treatment process.

		between the stormwater and wastewater provisions of the NRP. Finally, the policies supporting these rules are less specific and there are no numeric objectives, limits or timeframes which need to be met. As such any improvements in water quality are likely to take longer and would potentially be less focused or effective, potentially resulting in further degradation of the environment in the meantime.	there are advantages and disadvantages of having an inflexible discharge standard set in a plan. The treatment plant discharge quality is dependent on the level of treatment of the plant and can be best set through consent conditions that are tailored to the specific treatment plant and its receiving environment and consider the current level of treatment and feasibility of future changes in discharge quality.	This option is also unlikely to completely remove the need for a centralised wastewater treatment plant that discharges to coastal water.
Social	Medium – There are likely to be increased costs for local authorities which may result in increases in rates or tax. If so, this would have wider social implications (community tension) and costs for communities. While limiting notification may be viewed as a social cost, the strategy requires	Low to medium – Under the status quo, improvements to the wastewater network and treatment plants are still required which are significant costs for local authorities. This may result in increases in rates or tax although any improvements are likely to be undertaken over a	Medium - This option is likely to result in more certainty and therefore a more efficient consenting process. However, communities may feel shut out of the process and not feel able to provide input into the discharge quality that should be achieved in relation to their receiving environment.	High – This option is likely to result in degraded water quality being maintained, or there could be a deterioration in water quality leading to more pollution of rivers and harbours. This is likely to have a negative impact on communities as they will be unable to safely connect

	engagement with mana whenua and the public as part of the prioritisation of improvements which is likely to be more effective engagement than a notified consent process.	longer timeframe which can be expected to reduce the social implications for communities. The current uncertainties within the wastewater provisions and lack of numeric standards may result in long protracted consent processes which create frustration within communities. In addition, the lack of regulation regarding dry weather discharges can be difficult for communities to understand.	The prioritisation of catchments for improvement is also likely to be less flexible, with watercourses of less value being given the same priority for improvement as those with high community values or primary recreation sites.	with the rivers in their neighbourhoods. The additional responsibility to maintain and monitor a decentralised wastewater system by a property owner or body corporate could also result in social costs. If these systems were poorly maintained there could be a significant public health risk to communities.
Economic	High – As noted above the costs to upgrade the wastewater network at approximately $400M for TAoP and $3B for TWT are significant, in part due to the timeframe for compliance with the *E. coli* TAS and enterococci coastal water objectives. The costs for this option are expected to be more than Option 2 because of upgrades being	Medium – The costs to upgrade the wastewater network are significant, but the costs to local authorities (and their communities) for this option may be slightly less than Options 1 and 3 due to the longer timeframe over which the costs of the upgrades could be spread. The current uncertainties within the wastewater provisions and lack of	High - This option is likely to result in lower consenting but higher compliance costs for the plant and network operators/local authorities when compared to Options 1 and 2. Given the significant improvement that would be required to meet the discharge standard, there could be difficulty meeting it for many years. There may also be additional monitoring	Medium – This option may result in higher costs for homeowners in relation to the capital costs of the system as well as ongoing maintenance costs. This option is also unlikely to completely remove the need for a centralised wastewater treatment plant that discharges to coastal water. As such, there are still likely to be costs associated with the need to

	undertaken with more urgency. Regardless of funding arrangements and water reform, there are likely to be high costs which will likely be directly borne by the communities served by the infrastructure.	numeric objectives may result in long protracted consent processes which divert funds which could be better spent on physical improvement works.	costs for the wastewater network catchment discharges to check whether the discharge standard is being met at the numerous discharge points. This option is likely to result in higher costs than Option 1.	maintain and upgrade the wastewater network and/or treatment plant.
Cultural	Low to medium – The cultural costs associated with this option are expected to be low to medium due to it not being possible to avoid discharges of human wastewater to water entirely at this current time. It will take time to implement measures to reduce and avoid discharges of wastewater to surface water bodies and the coast due to the cost practicality of undertaking the works as well as legacy issues such as combined wastewater and stormwater systems. However, this option puts in place a framework to	Medium – It is anticipated that there would be more cultural costs with this option than Option 1 due to water quality improvements potentially taking longer to implement as there are no specific timeframes or numeric targets to meet. This could lead to further deterioration in water quality in the meantime. In addition, dry weather overflows are not specifically addressed by this option, and currently rely on non-regulatory methods.	Medium - It is anticipated that there would be more cultural costs with this option than Option 1 if waterbodies of significance to mana whenua are not prioritised due to the focus instead being on achieving the discharge and containment standards for all waterbodies. As this goes against the cultural values of mana whenua, this requirement could therefore also limit mana whenua's role as kaitiaki. Neither a discharge standard nor a containment standard would require the complete removal of wastewater from locations	Medium to high – The cultural costs of this option are expected to be higher again than the other options as decentralised systems in the urban area would likely result in an increased number of discharges of human wastewater to rivers, and the treatment from the system would not reduce pathogens sufficiently to provide for safe harvesting of mahinga kai, and customary practices. Maintenance of the systems is likely to fall to property owners and if these systems were poorly maintained there could also be a

	progress towards the long-term objective of wai ora.		of significance to mana whenua.	significant public health risk and further degradation of the water quality. This option is also unlikely to completely remove the need for a centralised wastewater treatment plant that discharges to coastal water.
Benefits:				
Environmental	High – this option will provide incentives to improve water quality with more urgency than Option 2 and within the timeframes set out in the objectives, to meet the numeric objectives for *E. coli* in particular, as well as enterococci. In addition, the policies require that wet weather overflows to be reduced to no more than 2 per year (the containment standard) or avoided entirely where these discharges are too sensitive receiving environments. This option	Medium – improvements are likely to be made in relation to less stringent qualitative water quality targets, but this is likely to be done over a longer time period, and the management of dry weather discharges largely relies on non-regulatory methods.	Medium to high – this option provides a clear standard that water quality must achieve but does not allow for prioritisation. In general, given the degraded nature of the rivers within the urban areas of the whaitua, it would require a significant improvement in the quality of the discharge. The certainty of the consent expectations will make obtaining resource consent a quicker and more certain process.	Low – the benefits of a decreased volume of wastewater going to treatment plants which discharge largely to the coast are outweighed by the potential for more discharges of wastewater to small sized rivers with little dilution capacity.

	allows for prioritisation of improvements to meet the expectations of mana whenua and the community. This option provides better clarity in relation to the how wastewater network catchment and treatment plant discharges should be managed and improved, modelled and monitored.			
Social	High – this option is likely to result in improvements in the receiving waters which improves the quality of life for communities and enables a wider range of recreational activities such as swimming. The provisions of this option should provide better clarity for communities in relation to how wastewater should be managed. Prioritisation of improvements will mean that rivers of importance to communities can be given higher priority for	Low – this option may eventually result in improvements in the quality of receiving waters and quality of life for communities, and particularly if dry weather discharges are well managed using non-regulatory methods.	Medium – this option provides a clear standard for communities of the water quality that must be achieved by treatment plant and network managers and may provide greater confidence to the community of the water quality of the waterbodies, in the long term. In the short term though, benefits of prioritisation of investment in improvements would be unlikely to be realised.	Low – The benefits of greater autonomy in managing the wastewater discharge from private houses is likely to be outweighed by the stringent requirements for monitoring and maintenance of the systems to ensure they are working adequately.

	investment in improvements than those that are of lesser importance.			
Economic	Low - No financial benefits are identified with this option, other than the consenting process could be less costly that Option 2.	Medium – This option is likely to take longer to realise the required receiving water quality. Therefore, this option offers more economic benefit to ratepayers than Options 1 and 3 as the costs of water quality improvements will be spread across a longer time period, making them comparably more affordable to communities.	Low – No financial benefits are identified with this option other than the consenting process could be more straightforward and therefore less costly in comparison to Option 1.	Medium – The costs of managing wastewater are likely to be less for treatment plant and network managers as decentralised systems would reduce the pressure on the wastewater network. Treatment plant upgrades may not be needed as soon.
Cultural	High – This option provides a framework for working towards the long-term objective of water being clear and pristine, able to support taonga species, mahinga kai is safe to harvest and customary practices can be undertaken by mana whenua.	Medium - This option currently has provisions relating to mahinga kai and Schedule C sites and will result in improvements to water quality. There are also requirements to engage with mana whenua as part of any consent process which affects mana	High – This option provides a clear standard that water quality must achieve. In general, given the degraded nature of the rivers within the urban areas of the whaitua, it would require a significant improvement in the quality of the discharge.	Low to Medium – This option could provide mana whenua with more opportunity to exercise tino rangatiratanga in relation to managing and disposing of human waste. However, allowing new or additional discharges of poorly treated wastewater to rivers would not achieve the other

	This option requires improvements in water quality with more urgency and within the timeframes set out in the objectives in order to meet the numeric objectives for *E. coli* and enterococci. In addition, the policies require that wet weather overflows to be reduced to no more than 2 per year (the containment standard) or avoided entirely where these discharges are to Schedule C (mana whenua) sites or mahinga kai. The policies and schedule require mātauranga monitoring of the effects of the discharge and mahinga kai, and there is an expectation that Kaitiaki monitoring teams within the whaitua be engaged with and provided the opportunity to undertake the kaitiaki monitoring.	whenua values, including Schedule C (mana whenua) sites.		objectives sought by mana whenua including a wai ora state for freshwater. The benefit of less wastewater being discharged via wastewater treatment plants is likely to be outweighed by an increase in human wastewater being discharged to small streams and rivers with less capacity for dilution. The long-term objective of mana whenua is to remove wastewater from all water, and research into new technologies which discharge to land only or significantly reduce the volume of wastewater currently being discharged to water are more likely to achieve this outcome.

Effectiveness:				
How successful will you be in providing the outcome set by the objective?	This option is likely to be the most successful in achieving the water quality outcomes that the community and mana whenua have sought through the whaitua processes, as it requires a strategy to reduce and remove wastewater network discharges, including dry weather discharges which are a key source of *E. coli* in urban streams. It allows for some flexibility in relation to the prioritisation of improvements, while at the same time clearly setting out the target attributes states that need to be met and the timeframes for doing this. For treatment plants, the requirements for managing the plants are set out clearly as well as the objectives that must be met.	This option is relatively successful, but it is likely to take longer to see improvements in water quality. In addition, the lack of a framework to manage dry weather discharges is likely to reduce the effectiveness of any other improvements in water quality.	This option could be reasonably successful as there would be a clear standard that would need to be met. However, the discharge and containment standards may result in less desirable prioritisation of improvements than with Option 1. In addition, there is little incentive to remove a discharge from a sensitive receiving environment completely.	This option is likely to be the least successful due to it allowing new wastewater discharges to freshwater. This option is most likely to result in further degradation of rivers and harbours and is not consistent with the NPS-FM requirements to maintain or improve freshwater quality.

Efficiency:				
Do the benefits of the option outweigh the costs?	This option is the most efficient of the options at achieving environmental, social, and cultural benefits and the outcomes of the objectives. However, the costs to communities are likely to be significant due to infrastructure upgrade costs.	This option is relatively efficient but the timeframes for improvement are likely to be longer and the financial costs of this option are still relatively high.	This option is likely to be relatively efficient as it provides a clear standard that must be met which would reduce consenting costs. However, it may not achieve the environmental outcomes that mana whenua and communities are seeking as the discharge and containment standards are not tailored to the values of the receiving environment. In addition, additional compliance and monitoring costs could be better spent on infrastructure upgrades.	This option is unlikely to be successful at meeting the objectives of PC1 and the NPS-FM, and the financial costs are still likely to be moderate. As this option is unlikely to completely remove the need for a centralised wastewater treatment plant, there are still likely to be costs to upgrade the wastewater network and treatment plants. This option is not an efficient way to improve water quality as the social and environmental benefits are unlikely to be realised.
Risks of acting or not acting if there is uncertain or insufficient information:	The modelling and monitoring data undertaken through the whaitua processes has provided good information in relation to the state of the receiving environments in relation to *E. coli*. Adding to this is the information gained through recent consent applications which have characterised and identified the effects of wastewater discharges from treatment plants, and the effects of wastewater network catchment discharges because of wet weather overflows, in particular. As such, there is sufficient information to proceed with Option 1. The risks of acting relate to the financial cost involved for territorial authorities and wastewater network providers, which are likely to be significant. However, this is also the case for the status quo option, albeit that any improvement in wastewater infrastructure would likely occur over a longer timeframe so can be regarded as being more affordable to communities.			

	The risks of not acting relate to a potential further deterioration in water quality before improvements are made. In addition, the volume and occurrence of dry weather discharges may increase, resulting in more costly, reactive maintenance work on the piped network, some of which could be avoided with regular CTV monitoring and upgrades of aging pipes, and flushing of blockages in pipes to avoid pipe breakages. Other measures such as investigating and fixing cross-connections will also help reduce dry weather discharges.
Overall evaluation	After consideration of the foreseeable costs and benefits, effectiveness and efficiencies and the risks of acting or not acting, Option 1 is the best option. The high levels of *E. coli* and enterococci in our rivers and harbours have highlighted the serious issue with wastewater being discharged to urban streams from the wastewater network, because of wet weather and dry weather discharges. While the NRP addresses these issues to a degree, further regulation and provisions that implement the more specific numeric targets for *E. coli* as required by the NPS-FM and enterococci coastal objectives for the harbour and coast will enable the cumulative effects of urban sources of faecal contamination to be assessed and improved through a consenting framework. Improvements to the treatment process or infrastructure of existing and ongoing wastewater discharges will in turn result in improvements in water quality for the receiving environment. The rules for discharges from the wastewater network catchment require an improvement strategy that supports achieving the target attribute states and coastal water objectives, and meeting or exceeding the containment standard for wet weather overflows. The strategy also requires engagement with mana whenua and the public as part of the prioritisation process for improvements to the network. This type of engagement is much more likely to reach the whole community than a consent notification process. Requiring public notification is also duplicative, as engagement is required as part of the strategy document and plans that support this application. By limiting public notification, costs can be expended on improvements to the networks rather than publicly notified consent processes. Mana whenua will be considered affected parties to these applications, and the applications could still be notified on a limited basis if specific parties are identified as being affected to a material degree, and greater than the effects that could arise on the public generally.

Addendum to s32 report

The Council, in reviewing the draft provisions for PC1 at a workshop on 5 October 2023 signalled their position did not align with the officers' recommendation to depart from the WIP timeframes for the *E. coli* TAS and enterococci coastal water objectives. Councillors signalled that their decision to notify PC1, which would be made at a Council meeting on 26 October 2023, was expected to confirm that the timeframe for meeting the *E. coli* TAS and enterococci coastal water objectives would reflect the 2040 date included in the WIPs for Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua, and would not be extended.

Retaining the WIP timeframe for satisfying *E. coli* TAS and enterococci coastal water objective has been incorporated into the PC1 provisions. The wording of Policies WH.P18 and P.P17 was deleted and replaced, and an additional method M45 was also added to PC1 in support of this timeframe.

The original wording of the policy related to interim timesteps to achieve the *E. coli* TAS if the timeframe was 2050 or 2060. With a timeframe of 2040, this policy is not required. The new policy wording signals that information in relation to dry weather discharges is not comprehensive at this stage but regardless, works to improve the wastewater network should be progressed as soon as practicable, based on the best information available at the time. To meet the *E. coli* TAS by 2040 will be challenging and delays due to incomplete information about the state of the network or the exact cause of dry weather discharges should not unduly delay consenting and improvements to the network and consequently, the water quality of the receiving environments. Further, the policy seeks that information from works and investigations be used to inform updates to the Wastewater Network Catchment Improvement Strategy and support further improvements, with an adaptive management or '*learn as you go*' approach.

The new method relates to GW working with territorial authorities and the relevant water authority to identify additional sources of funding for stormwater network and wastewater network catchment upgrades in order for the TASs and coastal water objectives to be met by the 2040 timeframe, as well as advocating to central government for additional funding tools and sources.

5. Sediment from land disturbances

109. Suspended and deposited fine sediment are attributes in the NPS-FM. The NPS-FM requires environmental outcomes for these attributes to be expressed, target attribute states be set and limits for these attributes to be achieved in rivers in each FMU. PC1 is to implement NPS-FM limits on sediment in rivers.

110. The Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua Implementation Programmes (WIPs) include recommendations to set sediment load limits to, respectively, significantly reduce the sedimentation rate in Mākara Estuary and both arms of Te Awarua-o-Porirua and to reduce muddiness in intertidal areas.

111. The outcomes required by the NPS-FM, the WIPs and mana whenua whaitua implementation plans are to be achieved using a range of mechanisms, including amendments to the NRP policies and rules for rural land uses, earthworks and vegetation clearance that disturb land and contribute to the sediment load in the FMUs. There is also a strong emphasis in the WIPs and mana whenua whaitua implementation plans on achieving the outcomes using non-regulatory methods, such as Freshwater Action Plans, and additional resources from Greater Wellington. The complementarity of the methods to achieve the outcomes will be essential to success.

112. PC1 introduces a suite of objectives that express the environmental outcomes sought for mana whenua values, water quality and ecosystem health in water bodies and the influence of sediment on these outcomes in these FMUs, and policies to direct actions to reduce sediment and its effects.

5.1.1 Relevant objectives

113. The objectives in PC1 for Te Awarua-o-Porirua and Te Whanganui-a-Tara that describe environmental outcomes which are influenced by sediment in water from land disturbance are:

- P.O1/WH.O1 – Water bodies are in wai ora state.
- P.O2/WH.O2 – Rivers are on a trajectory of improvement to wai ora.
- P.O3/WH.O3 – Coast, inlets and estuaries are maintained or improved meet outcomes for water quality, ecosystem health and habitats.
- P.O4/WH.O9 – Rivers meet target attribute states and mana whenua values.
- WH.O8 – Rivers are suitable for contact recreation.

114. The appropriateness of these objectives is addressed elsewhere in this report, but the environmental outcomes expressed in the objectives are the driving force for the policies, rules and other methods that have been adopted in the plan change. The objectives embody both the desires of mana whenua and the

community, as expressed in the WIPs and mana whenua whaitua implementation plans and the national direction of the NPS-FM with respect to the sources and effects of sediment resulting from land disturbance.

5.1.2 Policy context – problem/issue

115. The policies of PC1 relevant to the issue of sediment entering water from land disturbance, and creating adverse effects on water quality, ecosystem health, habitats, mana whenua values, recreation and amenity values direct the actions needed to identify and better control or change the uses of land that generate sediment loads that are or could contribute to the resulting environmental issues.

116. The actions directed by the policies are necessary to give effect to the recommendations of the WIPs and mana whenua whaitua implementation plans, and to implement the requirements of the NPS-FM to meet the TAS, for the rivers, estuaries, and harbour in these FMUs.

117. The policies of PC1 include both general policies, which set out the approaches to achieve the environmental outcomes in the objectives, including non-regulatory methods, and activity policies which set out the interventions for the relevant activity, implemented through rules and other methods.

5.1.3 Earthworks - efficiency and effectiveness of provisions

This policy package is **part of a suite of provisions designed to contribute towards achieving the new sediment related objectives WH.O1, WH.O2, WH.O3, WH.O4, WH.O5, WH.O8, WH.O9, P.O1, P.O2, P.O3, P.O4, P.O6. The purpose of these objectives is to support the change in land uses and discharges of sediment to reduce the total sediment load that enters rivers and streams to reduce the rate of sedimentation to meet the Harbour objectives.**

Intent of this policy package:

Sediment from land disturbances generated by earthworks is a major issue for Te Awarua-o-Porirua Whaitua and Whaitua Te Whanganui-a-Tara. In Te Awarua-o-Porirua, sediment is causing a long-term degradation of the low energy receiving environments of Pāuatahanui Inlet and Porirua Harbour through increased levels of sedimentation. To control sediment further to meet the suspended sediment TAS in the Porirua Harbour and Pāuatahanui Inlet in particular, will require a concerted effort from all land-based activities to be effective.

In Whaitua Te Whanganui-a-Tara, there are no low energy receiving environments under immediate threat, however sediment is causing localised effects in river estuaries (e.g.) and in urban rivers and streams (e.g., Wainuiomata).

There needs to be a strong regulatory response, in this case to manage the effects of earthworks, and rural activities that discharge sediment and further on the groundwork programmes (i.e., Freshwater Action Plans) through increased incentives to retirement of erosion prone land, planting riparian buffers, and keeping stock away from all water bodies.

This section examines the options for land disturbances defined by '*earthworks*. The word '*earthworks*' is a generic term used in the NRP and the National Planning Standards to mean activities that disturb the earth.

The National Planning Standards definition of earthworks is as follows:

Earthworks means the alteration or disturbance of land, including by moving, removing, placing, blading, cutting, contouring, filling, or excavation of earth (or any matter constituting the land including soil, clay, sand, and rock); but excludes gardening, cultivation, and disturbance of land for the installation of fence posts.

It is proposed to adopt the definition from the National Planning Standards of earthworks for PC1 affecting the Te Awarua-o-Porirua Whaitua and Whaitua Te Whanganui-a-Tara chapters of the NRP.
Policy package Option 1 – preferred option **Option 1: Implement the NPS-FM limits frameworks for sediment by imposing a discharge standard on earthworks.** In the NPS-FM, sediment is a mandatory contaminant attribute subject to a limit (i.e., rule) on resource use. The discharge of sediment laden water must be accounted for over time to meet the limit and the overall environmental outcomes for Te Awarua-o-Porirua Whaitua and Whaitua Te Whanganui-a-Tara. The preferred option is similar to the baseline (status quo under the NRP) approach except earthworks over a certain area are **subject to a numeric discharge standard.** This means that the discharge of sediment-laden water from an earthworks site must meet the standard in terms of grams per cubic metre (gm/m^3) of water discharged to a surface water body. The preferred option differs from the baseline in that the discharge from the site is measured and accounted for in the sediment limits framework. Further, a mandatory close-down period is introduced for large earthworks sites over the winter period (1 June to 30 September). This restriction over the winter will further limit discharges of sediment from large sites. Earthworks operators will need to maintain the new standards on sites to retain consent compliance. The make-up of the preferred option in terms of the policy framework is as follows: 1. New definition: It is proposed to adopt the National Planning Standards definition of earthworks, as noted above, for Whaitua Te Whanganui-a-a-Tara and Te Awarua-o-Porirua Whaitua only. 2. New policies: Water quality policies apply to all contaminants (sediment, metals, nutrients, and E. coli) to prevent exceedance of the existing loads. 3. New policies: Requiring management of the discharge of contaminants to meet limits (discharge standard and winter close-down). Sediment is one of the contaminants that require limits to meet the objectives. 4. New earthworks specific policies: To outline the required contents of erosion and sediment control plans. Erosion and sediment control plans are the main mechanism to manage and control earthworks (stages) and sediment control. The existing NRP is silent on the requirements of such a plan. This policy is proposed to improve transparency for operators and consent applicants. Additional policy to

direct the requirements for the winter shutdown period. The winter shutdown is to apply to both Whaitua. In Te Awarua-o-Porirua the winter shutdown is important as there are a higher number of existing earthworks areas and potentially future land developments that has the potential for sediment effects on sensitive receiving environments. In Whaitua Te Whanganui-a-Tara, the winter shutdown period applies as the soil types are similar to Te Awarua-o-Porirua (clay based) and a higher risk for discharges of sediment over the winter period. This policy (WH.P31 and P.P29) is current best practice for Greater Wellington Regional Council earthworks resource consents.

5. New earthworks permitted activity rule: This rule will control small earthworks sites. There is no permitted discharge standard applying to sites less than 0.3ha, therefore no discharge is permitted under this rule. The new permitted activity standards require sites are managed according to the sediment control guidelines to achieve this.
6. New earthworks restricted activity rule: To control large scale earthworks where there will be a discharge to land or water. This new rule is like the existing rule for earthworks. The matters would include erosion and sediment control requirements and the discharge is restricted to those discharges meeting the new discharge standard and the winter close-down period.
7. New earthworks non-complying rule: To impose further controls on the discharge if the conditions of the restricted discretionary cannot be met. Generally, the applications would need to comply with the conditions of the restricted discretionary rule to proceed.

Policy package Option 2 – Status quo

Baseline – to retain the existing approach in the NRP.

The existing policy approach is to **minimise discharges of sediment** from land disturbances such as earthworks. The concept of **minimisation** is defined in the NRP to mean – *"reduce the discharge of sediment down to the lowest amount possible amount".* The approach of minimisation does not mean that the discharge of sediment is zero, just that it is reduced to the lowest level possible under site conditions.

The existing approach in the NRP is to regulate earthworks over 0.3ha. The general regulation requirement is a discretionary consent but for some earthworks (i.e., earthworks associated with renewable energy development) the activity status is restricted discretionary. For land under 0.3ha, earthworks are permitted subject to permitted activity standards. The standards are best practice methods and practices which are in effect managing the site to minimise sediment loss to surface water bodies.

The current rule framework does have a discharge standard, but this is a narrative standard and is not numeric so doesn't satisfy the required limits-based system of the NPS-FM.

A summary of the existing approach in terms of the policy framework and rules is as follows:

- Regulation is the primary control for earthwork sites through the NRP and in District Plans (WCC, PCC, HCC, and UHCC).
- NRP includes policies and rules to control sediment from earthworks.
- Rule R101 specifically requires that all earthworks' sites are managed and maintain good management practice throughout the earthworks period.
- For large earthworks sites greater than 0.3ha earthworks require a discretionary consent (Rule R103) or restricted discretionary consent (Rule R106) where conditions are placed on resource consents to control and manage any discharge from the site. These larger scale sites necessitate the use of engineered sediment ponds and in some cases flocculation to further reduce the sediment discharged from entering rivers and streams or the coastal marine area.
- The *Erosion and Sediment Control Guide for Land Disturbing Activities for the Wellington Region (2021)*[1] are the main guideline used by the Council and industry for the management of large sites in the region. These guidelines have been and continue to be the centrepiece for management methods and techniques used by practitioners to control sediment.
- The Small earthworks: Erosion and sediment control for small sites guideline (2006) is also used by operators for the management of small-scale building sites.
- Territorial authorities (WCC, PCC, HCC, and UHCC) have regulations in place to control small scale earthworks sites, which mostly comprise building sites, roading and driveways.

Policy package Option 3 – alternative option with additional measures

Create a new open land allocation register to manage earthworks at specific sites.

Option 3 is to incorporate all the preferred Option 1 elements and limit the total area of earthworks open at any one time in a FMU or part FMU. This option is an allocation register with a nominated total cap on earthworks sites where the total area of sites open at any one time is controlled, and any new site can only be opened once a previously opened site is stabilised. The nominated total cap may need to be reduced every 5 to 10 years depending on the monitoring levels of sediment entering the receiving environment to meet the objective. It is envisaged that Option 3 would work in specific areas

[1] https://www.gw.govt.nz/document/17047/erosion-and-sediment-control-guideline-for-land-disturbing-activities-in-the-wellington-region

where the discharge of sediment into the receiving environment requires higher levels of control. Preferred Option 1 would apply to any other land in less sensitive receiving environments under Option 3.

The make-up of Option 3 in terms of the policy structure is as follows:

8. Incorporate all of Option 1 policies and rule structure.

9. New policies: to set-up an allocation-based register for the management of earthworks in FMU's or part FMU's. This policy approach would allocate open land for subdivision and other large land disturbances, where only a set amount of land is open for earthworks in any one year. This management of open land would be controlled by Greater Wellington through the policy/consenting process.

10. The land allocation register would work best in small part FMU's that are highly erosive catchments or the limit in the FMU is at total load or is over allocated and any additional load over the short to medium term requires careful management.

11. The open land allocation register would act in a similar way to a strict staging approach to the management of single large earthworks sites but across multiple sites (and landowners/developers) in the FMU – i.e., where only a single stage is open and restored before the next stage of earthworks is opened.

12. New discretionary consent rule: To manage open land, the consenting requirement is discretionary, to impose controls on the site and the discharge.

	Option 1 (Preferred – new policies, rules, and methods)	Option 2 (Status quo)	Option 3 (Option 1 plus additional more stringent measures)
Costs:			
Environmental	Low levels of sediment discharged to the environment. This approach uses site specific regulatory approaches (that will take effect immediately) to limit the total sediment load from	Medium to high levels of sediment will continue to be discharged to the environment. In this approach, the status quo will result in continued increases of sediment from earthworks, hence, it	Very low levels of sediment discharged to the environment. This option has less environmental costs compared to Option 1 and 2. This option would reduce the land available for earthworks at any one

	earthworks entering rivers and streams and ultimately the receiving environments (i.e., Porirua Harbour, Wellington Harbour, and Mākara Estuary). This option sets a clear requirement for earthworks operators to reduce the total suspended sediments (TSS) from the site via a sediment retention pond, or if this device is not used because of site constraints, then other forms of sediment control that are able to provide high level of effectiveness and efficiency, as required to satisfy WH.P30, WH.P31, P.P28, and P.P29 through a consent process.	increases the environmental costs of sediment to the various receiving environments. The status quo does not have a strict limit operating and relies on earthworks operators to employ best practices methods and techniques to reduce sediment discharged from the site, or consent processes to secure best practices methods on a case-by-case basis. This option overtime will lead to a continuing loss of sediment from this activity and will not limit the sediment load required under the objectives of this plan change and the requirements of the NPS-FM.	time down to levels where the discharge could be strictly controlled, minimising risk of uncontrolled sediment discharge during major storm events, leading to an overall reduction of sediment to receiving environments. This option sets clear targets to land developers and contractors alike and would change the way land is allocated for development.
Social	Medium. The increase in economic cost (see below) will have some impact on new land developments through higher monitoring and compliance costs to meet the discharge standard. This cost may have a negative effect on the social wellbeing of those in land development, including future home buyers.	High. The existing social costs of sediment from earthworks sites entering rivers and streams and the Harbours in these FMUs is high. The existing policy framework in the NRP will not reduce this sediment input leading to higher social costs over time.	Medium. Option 3 would apply additional costs to land developers through the sediment allocation system. This may delay developments through lack of land supply and increases in compliance and monitoring costs. These additional costs would reduce the social wellbeing of those wishing to develop land for housing or other commercial purposes.
Economic	Low-Medium. The establishment of a discharge standard for earthworks and the restriction on discharges from small sites will impose an opportunity cost onto some landowners/developers	Low. The status quo provisions for earthworks have been operation (although not operative until 29/6/23) since 2015. These provisions were met with acceptance by the industry and community	Medium-High. This option is likely to result in higher economic costs to landowners, developers, and purchasers of land for future housing or other developments. These costs would arise

	with a wider potential social cost to the local community through overall increased costs for development (e.g., urban development, infrastructure, etc). This may mean that owners of smaller sized sections or land parcels need to apply for a resource consent not required under Option 2 to ensure the development takes place, as the proposed permitted activity rule does not permit any discharge at all from the site. There is an additional cost to those landowners for future land development in demonstrating during the consenting process that the discharge limit can be compiled with, also for monitoring this during construction, compared with Option 2. This will be an additional social cost to the wider community for larger scale land developments and infrastructure.	alike as the provisions provided a minimum level of compliance and requirements of best practice methods and operating conditions. The cost of the status quo option in the development of land with infrastructure services is already incorporated into the economic cost of this option and is passed onto the property owner or purchaser.	from the potential restrictions on the availability of land for development from the regulatory system to allocate land based on the level of stabilisation after major earthworks. This cost would flow onto the landowner through increased section prices for housing development. There will be additional cost with the adoption of Option 3 through the strict imposition of land supply.
Cultural	Low-Medium. Mana whenua hold significant cultural, social, economic, and spiritual connections to the taiao (environment). There will be economic costs to Māori land-based businesses and investment in development from the implementation of this option.	Low. The status quo is likely to have a low scale response with the associated implementation delay in reducing sedimentation of the Harbour. This is an additional cost to Māori, despite not being directly monetary. There would need to be additional resources used to achieve aspirations for the harbour. The harbour is	Medium. May result in potential equity issues associated with restrictions on the ability to intensify and develop Māori land. The portion of Māori land in both Whaitua is not extensive, however there remains a potential for inequality to Māori if Treaty settlements or other

		a life force and means that Māori are unable to fully utilise the harbour in a way they traditionally were able to, resulting in additional costs to them.	limitations have restricted their ability to develop land until now.
Benefits:			
Environmental	Medium. This option will ensure a reduction in sediment discharged from earthworks sites. The imposition of a discharge standard and improved site control will lead to an overall reduction in sediment loads. The amended permitted activity rule for small site earthworks (WH.R23 and P.R22) does not authorised a discharge. This further restriction on earthworks will also assist in reducing further loads of sediment to waterways and the Harbour.	Low. There will be some environmental benefit from continuing with the status quo. The status quo for larger consented earthworks sites (i.e., Transmission Gully and larger subdivisions), does typically include controls operating on the discharge, however, these controls are at best practice level which yields modest gains in performance.	Medium-High. This option would be the most effective to deliver a large reduction in sediment discharged from earthworks sites. The imposition of a true allocation system for land disturbance from earthworks and the discharge from the land, is the most controlled system to guarantee gains in reducing sediment related environmental risk from the activity. This option if so promoted would need to be coupled with similarly allocative based land systems for other activities such as pastoralism or forestry to maintain an equitable approach across Whaitua between rural and development related sediment sources. This option has more environmental benefits than option 1 because it limits the proportion of a catchment (or part FMU) open at any one time and reduces the consequential effects of a very large rainfall event causing sediment control systems to be inundated and fail because a storm exceeded the rainfall event

			design standards used for earthworks management. A larger benefit can be attributed to option 3 for the larger storm event; for normal rainfall events option 1 and 3 would be similar in terms of their environmental benefits. There is also a higher level of scrutiny inherent with the allocation of land and the outcomes in terms of reduced sediment outputs.
Social	Medium. Social benefits are linked to environmental benefits. This option would deliver higher attribute states that are directly compared with protecting and maintaining the values communities have for water bodies. These include the ability to use freshwater for recreational and community purposes.	Low. Low. This option would deliver minimal protection against deteriorating water quality in rivers and streams the harbours. This means the social outcomes associated with freshwater would remain at low.	Medium to High: The social benefit from lowered sedimentation loads in rivers, estuaries and the harbour will increase as the values of these water bodies for cultural use, amenity and recreation are restored.
Economic	Low - Medium. The economic benefit from option 1 is deemed to be low/medium. Imposing stricter conditions on a resource consent for earthworks is not anticipated to increase economic benefits.	Medium-Low. The economic benefits from the status quo are anticipated to be medium-low. This activity is regulated, therefore the costs for sediment control are built into the overall operating costs of the development. The benefits, economically from this would be minimal compared to the overall cost of the undertaking land development.	Low. The economic costs of this option will be higher, however, depending on how the market responded to this option higher economic benefit could be attributed to landowners or land developers that have a stake in the land development market. The overall increase in regulatory cost may increase the cost of land, and this may be the wider economic effect albeit there could be benefit accrued by certain landowners/developers.

Cultural	Low-Medium. Over the medium to long term the benefits of improved water quality from reduced sedimentation will begin the process of reinstating the mauri of the wai for the Whaitua.	Low. This option maintains the status quo, so generally there is unlikely to be an increase in cultural benefit. However, if this option were to proceed there would be continued harm to Māori if change is not made.	Medium-High. This option would respond to iwi concerns about the health of the Porirua Harbour and Pāuatahanui Inlet with increased sedimentation over recent decades.
Effectiveness:			
How successful will this be in providing the outcome set by the objective?	Option 1 will contribute to meeting the environmental outcomes and TAS for reduced loads of sediment in rivers and streams and the Harbour and estuarine receiving environments. This option is assessed as the most effective option for the activity of earthworks to meet the outcomes and TAS for visual clarity. Developers and engineering consultancies that are part of current industry will adjust methodology and practices, including design criteria to achieve option 1's higher level of compliance. This option whilst not as straight forward as Option 2, will eventually become the new norm and in doing so will become an effective option for managing the sediment effects of earthworks. Achieving the environmental outcomes by option 1 sets a new target to be	Option 2 will not give effect to the PC1 objectives, NPS-FM or the RPS, or respond to the values from the community, mana whenua for these Whaitua. The status quo relies on best practice methods and techniques to reduce sediment into receiving environments. To date, based on the current modelling and assessments[2], the status quo needs to improve to at least option 1 to make headway in sediment reductions. Option 2 is expected to be unsuccessful at reducing sedimentation and is not an effective option to meet the outcomes or TAS target for visual clarity.	Whilst option 1 is the preferred option, gains in sediment reduction are assessed to be significant under this option. However, the overall effectiveness is deemed to be low in the accrued benefit. The costs are assessed as substantial and could artificially change the land development market in the short-term leading to higher social and cultural costs. Regulatory changes and systems to implement and monitor a land allocation system would be complex to set up as well. This option is assessed as not as effective as option 1 for this plan change, however, if option 1 provides to be less that effective than expected over the next decade for improving the TAS and environmental outcomes, then option 3 could be reconsidered.

	reached not only for land developers and landowners alike, but for the community. Option 1 along with the other interventions deemed effective in this plan change would cumulatively make a difference in reducing sediment loads and improving water quality and sedimentation rates.		
Efficiency:			
<u>Do the benefits of the option outweigh the costs?</u>	Net benefit medium. Option 1 is assessed as the preferred option from the perspective of effectiveness and in that it will be easily adopted by industry and council alike. Due to the anticipated ease of transition from current best practice to option 1 with the new standard and formal winter shutdown limit, it is the most efficient option for regulation of earthworks under the NPS-FM. There will be increased costs for industry to meet the standard with additional monitoring requirements and compliance conditions that are matters in Rule WH.R24 and P.R23 to be meet. These costs are anticipated to be met by land developers and infrastructure providers, and ultimately the wider community. Additional costs are to	No net benefits. The status quo would not provide a net benefit to society as this option is not suitable to meet the objectives of PC1 or sustainable in terms of the NPS-FM.	Net benefit medium. Option 3 the total cost to society is anticipated to be higher than option 1 – the preferred option. The increased costs initially may increase the net benefit to society in the short to medium terms however not over the long term. This is because, other interventions in this plan change to reduce sediment (retirement of highly erosive land, and sediment reduction measures in Fresh water Farm Plans) will increase the effectiveness of the plan change package with measurable changes (signs) in the receiving environments than from earthworks alone. Option 3 alone would not produce these gains, the contribution of earthworks to the total load of sediment is not high, therefore, for option 3 the gains in environmental benefit

	Council in compliance time and processing of applications to ensure that new development can meet the new rule requirements.		would not be apparent over the medium – long term.
Risks of acting or not acting if there is uncertain or insufficient information:	Medium risk. There is a level of uncertainty with option 1, in terms of the industry and council working out the effective methods on-site to achieve the discharge standard. This risk is not insurmountable and can be extinguished under current engineering and management techniques/methods to ensure sites achieve the discharge standard. It is considered there is sufficient information in the erosion and sediment control guidelines and expertise in the industry and council to ensure this option is effective and efficient to meet the objectives and the TAS for suspended sediment.	Low risk. The status quo is current best practice for earthworks sites. Discharge from sites do not meet any quantifiable standard. The risk of continuing with the status quo are deemed low because of the absence of recording of the performance of sites. To continue with the status quo would not require any further new information and risks of continuing are low.	High risk. The risk of option 3 is high. This option has many unknowns attached, where a land development register to allocate land for development would need to be developed and tested with the development community. There is a high degree of uncertainty with this option.
Overall evaluation	Overall, Option 1 is the most effective and efficient to achieve Objectives , WH.O1, WH.O2, WH.O3, WH.O4, WH.O5, WH.O8, WH.O9, P.O1, P.O2, P.O3, P.O4 and P.O6 for reducing sediment to receiving environments for the Whaitua from earthworks sites. This option leverages off Greater Wellington expertise in managing large subdivisions and roading projects in ensuring the sites are well managed and discharges of sediment are minimised. There will be a level of upskilling required in both Council staff and operators alike in working out new methods and techniques on-site to meet the new discharge standard for sediment ponds and other treatment devices. This additional uplift in skills is possible within the current operating constraints of the industry (and Council alike), however there may be an additional period to establish the operational workings for this option. This regulatory option for earthworks and other preferred options of this plan change (both regulatory and non-regulatory) will together make the necessary change required in land uses to achieve the objectives for the receiving environments and meeting the target attribute states for both Whaitua.		

5.1.4 Pastoral farming - efficiency and effectiveness of provisions

Th**e policy package for pastoral farming is part of the suite of plan provisions designed to achieve the sediment related objectives in Te Awarua-o-Porirua FMU; P.O1, P.O2, P.O3 and P.O4 and in Te Whanganui-a-Tara FMU; WH.O1, WH.O2, WH.O3, WH.O8 and WH.O9. The outcome sought is to reduce the sediment in the rivers in Te Awarua-o-Porirua and Te Whanganui-a-Tara, and the rate of sedimentation in Porirua Harbour and Mākara Estuary, to improve the ecosystem health and well-being of these water bodies, and consequently improve the well-being of the people who are associated with and use these waterbodies.**
Intent of this policy package: Pastoral farming is a major contributor of sediment to water bodies and contributes nutrients (nitrogen, nitrate and phosphorous) and *E. coli* to water bodies. Grazing of erosion-susceptible land and stock access to freshwater bodies contributes to sediment in freshwater, estuaries, and coastal water. Rainfall run-off from rural land to rivers and lakes contains soil sediment. Rainfall events can generate land slip, land surface and riverbank erosion. Generally, the more intensive the rural land use in a catchment is, the higher the load of sediment in freshwater. Sediment is a major issue for Te Awarua-o-Porirua and Te Whanganui-a-Tara. In Te Awarua-o-Porirua sediment from land disturbance and erosion has caused and continues to cause significant, long-term degradation of the values of Porirua Harbour and Pāuatahanui Inlet. In Te Whanganui-a-Tara sediment is causing effects in rivers and streams (e.g., lower Te Awa Kairangi, and Wainuiomata rural streams) and in estuaries (e.g., Mākara). To control sediment to meet the outcomes for rivers in Te Awarua-o-Porirua, Pāuatahanui Inlet and Porirua Harbour, and rivers and estuaries in Te Whanganui-a-Tara, will require a concerted effort to reduce sediment from all sources. A combination of regulation of land uses including pastoral farming, discharges of sediment, farm-scale erosion treatment plans and Freshwater Action Plans will be required. This will include increased support to permanently revegetate and treat land with high erosion risk, avoiding soil disturbance for land use activities, undertaking planting of, and managing, riparian margins, and keeping livestock out of water bodies. The control of sediment from pastoral farming has co-benefits for managing *E. coli* from livestock, and nutrients, particularly phosphorous as this element is bound to, and transported into water, with sediment.

Policy package Option 1 – preferred option

Sediment discharge modelling undertaken for the WIPs indicated that significant changes to current land use and land use practices in the catchments will be required to achieve the reduction in sedimentation rates set in the WIPs and to meet the TAS under NPS-FM.

The changes in land use necessary to meet the WIP recommendations for sediment reduction targets and land use, and to meet TAS include retirement from grazing of all LUC class 7e and 8e land, and erosion management (pole) planting of LUC class 6e land (land class identified on property-scale), which is currently in pasture, and creating a minimum 10m-wide vegetated riparian margin on rivers. The LUC classification system, which describes the limitations to the use for land for agricultural production, is not a specific indicator of erosion risk.

The identification of pastoral farmland in the FMUs that is at high risk of erosion has been undertaken using LiDAR digital terrain data to generate maps showing pastoral grazing land that has high risk of erosion, and within this identify the land with the highest risk of erosion. These maps are included in PC1.The policy approach is to achieve revegetation of the highest erosion risk land with permanent woody vegetation, and to have the remaining high erosion risk land treated with appropriate soil conservation and erosion control measures, such as pole planting, sediment traps and wetland enhancement or establishment. Stock exclusion from rivers and the establishment and maintenance of vegetated riparian margins will also contribute to the reduction in sediment entering rivers.

The delivery of these interventions will be through the NRP regulated farm environment plan framework, using an erosion risk treatment plan, in concert with the national regulations for Freshwater Farm Plans, for properties of 20ha or more. The national Stock Exclusion regulations, where these apply, will also assist to achieve reduction in sediment entering rivers. On farms smaller than 20ha the landowners will be assisted to address erosion and sediment generation from pastoral land use on their properties through individual or community programmes delivered by Freshwater Action Plans.

The Greater Wellington Regional Erosion Control Initiative (WRECI) has been in operation for many years, is voluntary, and while the programmes provide some financial support for land use change, including retirement of and planting on grazing land, and erosion management on individual properties with engaged owners, there is no regulatory requirement for landowners to engage, potentially limiting the extent of implementation and overall effectiveness of erosion treatments and thereby sediment reduction achieved. These programmes will be combined with NRP regulated farm environment plans and national Freshwater Farm Plans.

An NRP regulatory farm environment plan would integrate with a Freshwater Farm Plan expressing targets for interventions to reduce sediment discharges from pastoral farming. The policy is for a staged approach, to achieve steps to initiate revegetation of 50% of the highest risk erosion land within 10 years, with the remaining land treated by 2040.

This policy approach implements or partially implements recommendations in the WIPs and mana whenua implementation programme, relating to sediment source identification and prioritisation, and interventions to reduce sediment from pastoral farming. These recommendations are:

Te Awarua-o-Porirua WIP recommendations 58, 59, 60, 61, 63 and 64 which all relate to identifying sources of sediment loss from farming in the Whaitua, then to develop a regulatory framework and deliver implementation support to landowners, including Greater Wellington itself.

Te Whanganui-a-Tara WIP recommendations 33, 34, 35, 36 that relate to supporting landowners to implement farm plans, exclude stock from waterbodies and revegetate land with native species.

Te Mahere Wai recommendations 25 and 67 that the steep rural land within the Southwest Coast Wāhi Wai Māori (FMU) is retired to allow native forest regeneration, to protect āku waiheke (small streams) and te mātāpuna and the receiving coastal environment.

The preferred policy package includes:

<u>Definitions</u>

Erosion risk treatment plan

Highest erosion risk land (pasture)

High erosion risk land (pasture)

<u>Policies</u>

- Reduce sediment from farming of high erosion risk land by requiring farm environment plans (FEPs) and erosion risk treatment plans to revegetate highest risk areas and treat high risk areas.
- Greater Wellington to increase incentives and resources for landowners to facilitate land use change to reduce sediment discharge.

<u>Rules</u>

- Permitted activity rule requires small (4 – 20ha) farms with high erosion risk land to register with Greater Wellington

- Permitted activity rule requires a certified farm plan that incorporates erosion and soil conservation treatments on farms >20ha to progressively revegetate highest erosion risk land and treat other land at high risk of erosion. Part FMUs are prioritised for this intervention, based on highest current and recent sediment loads.
- Discretionary Activity rule if permitted activity rules not complied with, and farm is not in a part FMU where TAS for visual clarity is not met.
- Non-complying Activity rule if discretionary activity conditions for visual clarity are not met.

Other Method

- Greater Wellington progressively, and based on risk priority, develops catchment-scale erosion and sediment management programmes which include sufficient levels of financial assistance/incentives to achieve necessary land use changes on properties with land at risk of erosion.

Schedules

- Erosion Risk Treatment Plan, objectives, and targets

Maps

- Erosion Risk Maps for land in pasture

Policy package Option 2 – Status quo

The status quo policy package for managing sediment from pastoral farming in these FMUs consists of NRP provisions and national regulations, NESFW 2020 and Stock Exclusion Regulations 2020. These existing regulatory provisions do not directly address the issue of sediment generated from pastoral farming in these FMUs. Non-regulatory measures include Greater Wellington land management farm plans that are voluntary. The property treatment programme is developed by Greater Wellington Environment Restoration Advisors with the landowner/manager. Treatments include hill country erosion planting, riparian planting, soil conservation woodlots and land retirement. Funding is also available for incentivising good management practices for agricultural land use. Landowners can access financial support from Greater Wellington of between 35-50% of costs to implement the treatment programme.

Policy package Option 3

Option 1 + rules to regulate land use change from pastoral farming to restore vegetation on all highest risk erosion land and treat high erosion risk land. This option introduces a higher level of regulation than option 1, which is implemented via the FEP/FWFP. Option 3 would require a resource consent to farm on the high and highest erosion risk land, requiring landowners to change land use from pastoral farming to

permanent woody vegetation cover on highest erosion risk land and implement soil conservation and erosion control measures on high erosion risk pastoral land.			
	Option 1 (Preferred)	**Option 2 (Status quo)**	**Option 3 (Alternative with additional measures)**
Costs:			
Environmental	Medium: This approach is predicted to progressively reduce loads of sediment generated from pastoral farming, over time. The environmental costs of sediment to water quality, ecosystem health and people will endure, while the mitigations to reduce sediment take effect.	High: The existing environmental costs of sediment, including from pastoral farming entering water bodies in these FMUs is very high. The existing policy framework has not adequately addressed the issue, so little or no reduction in environmental costs can be expected.	Medium: While this approach is predicted to more quickly reduce loads of sediment generated from pastoral farming, over time than option 1, the environmental costs of sediment to water quality, ecosystem health and people will endure, while the mitigations to reduce sediment take effect.
Social	Medium: The requirement to develop a certified farm plan with erosion risk treatment programme is expected, for some areas of a property with high erosion risk land, to initiate land use change from pastoral farming. For landowners this may be disruptive to established farming patterns that may have consequences for their well-being.	High: The existing social costs of sediment including from pastoral farming entering water bodies in these FMUs is very high. The existing policy framework has not adequately addressed the issue, so little or no reduction in the community's expectation for environmental improvement can be expected.	Medium: The requirement to change land use for areas of a pastoral farming property with high erosion risk is expected to be disruptive to landowners' established farming practices and their current state of well-being.
Economic	High: The requirement to develop an erosion risk treatment plan is	Low: The economic costs of the existing policy framework are low,	High: The requirement to change land use on land areas of a property

	expected, for some areas of a property with high erosion risk land, to initiate land use change from pastoral farming. This could result in reduced revenue from land no longer in pastoral farming. The scale of works needed, and the cost, to implement the interventions will be high. These costs may not be able to be reasonably borne by the landowners, and it will be important to provide some level of external financial and physical support to ensure the policy package is implemented and the outcome achieved.	with only limited resources being applied to sediment reduction measures on some pastoral farms, through Greater Wellington land management programmes.	with high erosion risk, from pastoral farming, is expected to result in reduced revenue from land no longer in pastoral farming. The scale of works needed, and the cost, to implement the interventions will be high. These costs may not be able to be reasonably borne by the landowners, and it will be important to provide some level of external financial and physical support to ensure the policy package is implemented and the outcome achieved.
Cultural	Very High but reducing to Medium: The costs to mana whenua from the sedimentation of rivers, estuaries and harbours, and consequential loss of mahinga kai and taonga is very high. Reduction in sedimentation and improvement in these values will take some years, so the current cost will continue for the medium term. The exact extent of long-term improvement that will be achieved is uncertain at present.	Very High: The costs to mana whenua from the sedimentation of rivers, estuaries and harbours, and consequential loss of mauri, mahinga kai and taonga is very high. The existing policy framework is inadequate to bring about the improvements needed to reduce the cultural cost.	Very High but reducing to Medium: The costs to mana whenua from the sedimentation of rivers, estuaries and harbours, and consequential loss of mahinga kai and taonga is very high. Reduction in sedimentation and improvement in these values will take some years, so the current cost will continue for the medium term. The exact extent of long-term improvement that will be achieved is uncertain at present but is expected to be quicker under this option than for option 1.

Benefits:			
Environmental	Medium increasing to High: The progressive revegetation and stabilisation of high-risk erosion land will, eventually, deliver high environmental benefits as the loss of sediment from land to water bodies reduces, water quality improves and ecosystem health recovers. The revegetation of land may also provide opportunities for carbon sequestration and enhancing indigenous biodiversity, which may also produce additional significant environmental benefits.	Low to Very low: The environmental benefits from the existing policy framework are very low to none, as the current degraded environmental state has largely developed under this framework.	Medium increasing to High: The progressive revegetation and stabilisation of high-risk erosion land is expected under this option to deliver high environmental benefits more rapidly as the loss of sediment from land to water bodies reduces, water quality improves and ecosystem health recovers. The revegetation of land may also provide opportunities for carbon sequestration and enhancing indigenous biodiversity, which may also produce additional significant environmental benefits.
Social	Medium increasing to High: The social benefit from lowered sedimentation loads in rivers, estuaries and the harbour will be high as the values of these water bodies for cultural use, amenity and recreation are restored.	Low to Very Low: The social benefits from the existing policy framework are very low to none, as the current degraded environmental state has largely developed under this framework.	Medium increasing to High: The social benefit from lowered sedimentation loads in rivers, estuaries and the harbour will be high as the values of these water bodies for cultural use, amenity and recreation are restored.
Economic	Low: The economic benefits of revegetated land, reduced erosion of land and sedimentation in the water bodies are expected to be low. Opportunities for earning carbon or biodiversity credits may	Low: The economic benefits from the existing policy framework are largely derived from unsustainable land uses and not using financial and physical resources to address	None: It is expected there will be no economic benefits from regulating to change land use and revegetate land.

	provide for some revenue from the land that is no longer used for pastoral farming. On a farm, the separation of highest erosion risk land and soil conservation treatment of high erosion risk land may provide for minor increases in productivity from the farm as the more productive areas are separated from less productive areas, allowing for increased production on the better suited land.	the environmental degradation, allowing this to persist.	
Cultural	High to Very High: There will be high to very high cultural benefits eventually derived from the reduction in sediment entering water bodies. The restoration of mana whenua values of rivers, estuaries and Porirua Harbour will bring significant benefits for the health and well-being of Ngāti Toa tangata, Māori and the people of Wellington Region.	Very Low: The cultural benefits from the existing policy framework are very low to negative, as the current degraded environmental state has largely developed under this framework.	High to Very High: There will be high to very high cultural benefits derived from the reduction in sediment entering water bodies as quickly as possible. The restoration of mana whenua values of rivers, estuaries and Porirua Harbour will bring significant benefits for the health and well-being of Ngāti Toa tangata and the people of Wellington Region.
Effectiveness:			
How successful will you be in providing the outcome set by the objective?	The reduction of sediment from pastoral farming is one of a suite of actions necessary to contribute towards meeting the targets for sedimentation, and the objectives	The existing policy framework is unsuccessful at achieving outcomes set by objectives in NRP, WIPs or national instruments.	Regulations to require land use change are not expected to be significantly increase the contribution that pastoral farming will make to meeting the targets for

	for water quality, ecosystem health, cultural well-being in the water bodies. This policy package will not, on its own achieve the outcome set by the objectives but will be a significant component of the suite of actions needed.		sedimentation, and the objectives for water quality, ecosystem health, cultural well-being in the water bodies.
Efficiency:			
Do the benefits of the option outweigh the costs?	The net benefits to society will be high and while the monetary costs to achieve this will also be high, the benefits will outweigh the costs.	This existing policy framework is not successful. While costs may be low the benefits are lower still.	The net benefits to society will be high but the monetary costs to landowners to achieve this will be disproportionately high.
Risks of acting or not acting if there is uncertain or insufficient information:	The nature and scale of the problem is well understood, as are the interventions needed to bring about the changes to meet outcomes set in objectives.		
Overall evaluation	The status quo policy package does not provide effective measures to address the problem of sediment from pastoral farming amongst other land uses in these FMUs. Option 1 policy package will provide effective responses to address the problem of sediment from pastoral farming, over time, in these FMUs. The package balances targeted interventions on land that presents a high risk of erosion, staged over time, with landowner support from Greater Wellington to implement the measures necessary. This package has a regulatory foundation that seeks to work cooperatively with landowners, but has the tools, if needed, to use regulatory powers. While it is possible that Option 3 package could generate improvements faster than Option 1, it will require landowners to go through a resource consent process before embarking on the sediment risk treatment programme for the farm. The cost and time taken for this consent process is detracting from the implementation of measures to achieve the outcomes.		

5.1.5 Plantation forestry and woody vegetation clearance and - efficiency and effectiveness of provisions

The policy package for plantation forestry and woody vegetation clearance on high erosion risk land is part of the suite of plan provisions designed to achieve the sediment related objectives in Te Awarua-o-Porirua FMU; P.O1, P.O2, P.O3 and P.O4 and in Te Whanganui-a-Tara FMU; WH.O1, WH.O2, WH.O3, WH.O8 and WH.O9. The outcome sought is to reduce the sediment in the rivers in Te Awarua-o-Porirua and Te Whanganui-a-Tara, and the rate of sedimentation in Porirua Harbour and Mākara Estuary, to improve the ecosystem health and well-being of these water bodies and consequently improve the well-being of the people who are associated with and use these waterbodies and consequently improve the well-being of the people who are associated with and use these waterbodies.

Intent of this policy package:

Amongst the rural land use activities that have associated land disturbance and discharges of sediment is plantation forestry, and other woody vegetation clearance activities. Many elements of plantation forest establishment, management and operations involve land disturbance that generates sediment discharge to water. Forestry is a major land use in the Te Awarua-o-Porirua and Te Whanganui-a-Tara Whaitua, undertaken on 13.5% and 8% respectively, of the land area of these FMUs. Much of this forestry is located on steep land in the higher elevation areas of the FMUs and this plantation forest area has recently reached or is nearing commercial maturity, so harvesting is consistently occurring and expected in these FMUs. The removal of woody vegetation from highest risk erosion land that is not plantation forestry also involves land disturbance that generates sediment discharge to water.

Degradation from sediment in water bodies and their aquatic ecosystems and values is a major issue for Te Awarua-o-Porirua and Te Whanganui-a-Tara. In Te Awarua-o-Porirua sediment from land disturbance and erosion has caused and continues to cause significant, long-term degradation of the values of Porirua Harbour and Pāuatahanui Inlet. In Te Whanganui-a-Tara sediment is causing localised effects in some river estuaries (e.g., Mākara) and in rivers (e.g., lower Te Awa Kairangi and Wainuiomata).

To control sediment to meet the outcomes for rivers in Te Awarua-o-Porirua, Pāuatahanui Inlet and Porirua Harbour, and rivers and estuaries in Te Whanganui-a-Tara, will require a concerted effort to reduce sediment from all sources. A combination of regulation of land uses and discharges will be required, including through increased incentives and rules to permanently revegetate high risk erosion land, and avoiding soil disturbance for land use activity from activities on land with high risk of erosion, and in riparian margins.

Policy package Option 1 – preferred option

Policy package Option 1 is to introduce regional rules for plantation forest operations and replace NRP rules for woody vegetation clearance in these FMUs. Plantation forest operations create extensive land disturbance for forest establishment, management and harvest that can generate sediment that enters rivers, estuaries, and the harbours in these FMUs. Woody vegetation clearance on high erosion risk land, outside of plantation forests, can also contribute to sediment entering water bodies.

The existing regime for commercial forestry operations contributes to the sedimentation issues being addressed by Plan Change 1. Current plantation forest management practices and the regulatory framework are not adequate to address the improvement needed to meet objectives for water quality, ecosystem health and mana whenua values in these FMUs.

In these FMUs, plantation forest management is currently only subject to the regulations of the NES-PF, that came into force on 1 May 2018. From 03 November 2023, the NES-PF will be replaced by the Resource Management (National Environmental Standards for Commercial Forestry) Regulations 2023 (NES-CF). The NES-CF extends the NES-PF to cover carbon forests as well as plantation forests, so the Plan Change 1 provisions applying to forestry are expected to remain appropriate with respect to the NES-CF, with some amendments to terminology. As the NES-CF will not be in effect at the date of notification of Plan Change 1, any amendments will be managed through the submissions and decision-making process.

The NES-PF provides that regional plan rules can be more stringent than the regulations only in specified circumstances, however the operative NRP does not encompass any of these circumstances. The NES-PF regulations apply controls on a range of land use activities and discharge of sediment associated with commercial plantation forestry, including afforestation, silviculture, earthworks, mechanical land preparation, river crossings, quarrying, harvesting, and replanting and associated discharge of sediment to water, disturbance of a riverbed or vegetation in the bed, and disturbance of wetlands.

All plantation forestry activities in these FMUs are permitted activities under the NES-PF regulations, because there is no land in these FMUs that is identified on the NES-PF erosion susceptibility classification system to be of very high (red) risk. The erosion susceptibility mapping undertaken for Greater Wellington (Easton S., Nation T., Blyth J., 2023) shows that there is land that is currently used for plantation forestry in these FMUs that has a very high risk of erosion.

While the NES-PF permissions are subject to conditions, including requirements to notify the regional council of activities, and preparation of management plans for earthworks and harvesting, there is no quality assurance or approval process for these plans. The Regional Council can recover cost of on-site monitoring of some activities, including harvesting authorised by the NES-PF, but compliance experience is that often poor practices have already resulted in adverse effects by the time these are discovered.

The NES-PF regulation 6(1) provides that regional rules can be more stringent than NES-PF rules in specified circumstances, including to give effect to achieving objectives to meet NPS-FM, or to implement policies of NZCPS 2010. The future management of plantation forestry activities in these FMUs must contribute to the reduction in sediment needed to achieve the improvement in water quality required to meet the Plan objectives for rivers, estuaries, and harbours to give effect to the WIPs and the NPS-FM, in these FMUs.

Woody vegetation clearance, outside of plantation forestry, on land with highest erosion risk can also disturb the land surface and/or increase the risk of erosion of the land, contributing sediment to water bodies.

This option package is to deliver actions to ensure that plantation forestry does not establish or endure on highest erosion risk land, and that the most appropriate management practices are employed in plantation forestry and for woody vegetation clearance on highest erosion risk land.

This policy approach implements or partially implements recommendations in the WIPs and mana whenua implementation programme, relating to sediment source identification and prioritisation, and interventions to reduce sediment from plantation forestry and woody vegetation clearance. These recommendations are:

- Te Awarua-o-Porirua WIP recommendations 54 and 55 relating to improving the management of plantation forestry to reduce sediment.
- Te Whanganui-a-Tara WIP recommendation 37 that is to promote best practices in plantation forestry and monitor for compliance.
- Te Mahere Wai recommendations 76, 77, 78 that seek that plantation forest harvest plans, including for Greater Wellington land, are approved by Mana Whenua, and harvest is excluded in Korokoro Wahi Wai Māori (FMU)

The preferred policy package includes:

New Definitions

- Erosion and sediment management plan
- Highest erosion risk land (plantation forestry)
- Highest erosion risk land (woody vegetation)
- Registered forestry adviser

New Maps

- Maps of highest erosion risk land in plantation forestry
- Maps of highest erosion risk land in woody vegetation

New Policy

- Reduce sediment from plantation forestry by identifying highest erosion risk land, discontinuing plantation forestry on this land, require certified erosion and sediment management programmes for plantation forestry.

New Rules

- Resource consent for a controlled activity for plantation forestry and associated discharge of sediment to a surface water body, subject to conditions about land erosion risk, sediment discharge standards, an erosion and sediment management plan prepared by a suitably qualified person, catchment water quality limits for sediment are met and mana whenua input, otherwise discretionary activity.
- New or replacement plantation forestry on highest erosion risk land is a prohibited activity.
- Vegetation clearance on highest erosion risk land is a permitted activity but only if for pest plant management or to implement an erosion risk treatment plan.
- Resource consent as a controlled activity for vegetation clearance on highest erosion risk land subject to an erosion and sediment management plan.

New Schedules

- Erosion and sediment management plans for plantation forestry, and vegetation clearance on highest erosion risk land.

Policy package Option 2 – Status quo

The status quo policy option package comprises RMA NES-PF regulations for plantation forestry and NRP policy and rules for vegetation clearance.

RMA NES Plantation Forestry 2017 (NES-PF)

As described in Policy Option 1, in these FMUs, plantation forest management is currently subject to the regulations of the NES-PF, that came into force on 1 May 2018. The NES-PF regulations apply controls on a range of land use activities and discharge of sediment associated with commercial plantation forestry, including; afforestation, silviculture, earthworks, mechanical land preparation, river crossings, quarrying, harvesting, and replanting and associated discharge of sediment to water, disturbance of a riverbed or vegetation in the bed, and disturbance of wetlands. All plantation forestry activities in these FMUs are permitted activities under the NES-PF regulations, because there is no land in these FMUs that is identified on the NES-PF erosion susceptibility classification system to be of very high (red) risk.

While the NES-PF permissions are subject to conditions, including requirements to notify the regional council of activities, and preparation of management plans for earthworks and harvesting, there is no required quality assurance or approval process for these plans. The Regional Council can recover cost of on-site monitoring of some activities, including harvesting authorised by the NES-PF, but compliance experience is that often poor practices have already resulted in adverse effects by the time these are discovered.

NRP Rules:

NRP has a suite of rules to manage vegetation clearance[3] on erosion prone land[4]. NRP rules do not apply to activities authorised by the NES Plantation Forestry.

The NRP rules for vegetation clearance authorise as a permitted activity:

- Rule R104 authorises vegetation clearance of up to 2 hectares of erosion prone land per property in a 12-month period, and associated sediment discharge to land or water.
- Rule R105: Vegetation clearance on erosion prone land, and associated discharge of sediment, expressly allowed for in a Freshwater Farm Plan.

Other NRP rules require resource consent for vegetation clearance on erosion prone land:

[3] **Vegetation clearance** defined as: The clearance or destruction of woody vegetation (exotic or native) by mechanical or chemical means, including felling vegetation, spraying of vegetation by hand or aerial means, hand clearance, and the burning of vegetation.
Vegetation clearance does not include:
(a) any **vegetation clearance**, tree removal, or trimming of vegetation associated with the *Electricity (Hazards from Trees) Regulations 2003*, and
(b) any **vegetation clearance** or vegetation disturbance covered by the *Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017*, and
(c) any **vegetation clearance** associated with the repair and maintenance of existing roads and tracks, and
(d) the removal of an individual shrub or tree or a standalone clump of trees or shrubs no larger than 20m^2.

[4] **Erosion prone land** defined as: The pre-existing slope of the land exceeds 20 degrees.

- Rule R106 Earthworks and vegetation clearance for renewable energy generation is a Restricted Discretionary Activity
- Rule R107: Earthworks or vegetation clearance on erosion prone land that doesn't comply as a permitted or RD activity is a discretionary activity.

Policy package Option 3 – Option 1 plus rules to require land use change.

Policy package option 3 builds on option 1, with rules to require land use change to exclude plantation forestry land on broader areas of high-risk erosion land and to restore to native vegetation, and vegetation clearance activities. The implementation of this policy option will require an additional policy and rule.

New Policy

- Greater Wellington to regulate to change existing land use under plantation forestry over areas of high and highest erosion risk land.

New Rule

- Require retirement/restoration of plantation forestry land with high or very high erosion risk.

	Option 1 (Preferred)	**Option 2 (Status quo)**	**Option 3 (Alternative with additional measures)**
Costs:			
Environmental	Very High but reducing to Medium: This approach will commence to reduce loads of sediment generated from plantation forestry and vegetation clearance on high erosion risk land, as the provisions take effect. However, the contribution of sediment reduction from these activities in these FMUs may be relatively slow, so the overall environmental costs of sediment to	Very High: The existing environmental costs of sediment, including from plantation forestry and vegetation clearance on high erosion risk land entering water bodies in these FMUs is very high. The existing policy framework has not adequately addressed the issue, so little or no reduction in environmental costs can be expected.	Very High but reducing to Medium: This approach is predicted to progressively reduce loads of sediment generated from plantation forestry over time but may occur more rapidly than option 1. The environmental costs of sediment to water quality, ecosystem health and people will endure, while the mitigations to reduce sediment take effect.

	water quality, ecosystem health and people will endure, while these and mitigations to reduce sediment from other activities take effect.		
Social	Low: The social cost of this policy option will largely sit with plantation forest owners and industries that support the forestry sector. The cessation of future plantation forestry on highest risk erosion land, setting of sediment discharge limits and implementation and monitoring of industry best practice operating methods in the forest operations will have a low social cost.	Very High: The existing social costs resulting from sediment, including from plantation forestry and vegetation clearance on high erosion risk land entering water bodies in these FMUs is very high. The loss of values for the waterbodies for recreation and amenity is very high for all people.	Low: The social cost of this policy option will largely sit with plantation forest owners. The requirement to change land use on areas of plantation forestry with high erosion risk and to set sediment discharge limits on discharge from land in plantation forestry will have a low social cost.
Economic	Medium: The requirement for a resource consent and to prepare sediment and erosion management plans for plantation forestry, including to achieve and demonstrate compliance with sediment discharge limits will incur additional costs to forest/landowners but much of this information is already required under the NES-PF regulations and industry best practice guidelines. The cessation of future plantation forestry on highest risk erosion land may incur future economic costs for forest/landowners and related	Low: The economic costs of the existing policy framework are low, with only very limited resources being applied to implementing or monitoring sediment reduction measures in plantation forestry or vegetation clearance on erosion prone land.	Medium to High: The cessation of future plantation forestry on high and highest risk erosion land will incur future economic costs for forest/landowners and related industries. Future revenue from this land may be reduced as it is no longer used for plantation forestry.

	industries. The future revenue from this land may be reduced as it is no longer used for plantation forestry. The highest risk erosion land is also generally the least favourable land for plantation forestry due to accessibility issues and lower productivity, creating higher operating costs and lower margins. Therefore, the economic cost of ceasing future plantation forestry on this land may be low.		
Cultural	Very High but reducing: The costs to mana whenua from the sedimentation of rivers, estuaries and harbours, and consequential loss of mahinga kai and taonga is very high. Reduction in sedimentation and improvement in these values will take some years, so the current cost will continue for the medium term.	Very High: The costs to mana whenua from the sedimentation of rivers, estuaries and harbours, and consequential loss of mauri, mahinga kai and taonga is very high. The existing policy framework is inadequate to bring about the improvements needed to reduce the cultural cost.	Very High but reducing: The costs to mana whenua from the sedimentation of rivers, estuaries and harbours, and consequential loss of mahinga kai and taonga is very high. Reduction in sedimentation and improvement in these values will take some years, so the current cost will continue for the medium term.
Benefits:			
Environmental	Increasing to High: The progressive cessation of plantation forestry and revegetation and stabilisation of highest risk erosion land will, eventually, deliver high environmental benefits as the loss of sediment from land to water bodies reduces, water quality improves and	Very Low: The environmental benefits from the existing policy framework are very low to none, as the current degraded environmental state has largely developed under this framework.	Increasing to High: The progressive cessation of plantation forestry on and revegetation and stabilisation of high and highest risk erosion land is expected to, at a faster pace than option 1, deliver high environmental benefits as the loss of sediment from land to water bodies reduces, water

	ecosystem health recovers. The revegetation of land in permanent forest may also provide opportunities for carbon sequestration and enhancing indigenous biodiversity, which may also produce additional significant environmental benefits.		quality improves and ecosystem health recovers. The revegetation of land in permanent forest may also provide opportunities for carbon sequestration and enhancing indigenous biodiversity, which may also produce additional significant environmental benefits.
Social	Increasing to High: The social benefit from lowered sedimentation loads in rivers, estuaries and the harbour will be high as the values of these water bodies for cultural use, amenity and recreation are restored. Retaining vegetation on high erosion risk land and revegetating land as permanent forest will also bring social benefits derived from increased carbon sequestration and enhanced biodiversity.	Very Low: The social benefits from the existing policy framework are very low to none, as the current degraded environmental state has largely developed under this framework.	Increasing to High: The social benefit from lowered sedimentation loads in rivers, estuaries and the harbour will be high as the values of these water bodies for cultural use, amenity and recreation are restored. Retaining vegetation on high erosion risk land and revegetating land as permanent forest will also bring social benefits derived from increased carbon sequestration and enhanced biodiversity.
Economic	Low: The economic benefits of plantation forestry land being revegetated to permanent vegetation is expected to be low. Opportunities for earning carbon or biodiversity credits may provide for some revenue from the land that is no longer used for plantation forestry or land upon which vegetation is retained as permanent forest.	Low: The economic benefits from the existing policy framework are largely derived from not using financial and physical resources to address the environmental degradation, allowing this to persist.	Low: The economic benefits of plantation forestry land being revegetated to permanent vegetation are expected to be low. Opportunities for earning carbon or biodiversity credits may provide for some revenue from the land that is no longer used for plantation forestry or land upon which vegetation is retained as permanent forest.

Cultural	Increasing to Very High: There will be high to very high cultural benefits eventually derived from the reduction in sediment entering water bodies. The restoration of mana whenua values of rivers, estuaries and Porirua Harbour will bring significant benefits for the health and well-being of Ngāti Toa tangata, Māori and the people of Wellington Region. The contribution to the cultural benefits will be from progressive cessation of plantation forestry and restoration of permanent forest on high erosion risk land and avoiding vegetation removal unless necessary to achieve broader goals.	Very Low: The cultural benefits from the existing policy framework are very low to negative, as the current degraded environmental state has largely developed under this framework.	Increasing to Very High: There will be high to very high cultural benefits eventually derived from the reduction in sediment entering water bodies. The restoration of mana whenua values of rivers, estuaries and Porirua Harbour will bring significant benefits for the health and well-being of Ngāti Toa tangata and the people of Wellington Region. The contribution to the cultural benefits will be from progressive cessation of plantation forestry and restoration of permanent forest on high erosion risk land and avoiding vegetation removal unless necessary to achieve broader goals.
Effectiveness:			
How successful will you be in providing the outcome set by the objective?	The reduction of sediment from plantation forestry and vegetation clearance on high erosion risk land is one of a suite of actions necessary to contribute towards meeting the targets for sedimentation, and the objectives for water quality, ecosystem health, cultural well-being in the water bodies. This policy package will not, on its own achieve the outcome set by the objectives.	The existing policy framework is unsuccessful at achieving outcomes set by objectives in NRP, WIPs or national instruments.	The reduction of sediment from plantation forestry and vegetation clearance on high erosion risk land is one of a suite of actions necessary to contribute towards meeting the targets for sedimentation, and the objectives for water quality, ecosystem health, cultural well-being in the water bodies. This policy package will not, on its own achieve the outcome set by the objectives.

Efficiency:			
Do the benefits of the option outweigh the costs?	The net benefits to society will be high and the monetary costs to achieve this will be medium, so the benefits outweigh the costs.	This existing policy framework is not successful. While costs may be low the benefits are lower still.	The net benefits to society will be high and the monetary costs to achieve this could also be high, so the benefits may not outweigh the costs.
Risks of acting or not acting if there is uncertain or insufficient information:	The nature and scale of the problem is well understood, as are the interventions needed to bring about the changes to meet outcomes set in objectives.		
Overall evaluation	Policy option 1 will provide effective responses to address the problem of sediment from plantation forestry and vegetation clearance on high erosion risk land, over time, in these FMUs. The package provides targeted interventions for activities on land that present a high risk of erosion. Option 2, the existing policy package does not provide effective measures to address the problem of sediment from plantation forestry or vegetation clearance, amongst other land uses in these FMUs. While policy Option 3 will provide effective responses to address the problem of sediment from plantation forestry over time and avoid sediment discharge from vegetation clearance on high erosion risk land in these FMUs, the higher level of intervention than is proposed by policy option 1 is not warranted at this time. If monitoring of the implementation of option 1 indicates that it is not delivering the actions and results expected, the higher level of regulatory intervention under this option 3 should be reconsidered for plantation forestry and vegetation removal activities on land that presents a high risk of erosion.		

6. Discharge of nutrients and microbial pathogens

6.1 Relevant objectives

1. Rural discharges can affect a range of freshwater values and hence the management of those discharges contributes to achieving all the objectives of proposed new Chapters 8 and 9 of the NRP. In particular, rural discharges of nutrients and microbial contaminant discharges are directly relevant to achieving outcomes related to aquatic ecosystem health, human health and cultural values as included within Objectives WH.O2, WH.O3, WH.O5, WH.O8, WH.O9 P.O2, P.O3, P.O6 and associated TASs in Tables 8.3, 8.4, 9.1, 9.2. These potential effects on outcomes are described in 6.2 below.

6.2 Policy context – problem/issue

2. Farming land use activities produce diffuse discharges of nitrogen (N), phosphorus (P), sediment and microbial pathogens (as indicated by the presence of *E. coli*). Sediment is addressed in *the Discharge of Sediment from Land disturbance* (section 5) above. Because P is typically bound to sediment, that too is largely addressed by the section 5. above - Sediment from Land disturbances.

3. N is *'lost'* from farming systems both in terms of leaching below the rootzone (and hence to groundwater) and by overland flow to surface water. A primary source of N leached to groundwater is animal urine patches which produce concentrations of nitrogen in excess of that that can be absorbed by pasture. The direct deposition of dung and urine into waterways can also result where stock have access to water bodies. This results in direct discharges of N (as well as P and microbial pathogens).

4. Apart from natural sources, N inputs to farm systems occur principally as nitrogen fertiliser and/or as supplementary feed. By providing more feed than can be 'naturally' produced on the land, these inputs allow for greater stocking rates to be maintained, including over winter months (and hence more urine patches/dung).

5. In addition, N fertiliser can be a source of direct N discharge to water especially when it is poorly applied and/or applied in excess of pasture/crop needs. In these instances, it can dissolve and leach to groundwater or be transported to streams as overland flow.

6. Elevated N levels in freshwater can have a range of effects. At high concentrations (beyond 11.3 mg/L nitrate-nitrogen) nitrogen can make water unsafe for drinking[1]. At lower concentrations in surface water nitrate-nitrogen can be toxic to aquatic life. At lower levels still, N (in combination with P) can lead to undesirable biological growths in water (e.g., periphyton/slime and

[1] Nitrate concentrations in the two Whaitua are well below the drinking water standard and in most cases sit with in the A band as set out in the NPS-FM.

macrophytes) leading to significant change to habitat and diminished ecological values.

6.3 Nutrient requirements of the NPS-FM

7. The NOF identifies several nutrient and nutrient-related attributes. The nutrient attributes are:

- Nitrate and ammonia (with bands set to represent levels of toxicity to aquatic life). These are Appendix 2A attributes meaning limits to achieve the nitrate and ammonia TASs are mandatory.

- Total Nitrogen and Total Phosphorus (relevant to the trophic state of Lakes). Again, these are Appendix 2A attributes meaning limits to achieve the TASs are mandatory.

- Dissolved Reactive Phosphorus. This is an Appendix 2B attribute meaning limits are not mandatory (also there is no national bottom line specified).

8. The nutrient-related provisions are attributes that can be affected by elevated nutrient levels. Examples of these are set out in Clause 13.3 of the NPS-FM and include:

- Periphyton
- Dissolved oxygen
- Submerged plants
- Fish
- Macroinvertebrates
- Ecosystem metabolism.

9. Clause 3.13 of the NPS-FM requires PC1 to set "*appropriate in-stream concentrations and exceedance criteria, or in-stream loads, for nitrogen and phosphorus*" to achieve the nutrient and nutrient-related TASs.

6.4 Microbial pollution and the NPS-FM

10. As noted above, contamination from microbial pathogens occurs from stock depositing dung directly into water bodies. It also occurs by way of pathogens being entrained in, and transported by, overland flows during and immediately after rain. Microbial contamination can make water bodies unsafe for contact recreation or for the harvest of mahinga kai.

11. The NPS-FM specifies *E. coli* as an Appendix 2A attribute requiring the setting of limits. In rural areas, limits to achieve *E. coli* target attribute states need to address (principally) the extent of stock exclusion and the management of critical source areas on farms (such as stock holding areas).

6.5 Where relevant TASs and nutrient in stream concentrations and criteria are exceeded

12. The applicable TASs and nutrient criteria are set out in full in Tables 8.2, 8.3, 8.4 and 9.2 of PC1. In terms of the rural part FMUs/catchments, they are exceeded as set out in Table D7 below.

Table D7: Part FMUs where farming-relevant target attribute states and maximum nutrient concentrations are not currently met

	Target attribute states		Nutrient concentrations and criteria	
	Sediment	***E. coli***	**Nitrogen**	**Phosphorus**
TWT	Te Awa Kairangi lower mainstem Te Awa Kairangi rural streams and rural mainstems Wainuiomata rural streams Parangarahu catchment streams and South-west coast rural streams	Te Awa Kairangi lower mainstem Te Awa Kairangi rural streams and rural mainstems Wainuiomata rural streams Parangarahu catchment streams and South-west coast rural streams Korokoro Stream	NA	Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems Te Awa Kairangi lower mainstem Te Awa Kairangi rural streams and rural mainstems Wainuiomata rural streams Parangarahu catchment streams and South-west coast rural streams Korokoro Stream
TAoP	Takapū	Taupō Pouewe Wai-O-Hata Takapū	Taupō	Taupō Wai-O-Hata

13. Note, nitrogen (DIN) concentrations are not currently exceeded in any part FMU in Te Whanganui-a-Tara (TWT). This is on the basis that stream shading can be introduced to ensure that periphyton growth is managed to an acceptable state.

6.6 Relevant WIP and mana whenua implementation plan recommendations

Te Awarua-o-Porirua Whaitua Implementation Programme (TAoP)

14. The recommendations of the Te Awarua-o-Porirua WIP relevant to this topic are:

- Recommendation 6 – Wellington Regional Council to amend policies and rules to (a) set water quality limits and targets for *E. coli* (Recommendation 4), and (b) set total nitrogen and total phosphorus limits entering Onepoto Arm and Pāuatahanui Inlet

- Recommendation 16 – Wellington Regional Council to reduce streambank erosion,

- Recommendation 63 – Wellington Regional Council to amend policies and rules to exclude of all livestock from rivers >1m wide on low-slope land.

- Recommendation 64 – Wellington Regional Council to work with rural landowners to promote and implement good management practices, including integrated farm environment planning.

Whaitua Te Whanganui-a-Tara Implementation Programme (TWT)

15. The recommendations of the Te Whanganui-a-Tara WIP relevant to this topic are:

- Recommendations 33, 35, 36 – Wellington Regional Council support the implementation of actions at property and catchment scales to achieve catchment plan objectives, through best land management practices, stock exclusion, Freshwater Farm Plans

- Recommendation 111 – Wellington Regional Council to investigate nitrogen sources.

Te Mahere Wai o Te Kāhui Taiao (TMW)

16. The recommendations of Te Mahere Wai o Te Kāhui Taiao relevant to this topic are:

- Recommendations 66 and 67 – Farm plans recognise and protect āku waiheke (small streams) and marginal land on the Southwest Coast is retired.

- Recommendation 68 – Cattle are excluded from small stream catchments in the Southwest Coast within 5 years.

- Recommendation 69 – Farming cattle in vulnerable catchments is not a permitted activity.

6.7 Nature of the rural catchments of Te Awarua-o-Porirua and Te Whanganui-a-Tara

17. Most of the rural (grazing) land with the Te Awarua-o-Porirua and Te Whanganui-a-Tara Whaitua could be described as moderate to steep grazing land.

18. Although once cleared of forest and scrub for pastoral farming, some marginal land is now reverting through a succession process often beginning with introduced species (such as gorse and broom). These introduced species will eventually be outcompeted by native species returning, in time, much of the land to a more natural state with soil conservation and other benefits. In other pastoral areas, erosion risk is managed by Greater Wellington through its Environmental Restoration programmes (formerly known as the Land Management programme), investment in land retirement and erosion control initiatives (particularly funding of hill slope planting).

19. As discussed below, across this hill country many landowners continue to farm what would be generally regarded as extensive sheep and cattle grazing systems. The vast majority of this land is land use capability (LUC) Class 5 and 6. Class 5 is often limited by wetness and Class 6 by its erodibility.

20. In the larger river valleys, more intensive farming has traditionally occurred on relatively small areas of flatter more versatile land (especially in the Mangaroa, Kaitoki and Ōhāriu valley catchments). In more recent years, economic pressures have seen intensive land uses in these areas, such as dairy, give way to lifestyle and hobby farming as the land has been subdivided into small lots. These lifestyle lots vary in size and in farming intensity. Some of these rural areas are under continuing pressure from, and being '*lost*' to, urbanisation.

21. There is an extensive area of regional parkland across both whaitua. A number of regional parks contain large areas of commercial grazing as well as protected areas of native vegetation. The Wellington Regional Council's Toitū Te Whenua Parks Network Plan 2020-2030 commits to progressive native revegetation and wetland restoration of approximately 2000 ha of previously grazed grasslands (although grazing will continue on some parkland).[2] This aims to secure outcomes relating to biodiversity, freshwater quality, reduced carbon emissions and enhanced recreation experiences.

22. The two Whaitua have generally brown order soils formed from wind-blown silt above a highly weathered sandstone. On the steeper hill country (LUC 6) they tend to be shallow with a low water holding capacity but are structurally sound. In areas where the sandstone has been fractured, water flows deep into the ground resulting in moderately high nitrogen leaching under typical stocking rates, otherwise nitrogen leaching is low, and the soils are most at risk of phosphorus losses associated with sediment in runoff. Along the valley floors (e.g., LUC 4) the slopes are shallow (<10 degrees), and the soils are deeper

[2] Toitū Te Whenua

(usually >80cm). These brown order soils are formed from wind-blown sand, silt, and clay, or as recent soils from river deposited gravels. These soils have high structural stability, good drainage, and a moderate susceptibility to nitrogen leaching. [3]

6.8 Farming in Te Awarua-o-Porirua and Te Whanganui-a-Tara

6.8.1 Number of rural properties and use

23. Rural use in Te Awarua-o-Porirua and Te Whanganui-a-Tara is shown on Figure 1.

24. There are 1,777 rural properties across the two whaitua registered in the Agribase data set.[4] Of these, 312 properties are over 20 hectares in size. A further 757 properties are between 4ha and 20ha, with the remainder (707 properties) below 4ha in size:

- 192 of the over 20ha blocks are described as being used for grazing livestock with 22 described as '*lifestyle*' and 70 as forestry.
- Only two of the 192 grazing properties are dairy farms the remainder are grazing sheep and/or cattle.
- Of the 757 properties between 4-20ha, 101 are described as '*livestock grazing*' blocks and 296 as being in '*lifestyle*' use.
- Three properties above 4ha in size are described as being in horticultural use (these are all between 4 and 5ha). Five other horticultural blocks are between 3 and 4 ha.
- 627 lifestyle properties are less than 3 ha.

6.8.2 Distribution of landcover by farm size

25. The 312 properties over 20ha account for 71.5% of grassland cover, 73% of all exotic forest cover and 63% of gorse/broom cover across the two whaitua.

26. The 757 properties between 4 and 20ha account for 11% of grassland, 2.1% of exotic forest and 2% of gorse/scrub.

6.8.3 Distribution of LUC by farm size

27. Although the 4-20ha properties account for just 11% of the grassland, that area is disproportionately weighted towards better quality land. 55% of the land held in 2-4ha blocks is LUC Class 2-4. This contrasts with the >20ha blocks where just 157 ha is LUC 2-4.

28. 77% of all the two Whaitua's LUC 2-4 rural land is held in blocks <20ha.

[3] Lilburne LR, Hewitt A, Webb T 2012. Soil and informatics science combine to develop S-map: a new generation soil information system for New Zealand. Geoderma 170: 232-238, 10.1016 and Pearson L, Rissmann C 2021. Physiographic Environments of New Zealand: Inherent susceptibility of the landscape for contaminant loss. Land and Water Science Report 2021/25

[4] See https://www.asurequality.com/services/agribase/

29. This suggests that if provisions focused solely on lots >20ha much of the better-quality rural land (being land capable of more intensive use/higher stocking rates) would be omitted.

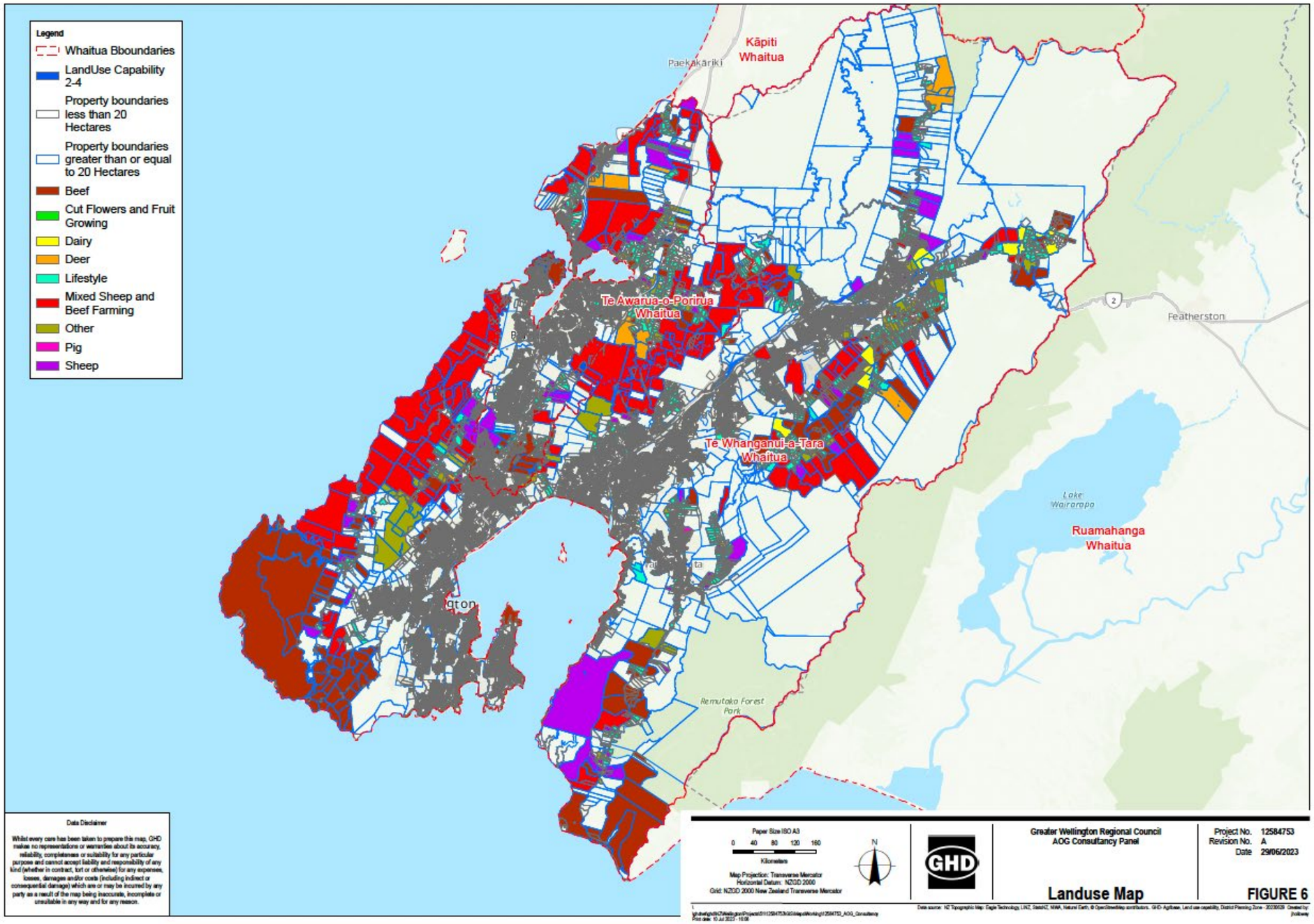

Figure 1: Rural Land Use Te Awarua-o-Porirua and Te Whanganui-a-Tara

6.9 Sources of nitrogen (and other contaminants)

30. While the proportion of the total nitrogen load in water bodies of the two whaitua from rural land use is not known, we do know what the sources will be. These are discussed as followed.

Livestock farming as a source in Te Awarua-o-Porirua and Te Whanganui-a-Tara.

31. Much grazing land in Te Awarua-o-Porirua and Te Whanganui-a-Tara would be classified by industry as '*hard hill country*' that would typically carry a modest 6 to 10 stock units per hectare (7.5 on average). Stats NZ Agricultural Production Census 2022 data[5], suggests actual stocking rates in the territorial authorities comprising the two Whaitua are low, at 5.5 stock units/ha (Porirua) and 5.4 stock units/ha (Wellington City, and Hutt and Upper Hutt cities). In other words, stocking rates are low even for the class of land grazed[6].

32. Absolute stock numbers are correspondingly low. Again, across the two Whaitua, the Stats NZ Agricultural Production Census 2022 records:

- 46,520 sheep (43,809 stock units)
- 7,954 beef cattle (39,087 stock units)
- 3,331 dairy cattle – 2311 milking cows (21,694 stock units). *Note: These numbers are difficult to reconcile with several other sources of dairy information[7] which suggest the two operating dairy farms in the Whaitua (both in Upper Hutt) have just 330 milking cows in total. It is likely that the numbers reflect an error in data recording with the 330 milking cows more likely to be the more accurate figure*.

33. That makes total stock units across both Whaitua of 106,991, grazed on 19,817ha.

34. The same source records that very little nitrogen is applied with only 159 tonnes recorded as being used, giving on average a N fertiliser use of 9kgN/ha. Gray[8] reports that the average application of N fertiliser on New Zealand sheep and beef farms to be low at 14 kg N ha/yr (noting that this has increased in recent years). On that basis, N fertiliser use on the sheep and farms of the two Whaitua must be considered very low (and it is likely that many farms will use no N fertiliser at all).

[5] https://www.stats.govt.nz/topics/agriculture
[6] Based on the average 7.5 stock units per grazed hectare as reported in the Beef and Lamb NZ Fact Sheet: Hill country sheep and beef farms, June 2020.
[7] Both DairyNZ and Fonterra have confirmed that only two dairy farms remain across the two Whaitua.
[8] Gray, C. Nitrogen fertiliser use in grazed pasture-based systems in New Zealand: A summary, AgResearch, New Zealand Journal of Agricultural Research, March 2023.

35. Hence, although N losses occur from all farming systems, farms on the hill country and hard hill country offer a low opportunity to reduce diffuse N discharges because:

- little, if any, N tends to be applied as fertiliser; and
- overall stocking rates are already very low.

36. Some gains can be made by maximising the exclusion of stock from water bodies and providing for vegetated buffers. Protection of critical source areas (areas where overland flows converge, and contaminants accumulate and/or can be reduced before discharging to surface water) can also be an important mitigation. Overall, though, any reduction in N losses from extensive hill country pastoral farms achievable from farm plans and '*farm system optimisation*' will likely be modest. The most significant gains in terms of N loss reductions are likely to accrue from land retirement and destocking in response to the need to reduce sediment loss.

6.9.1 Lifestyle blocks

37. Little is known about the contribution of lifestyle blocks to catchment-scale N losses. However, we can infer that because of the close association between stock (particularly cattle) numbers/density and N losses, lifestyle blocks that graze cattle pose a meaningful risk particularly where many such properties occur in each area. Some grazing systems such as fattening large numbers of purchased underweight cattle over relatively short periods (known as '*finishing*') or wintering cattle on break-fed pasture or crop and/or supplement pose a heightening risk.

38. Data on stocking rates on smaller blocks are scarce. Independent advice provided to Greater Wellington for the PC1 development process by KagAg Ltd[9] suggests that small block stocking rates have a typical stocking rate of 12 stock units/ha and a top of 17 stock units/ha (based on '*effective hectares*') but on small blocks comprising steep land the rates may be more like 8 stock units/ha. This is significantly higher than for the total grazed area of the Whaitua and probably reflects that generally higher quality land held as small blocks as discussed earlier.

39. A 2021 Rural Survey undertaken by Landcare Research[10] provided data to allow for stocking rates to be estimated. That exercise suggests that in Upper Hutt City the lower and upper quartiles for stocking rates is 3-8 stock units/ha and in the Porirua 3-7. 32 of the 35 small blocks surveyed in those two territorial authority areas, grazed cattle (although the number of cows grazed was very small with a median of just 4 per property). Sheep were also present on all properties. In

[9] Policies for Small Block Owners (SBOs); Memorandum to, Greater Wellington Regional Council from KapAg Ltd. 29 May 2023.
[10] Stahlmann-Brown P 2021. Survey of Rural Decision Makers 2021. Edited by the Ministry of Primary Industries. Manaaki Whenua - Landcare Research, Lincoln, New Zealand.

Lower Hutt the stocking rates and numbers of stock per property are estimated to be less.

40. Although useful, the Landcare Research survey was limited (covering less than 5% of small blocks) and calculated stocking rates based on total property area rather than '*effective*' (i.e., actual grazed) area which would have served to under-report grazing pressure.

6.9.2 On site wastewater

41. On-site domestic wastewater systems can be a meaningful source of nitrogen losses – particularly when there is a concentration of such systems in a specific area. This may be the case in densely settled lifestyle farming areas. Unfortunately, the contribution of this source is not currently known. Further monitoring and investigation of onsite domestic wastewater is proposed as part of the Freshwater Action Plan provisions (see section 7 of this report for further detail).

6.9.3 Gorse

42. As noted earlier, gorse is common across both Whaitua's hill country (see Figure 2). Gorse fixes atmospheric nitrogen which can act to fertilise soil as nitrogen rich leaf litter decomposes. However, the increased nitrogen in the soil can leach to groundwater. In catchments with extensive gorse cover, it can be a significant contributor to a catchment load. When studied in other regions, areas of thick gorse cover have been found to leach up to 63kg N/ha/year in wet years and 40 kg N/ha/year in more average rainfall years. These rates are similar to dairy farming in many areas.

43. The contribution of gorse in the Wellington context has not been specifically researched. Accordingly, we do not know how significant the contribution of gorse is to catchment loads.

44. We do know, however, that the conventional response to high N losses from gorse (removing the gorse) would not be a sound response in the Wellington context due to the important role gorse plays in soil conservation and as a nursery for regenerating native vegetation.

45. For that reason, large-scale gorse removal has not been considered as a potential policy response. It may have a limited role on flatter land as part of the actions recommended as part of FEP development.

6.9.4 Natural sources

46. Nitrogen occurs naturally in the environment. Organic forms of nitrogen are the result of decaying organic matter and contribute to the total nitrogen load.

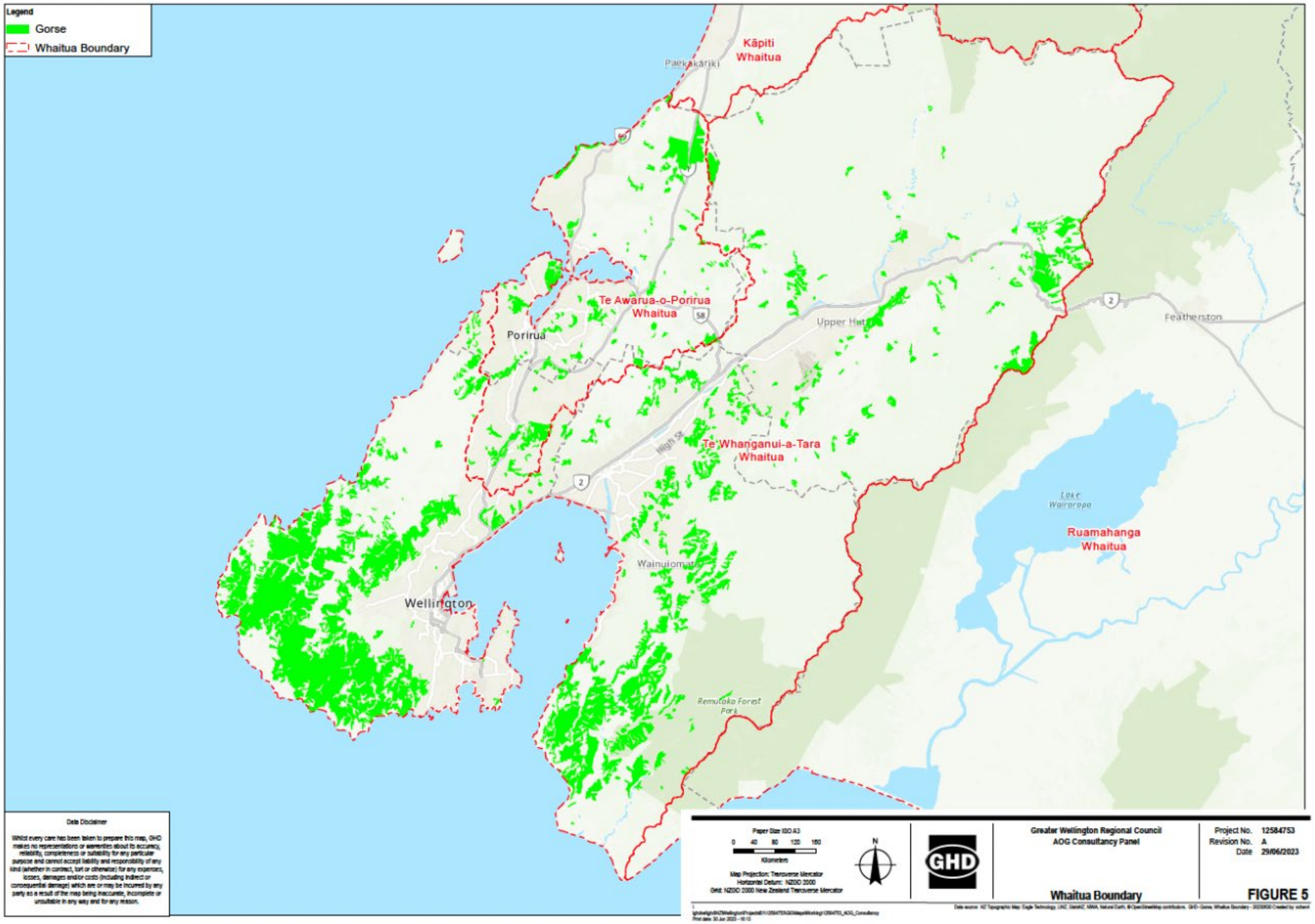

Figure 2: Gorse cover in Te Awarua-o-Porirua and Te Whanganui-a-Tara

6.10 Discharge of nutrients - efficiency and effectiveness of provisions

Intent of this policy package:

The policy package aims to:

1. maintain the state of attributes by ensuring discharges of nitrogen, phosphorus and microbial contaminants from farms do not increase; and
2. improve the state of attributes, where necessary to achieve target attribute states, by securing reductions to the discharge of nitrogen, phosphorus, and microbial contaminants.

In essence, the package aims to achieve a cap on contaminant losses from individual properties and a reduce losses from farming operations through improved practices where this is needed to achieve target attribute states.

A secondary purpose of the package is to ensure improved understanding of the source of contaminant losses and risks from rural areas which will enable further targeting of future regulatory and non-regulatory responses.

Achieving maintenance

Maintaining state means not allowing overall increases in contaminant loss which in turn means controlling:

a) Intensification of existing land uses/farm systems (as may occur, for example, in the form of increasing stocking rates enabled by greater fertiliser use, supplementary feed or land clearance); and

b) changes in land use from low to higher intensity uses that would result in higher risk of contaminant loss (land use change from, for example, forestry to pastoral farming).

Controlling the intensification of farm systems is difficult without unreasonably removing the operational flexibility farmers need to adapt to market, climate and technological changes. Accordingly, prescriptive controls on farm practices and inputs are avoided where possible. Instead, an approach of benchmarking properties using a N risk assessment tool and requiring farms to keep within that benchmark risk metric is the preferred approach (i.e., the N loss risk will essentially be '*capped*'). Using N loss risk as a proxy for farming intensity (and hence broader contaminant loss risk) is imperfect but is considered the best option, when used in conjunction with a farm environment plan, to provide flexibility to farmers while keeping an oversight of farming intensity across the Whaitua.

One potential tool to assess N loss risk is the Risk Index Tool (RIT). This tool currently remains in development by the Ministry for the Environment. The RIT is expected to be available from December 2023. Further information can be found at:

https://environment.govt.nz/acts-and-regulations/freshwater-implementation-guidance/freshwater-farm-plans/risk-index-tool-for-on-farm-nutrient-management/#availability-of-the-risk-index-tool

Because the RIT is not available in final form at the time of notification, it is not possible to undertake an evaluation of merits or effect of the tool and accordingly it is not specifically referenced in the provisions currently. The provisions simply provide for use of '*risk assessment tools*' to assess risk if, and when, they are developed, subject to the approval of that tool by the Wellington Regional Council. It is expected that the choice of tool(s), and whether a preferred tool can be specified in the NRP, will be further considered through the submissions and hearing process.

Achieving reductions

The extent of reduction required cannot be expressly calibrated to achieve the load reductions required to achieve TASs because there are technical limitations in the ability to do that at the individual property scale – being the scale the regional rules operate at.

Improvement in diffuse nitrogen and microbial pathogen discharges from rural areas generally requires improvement in farm management practice and greater stock exclusion from water bodies, enhanced management of critical source areas (areas where overland flows concentrate before discharge), better management of nitrogen fertiliser use and/or greater control over stock management (stocking rates, densities, and wintering practices).

Bringing about required changes on farm will require a combination of:

- New and additional minimum standards (for matters such as stock exclusion), relying on national regulations complemented, where necessary, with regional rules to ensure local issues and risks are addressed; and
- tailored actions and mitigations through farm-scale planning using national regulations, complemented by requirements and catchment context set out in the regional plan.

Where provisions are intended to apply

The provisions need to apply across all farming land uses (forestry is managed separately). This includes pastoral, arable, and horticultural land uses because all those uses contribute contaminants. As noted above, there is very little arable or horticultural land use and just two dairy farms across the two whaitua hence, in practice, the provisions will apply largely to dry stock (sheep and beef) farms.

It is common practice when regulating farming to set a property size threshold. This ensures that small properties that individually and collectively contribute little to contaminant loads are not burdened with compliance costs. 20ha is a common threshold to apply to dry stock farms and aligns with threshold used in the *Resource Management (Freshwater Farm Plans) Regulations* for when a pastoral farm must have a Freshwater Farm Plan (FFP). Accordingly, the approach is proposed here for when a farm must have a FEP.

However, because of the large number of small holdings occupying generally the better-quality land (often in the river valleys), we can be less confident that individually or collectively these are, and will remain, minor sources of contaminant loss that can, accordingly, be disregarded.

Although requiring FEPs for these properties may not be warranted, better information on the intensity of land uses on these small holdings and a cap on intensity of use seems prudent. Based on the analysis of lot sizes summarised above we consider that properties in the 4-20ha range should also be subject to both regulatory and non-regulatory methods where they are stocked above the estimated typical small lot stocking rate of 12 stock units/ha.

Policy package – Option 1 (preferred)

As above, the preferred approach is to cap N loss risk at current rates for farming properties greater than 20 ha and for properties between 4-20 ha with stocking rates of more than 12 stock units/ha. This should ensure that the N load to water from this source does not increase. To the extent that N loss risk is an indicator of farm intensity and other contaminant losses, the approach will also limit losses of those other contaminants. The capping will be assured from >20ha properties through a requirement for FEPs and for 4-20ha properties through a requirement to register with the Council. FEPs will drive improved management practices and additional requirements associated with stock access to small streams will apply in some areas.

New Policies:

- *Policies WH.P21, P.P20*: Overall approach to reducing diffuse discharges of rural contaminants (cap discharges, minimise and, where necessary, achieve reductions in discharges.)
- *Policies WH.P22, P.P2*1: Nitrogen management:
  - requirement to assess nitrogen discharge risk and ensure that risk does not increase over time.
  - Rural properties between 4ha and 20ha with a winter stocking rate >12 stock units/ha are required to register with council and complete a N risk assessment.
  - Rural properties >20ha must have an FEP and where they are in targeted sub FMUs and must demonstrate a reduction in risk of N loss if they are in a part FMU where the nitrate TAS or maximum DIN concentration is exceeded. Rural properties in other part FMUs must ensure risk of N loss does not increase.
- *Policies WH.P24 P.P23*: Priority catchments – with phase-in schedule for FEPs.
- *Policies WH.P25, P.P24*: Land use change to more intensive rural uses restricted to where it can be achieved without increasing contaminant losses.

- *Policy WH.P26*: Further restrict stock access where water quality is below the national bottom line for visual clarity (applies only in the Mākara and Mangaroa catchments).
- *Policies WH.P27, P.P25*: Contribute to the achievement of the periphyton TAS by progressive shading of streams where with nutrient reductions alone will likely be insufficient to achieve periphyton TASs.

New Rules:

- *Rules WH.R26, P.R25*: Permitted activity rule requiring rural properties between 4ha -20ha with cattle, winter stocking rates over 12 stock units/ha or which crop to:
  - Be registered with the Council.
  - Produce an N loss risk baseline using a recognised nitrogen risk assessment tool.
  - Report on N loss risk to the Council on request.
- *Rules WH.R27, P.R26*: Permitted activity rule requiring rural properties >20ha to:
  - Produce an N loss risk baseline using a recognised nitrogen risk assessment tool.
  - Prepare a FEP that contains measures to ensure the N loss risk baseline does not increase and N losses are minimised/reduced in targeted catchments.
- *Rule WH.R28*: Require FEPs to include a '*small stream riparian programme*' in the Mākara Stream and Mangaroa River catchments.
- *Rule WH.R29*: Require resource consent as a discretionary activity for stock access to small streams in the Mākara Stream and Mangaroa River catchments if the FEPs do not include a '*small stream riparian programme'.*
- *Rules WH.R30 and P.R27*: Require resource consent for farming as a discretionary activity that does not meet the conditions of the permitted activity rules.
- *Rules WH.R31 and P.R28*: Require consent for land use change from an existing rural land use to a more intensive land use as a discretionary activity conditional on nutrient TASs not being exceeded and, if the land use change is to pastoral, also conditional on *E. coli* TAS not being exceeded.
- *Rules WH.R32 and P.R2*9: Where TASs are exceeded a land use change to a more intensive use would be a non-complying activity.

New Schedules:

- *Schedule 35*: Requirement for intensive small farms (4-20 hectares with stocking rate over 12 stock units per ha) to be registered.
- *Schedule 36*: Specification of additional requirements for FEPs in Te Awarua-o-Porirua and Te Whanganui-a-Tara including requirement to baseline N risk for activities using a recognised N risk assessment tool and a *small stream riparian programme* in the Mākara and Mangaroa catchments. A small stream riparian programme will require consideration of the risk of stock access and the practicality and potential risks of fencing small streams. Where stock access risks are high but fencing impracticable, the FEP needs to adopt alternative measures to mitigate or offset risks. (Other requirements for FEPs relating to sediment as discussed in the sediment section of this report).

New Definitions:

- N discharge risk
- Recognised risk nitrogen assessment tool
- Stocking rate
- Registration

Freshwater Action Plans (see section 7)

- Support for riparian planting/ stream shading to manage periphyton risk and buffer contaminant flows.
- Further investigation of sources of N and *E. coli* discharge from rural areas
- Programme to support small block registration and FEP development.

Policy package Option 2 – Status quo

Option 2 is to rely on national regulation and existing NRP policies and rules.

National Regulation

There are three national instruments in effect now that control some key land use and intensification that either directly or indirectly addresses N diffuse discharges (or discharge risk) from rural land. These instruments are:

*Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (**NES-F**)*

The NES-F has been in effect since September 2020. They limit diffuse discharges from arable and pastoral land use that is ≥20ha or horticultural that is ≥5ha by controlling:

3. the scale and intensity of feedlots and other stockholding areas; and
4. land use conversion (forestry to pasture and any land use to dairying); and
5. further irrigation of dairy farms; and
6. use of land for dairy support; and
7. intensive winter grazing.

The use of synthetic nitrogen fertiliser (including a maximum application rate) is controlled on all pastoral land.

The limitation of the NES-F is that controls on the activities (2) to (4) above only apply until 2025. A key aspect of (5) (being the limitation of IWG grazing to the land area used for that purpose in the baseline year) also expires at the end of 2024 or sooner if the Council has notified a plan to give effect to the NPS-FM (i.e., the current plan change scheduled for notification in October 2023).

The feedlot/stockholding area standards, most of the intensive winter grazing standards and the artificial N fertiliser standards of the NES-F will remain in place post 2024. Based on existing land and fertiliser use, these will have little effect in the two Whaitua.

Resource Management (Stock Exclusion) Regulations 2020 ('Stock Exclusion Regulations')

These regulations have also been in effect since 2020. They require cattle, farmed deer and pigs to be excluded from rivers >1m wide and lakes with a minimum 3-metre setback – with progressive implementation between 2020 and 2025 depending on stock type, land slope and intensity of land use. For the two Whaitua key dates are July 2023 when all dairy (but not dairy support) cattle and beef cattle and deer that are break-fed or grazed on annual forage crops or irrigated pasture must be excluded. By July 2025 this required exclusion is extended to dairy support cattle and beef cattle and deer on mapped "*low slope*" land (land <5 degrees).

The Stock Exclusion Regulations also require, by July 2023, stock exclusion from natural wetlands identified in the regional plan and, by July 2025, from natural wetlands >500m^2 on low slope land and from natural wetlands that support threatened species.

Resource Management (Freshwater Farm Plans) Regulations 2023 ('FFP Regulations')

These FFP Regulations work with Part 9A of the RMA to require every pastoral or arable farm over 20 ha and every horticultural farm over 5 ha to have a Freshwater Farm Plan (FFP) with prescribed contents (including an action plan to address identified risks) and subject to a process of certification and audit. What the FFPs seeks to achieve is dependent on the '*catchment context*' to be provided by the regional council. This includes, but is not limited to, the relevant provisions of the regional plan.

The FFP Regulations commence on 1 August 2023 but will not have immediate effect in Wellington. The date on which the Regulations will apply in Wellington is not yet known but likely to be within the next two years.

While the national standards and regulations control many of the risks associated with rural land use, they do not control all risks and the level of control is in some instance less than that required by the existing NRP.

Natural Resources Plan

In addition to the national regulations, the NRP has objectives, policies, rules, and other methods, to manage the effects on freshwater and freshwater ecosystems of a range of rural land use activities. These represent existing '*minimum standards*', most of which have some effect on the risk of diffuse discharges of N and/or *E. coli.* Of particular relevance are the rules and associated conditions relating to:

- Break-feeding (Intensive winter grazing) – Rules R96 and R97
- Stock access to waterbodies – Rule R98. R99 and R100. (Note, these rules are more stringent than Stock Exclusion Regulations, and apply to locations outside those covered by the Regulations although some parts of the NRP stock exclusion rules do not come into effect until July 2025
- Discharges of fertiliser - Rule R72
- Collected animal effluent discharge to land – Rule R73 and R74
- Compost and solid animal waste discharge to land – Rule R75 and R76
- Manufacture and storage of silage and compost and storage of solid animal waste – Rule R77
- Cultivation of land – Rule R95 and R97
- The use of "*new*" water for irrigation (where resource consent and FEPs are required in respect of pastoral land >20ha and horticultural land >5ha) – Rules R108 and R109.

In addition to those rules, the NRP contains provisions (Rules R110, R111 and R112) that seek reductions in N losses in specific N exceeding catchments where FEPs and, from the beginning of 2029 resource consents, are required for pastoral or arable properties >20ha and horticultural land >5ha. Currently the NRP does not identify any N exceeding catchments in either Te Awarua-o-Porirua or Te Whanganui-a-Tara.

Wellington Regional Council non-regulatory programmes

Wellington Regional Council operates a range of non-regulatory programmes that help farmers to enhance land management outcomes. The Ecosystems and Community (formerly the Land Management) team works with individual landowners/managers to develop farm plans throughout the region on a voluntary basis (and assisting those farmers in priority catchments required to have an FEP under exiting NRP rules). A property treatment programme is developed as part of the FEP development. While the focus has traditionally been on erosion and soil conservation, funding is also available for incentivising good management practices for agricultural land use (e.g., riparian and wetland protection) with some benefit for diffuse nitrogen discharges. Wellington Regional Council has five Environmental Restoration programmes:

- Wellington Erosion Control Initiative
- Riparian Programme
- Wetland Programme
- Sustainable Land Use Fund
- Key Native Ecosystem programme

Landowners can access financial support from Wellington Regional Council under these funds of between 35-50% of costs to implement the treatment programme.

General advantages and disadvantages of Option 2

Advantages

The main advantages of Option 2 are:

- that it minimises disruption and further cost for rural landholders; and
- it avoids further complexity in the NRP by not including additional policies and rules specific to the two whaitua that would be different in sometimes subtle ways to existing rules and Regulations.

Disadvantages

As noted above, several key national standards of the NES-F will be revoked at the end of 2024. Revocation will (theoretically at least) reopen the potential for certain *land use change* and increased dairy support and winter grazing.

In addition, on some land holdings (including some of the smaller land holdings on better land) there is risk of *intensification of existing* farming systems through, for example, increasing stock numbers, cropping, N fertiliser use and/or supplementary feed or the adoption of higher risk management practices. This risk is not comprehensively managed by the existing NRP provisions.

The effectiveness of FFPs will be severely limited without clear Whaitua-specific direction to be provided in the catchment context that will help shape and size the required action.

Policy package Option 3 – Resource consent and specific N loss reduction targets

Option 3 is to make existing farms in the Whaitua subject to resource consent (as controlled activities). Under a consenting regime, farms would need to have a FEP and meet specific N loss limits (such as a leaching rate or reduction targets – such as a percentage decrease from a property-specific baseline) within a catchment load limit (at least for N).

In this option, no account has been taken of the potential for stream shading to reduce periphyton risk, meaning higher levels of reduction in discharges nutrients would be required to meet TASs. Variations of this approach have been adopted in some other regions such as in

Canterbury, Horizons, the Tukituki catchment in the Hawkes Bay, the Lake Rotorua catchment in the Bay of Plenty and the Taupo catchment in Waikato. These policy package options are sometimes referred to as allocation or partial *allocation* regimes.

In addition, Option 3 involves a regulated requirement for stock exclusion where suspended sediment is below the national bottom line as set out in the NPS-FM. This requirement would apply to streams less than 1 m wide. Stock is already required to be excluded from streams wider than 1m by existing rules of the Wellington NRP.

General advantages and disadvantages of Option 3

Advantages

The main advantages of Option 3 are:

- The council could exercise direct control of the actions and mitigations required on farms in addition to existing rules of the NRP rather than relying solely on an independent farm plan certifier.
- Specification of catchment loads, and farm-specific (leaching rate) targets would allow for progress towards targets to be measured/quantified (at least in theory)
- Requiring consents is the most straightforward way Wellington Regional Council can charge for monitoring of the environmental practices and any required improvements of farming activities.

Disadvantages

The principal disadvantage of the approach is the compliance cost associated with a consenting regime. Additional cost would be imposed on landowners to prepare and lodge the applications with Greater Wellington. The marginal benefit of Council's consideration of FFPs and associated application would likely be small given:

- the nationally regulated requirement for farms to have FFPs independently certified and subject to an audit process; and
- the likely limited potential to secure N loss reductions from existing largely extensive (i.e., not intensive) farm systems of the Whaitua.

Furthermore, to add value through consenting, Greater Wellington would need to retain sufficient consenting staff with detailed '*farm systems*' expertise. Capacity within the farm consulting sector is known to be limited and likely to be '*stretched*' to prepare and certify the mandatory FFPs. Replicating that consideration through a consent process will likely place the farm consulting sector under even greater strain.

A further disadvantage would be associated with any proposal that involves quantification of N loss in leaching rate terms and reconciliation of those rates against catchment loads. While that has been done elsewhere in the past, recent issues surrounding the confidence in modelling N

loss using the Overseer farm-scale nutrient model mean that such an approach is open to criticism and difficult to support given current technical and government advice.			
	Option 1 (Preferred)	**Option 2 (Status quo)**	**Option 3 (Consenting and loss quantification/allocation)**
Costs:			
Environmental	None.	Medium. There is a risk that Option 2 would fail to control land use change and intensification leading to greater diffuse contaminant discharge from rural activities (relative to Option 1). Would not address stock exclusion from certain degraded streams <1m wide.	Low. There are no direct environmental costs although any regime that relies on unreliable modelling poses some risk that the uncertainty may not favour the environment. There is also some risk that high compliance costs reduce the effort and resources landowners put into practical, on-farm action. A further potential cost is associated with the risk of regulatory failure which is more likely with this option due to the need to consent large numbers of landowners and an associated requirement to impose nitrogen loss reduction obligations (and fence *all* small streams) that prove impractical to either require (from a Wellington Regional Council perspective) or comply with (from a landowner perspective). The likely inability to use the Overseer model for regulating N loss reductions is a

			significant factor in increasing risk of regulatory failure.
Social	Low. The economic costs (see below) will have some impact on the social well-being of rural communities because it will; require resources to be spent on regulatory compliance that might otherwise be used for social well-being. The option may also foreclose commercial options (opportunity costs) that will limit income maximisation and hence social well-being of both individual farmers and rural communities. Cost rated as low because (as discussed above) such opportunities are considered to be limited and costs of compliance also considered low (especially when considered in context of costs likely to be associated with compliance with upcoming FFP Regulations)	Low. By definition, no additional social costs, although some social costs associated with on-going (or resumptions of) decline in water quality that is a likely outcome of this option.	Medium. The economic cost of this option (particularly the compliance costs) will be higher than for Options 1 or 2. That will translate into associated social costs. Requiring consents will likely be unwelcome in farming communities. Requiring farm scale modelling and preparing applications involving the disclosure of key farm information is likely to be disruptive to community well-being. Significant higher compliance costs (including on fencing small streams in Mākara and Mangaroa) will also likely divert resources from spending on social well-being.
Economic	Low/medium. Restricting land use intensification and land use change theoretically forecloses options and creates opportunity costs. These take the form of business opportunities, income and	No additional economic costs.	Medium/high. There will be a compliance cost associated with preparing and lodging consent applications. Because of the technical nature of consent applications, it is highly likely that

	associated community benefits forgone. The extent to which these costs are real depends on the likelihood of those opportunities arising in practice. In this instance, due to the particular characteristics of the land and farming systems in the Whaitua, the opportunity cost is assessed as low. In short, for the majority of rural land there are likely to be very limited opportunities for agricultural intensification. There are costs associated with preparing a FEP to comply with the regional plan ($3,000-4,000) requirements but again, this cost is assessed as low because all 20 ha + properties will need a nationally regulated FFP within the next 2 years in any event. There is some cost (in the form of time) of registering small holdings (4-20 ha properties), but this is expected to be minimal provided Greater Wellington establishes an easy-to-use on-line portal where landowners can enter the required information without expert input.		most landowners would need the assistance of a professional adviser. This differs from Option 1. Under Option 1, a landowner faces minimal additional cost provided they continue with the existing farming activity. Only if they intensify the farming activity would consenting requirements apply. Under Option 3, those costs would arise just to continue existing operations. Without stream shading larger nitrogen loss reductions would be required to achieve periphyton outcomes, the economic and social costs of Option 3 (in terms of reductions in farming intensity/stocking rates) would likely significantly exceed the social and economic costs of Option 1. Fencing in steep landscapes is particularly expensive. Because sheep are commonly grazed, permanent 8 wire post and batten fences are likely to be required at a cost of at least $30 per metre and up to $47 per metre in steeper areas (and possibly more is access is poor and or fencing requires many

	Using the Risk index tool to calculate annual N risk is also expected to be a non-expert task. For '*stable*' farming systems costs should be especially low as the same or very similar data will be entered each year. A notable cost is the cost of stream shading which is necessary if requiring more significant and costly reductions in nitrogen losses is to be avoided. This cost is expected to be shared between landowners and Greater Wellington. Achieving the required level of stream shading has not been costed at this point. While cost will be substantial, it is likely to be significantly less costly in economic and social terms than Option 3. It is assessed as medium for that reason.		corners/angles). The cost of necessary earthworks would be additional as would the cost of installing stock crossing points and reticulated water where necessary to provide drinking water. While the total catchment cost has not been estimated it is accepted that the cost would be substantial and fall heavily on some individual landowners.
Cultural	Low. As above, there is potential for Option 1 to foreclose agricultural development/intensification opportunities. Any existing Māori land/agricultural-based business (or commercial aspirations) would be frustrated by controls that limit	Medium- High. There is a risk that Option 2 would fail to control land use change and intensification leading to greater contaminant discharge from rural activities and associated ongoing cultural impacts, relative to Option 1.	Medium As for Option 1, there is potential to frustrate mana whenua agricultural land development aspirations (should they exist in the whaitua). Because the compliance costs are higher for this option the cultural cost is assessed as medium.

	farming intensity to the current level. While we have been conscious of that potential cost, it has been assessed as low risk based on an understanding that there are no current intentions amongst Māori entities for agricultural intensification in these Whaitua.	Would not address impacts from stock accessing already degraded streams <1m wide. These impacts include ongoing impacts on mauri and loss of mahinga kai.	There could be a cultural cost associated with on-going poor outcomes for water quality, and the cultural effects of those poor water quality outcome, (such on-going adverse effects on mauri and mahinga kai) if there is regulatory failure (that is, the provisions prove to be difficult to apply/enforce).
Benefits:			
Environmental	High. N loss risk (and hence N leaching) will not increase. Reduction in N losses and *E. coli* should occur through FEPs identifying sources and risk practices and requiring practical actions/mitigations. The technical review confirms that nutrient and nutrient-related TASs will be met in pastoral part FMUs although meeting periphyton outcomes may be dependent on-stream shading and further pastoral land retirement (which are proposed as part of this Option and will be secured by way of an action plan as provided for under the NPS-FM).	No additional environmental benefits.	High (but with greater uncertainty) Option 3 provides for a potentially more aggressive approach to achieving on farm reduction in contaminant losses than Option 1. However, given the low baseline of existing farming intensity/discharge levels, and limited opportunity to make reductions without widespread land use change/retirement, Option 3 is assessed as likely, in practice, to provide similar environmental benefits as for Option 1. Furthermore, due to the potential for regulatory failure (as discussed above) the benefits may be less certain to result.

	The regulatory aspects of Option 1 will also make progress towards meeting *E. coli* TASs. This occurs largely because of the co-benefit for *E. coli* from managing nutrients and sediment. Technical advice, however, it that further methods (through Freshwater Action Plans) will be required to meet all four *E. coli* TAS measures (with the 95th percentile measure being the most challenging). Those measures include more area of pasture converted to woody vegetation than is proposed by the sediment management rule as well as 10m wide buffers on second order streams on pastoral land less than 15 degrees in slope. The finding of this section 32 report that Option 1 has a high environmental benefit because it will deliver all TASs, is based on the understanding that those additional measures will be taken over the planning period.		Physical exclusion of stock by a permanent fence offers the greatest protection against stock access effects such as bank erosion and bed disturbance (assuming it is physically and financially practicable to install).
Social	High. Social benefits are closely linked to environmental benefits. The option would deliver attribute states commensurate with	Low. Option will deliver minimal protection against the risk of deteriorating water quality meaning that the social outcomes associated	High (but uncertain). A comprehensive consenting and allocation regime could potentially deliver high environmental and

	protecting and maintaining the values communities have in freshwater bodies. These include an enhanced ability to use freshwater for recreational and community purposes.	with freshwater quality would also remain at risk. It will however have some social benefits for the farming community relative to other options because it would not involve new or additional constraints or costs affecting social (and economic) wellbeing.	associated social benefits. However, as discussed above, given circumstances of the catchment (low ability to deliver change from a low diffuse discharge baseline) and issues with being able to model discharges the option may deliver little social benefit.
Economic	Medium (relative to Option 3). While there are no economic benefits directly resulting from option, plan provisions that allow for the continuation of farming land uses (albeit with a stricter focus on implementing good management practices) better provide for the continued economic wellbeing of rural communities than Option 3.	High (relative to other options). Although there are no economic benefits directly as a result of this option, there are benefits relative to Options 1 and 2 because there are no new and additional costs on farmers or restrictions that constrain farmers economic choices.	Low. It is difficult to identify any meaningful economic benefits from consenting and nitrogen allocation in these catchments. Economic benefits typically claimed from allocation regimes relate to the ability to redistribute discharge rights to achieve better equity or economic efficiency. However, the apparent lack of alternative rural land use and largely homogenous (sheep and/or beef farming) land use in the two whaitua suggests such benefits are not likely in this instance. In some situations, there can be economic benefits for farmers from excluding stock including less risk of stock losses. However, for small, hard bottomed streams any such benefits, are likely to be modest if they arise at all.

Cultural	Medium. The option should deliver the TASs overtime. This will assist in ensuring cultural values like mahinga kai, and the mauri of water bodies are protected and restored. The ability to fully capture cultural benefits will require farm environment plans to reflect cultural values and priorities. This can be assisted by providing appropriate/relevant catchment context to inform FEP development. This does not need to be in the NRP but is proposed as part of a Freshwater Action Plan.	No additional cultural benefits.	Medium. A consenting process could ensure that effects on cultural values are expressly considered in each application. This would allow particularisation of conditions of consent to acknowledge areas/water bodies of particular importance to Māori (for example water bodies near marae, mahinga kai or wāhi tapu). While that is a potentially important benefit, the same or similar outcome could be assured by the use of catchment context to inform FEPs under Option 1. For that reason, both Option 1 and Option 2 are rated as medium benefit. There would be cultural benefits from comprehensive, regulated stock exclusion from small streams including greater protection of mahinga kai. However, due to very low stocking rates and the need for risks to be managed by an FEP, benefits relative to Option 1 are assessed as modest. This assessment is also informed by an expectation that, due to cost and practicality, many landowners would apply for consent to not fence all small streams in the

			Mākara and Mangaroa catchments and that there is a high likelihood that such consents would be granted (in whole or part), reducing the effectiveness of the rule in practice.
Effectiveness:			
How successful will you be in providing the outcome set by the objective?	Option 1 will be effective in achieving nutrient and nutrient related TASs and associated outcomes (in so far as they are affected by diffuse rural discharges), provided the action plans are implemented in conjunction with regulation (with stream shading being critical). Similarly, technical advice is that outcomes related to microbial contaminants (*E. coli*), will be improved by the regulatory aspects of the policy package but that full achievement of the *E. coli* (and, in particular, the 95th%ile *E. coli* measure) is reliant on non-regulatory and operational programmes delivering mitigations beyond those aimed at nutrients and nutrient-related outcomes. These methods are provided for in the scope of proposed action plans	Significant risk that Objectives WH.O4, WH.O7, WH.O8 and P.O5 and associated TASs in tables 8.3, 8.4 and 9.2 would not be met (or continue to be met).	While, theoretically, Option 3 provides for greater effectiveness, fully delivering microbial related outcomes and/or achieving periphyton outcomes by the regulation of farming intensity (via controlling nitrogen and sediment losses) alone, is not considered feasible given the social and economic cost of the scale of land use change/retirement required. Accordingly, an option without comprehensive action plans is not considered to be effective. Moreover, the effectiveness of a consenting regime relying on Overseer and nutrient loss accounting is considered too uncertain at the current time.

Efficiency:			
Do the benefits of the option outweigh the costs?	Most efficient of three options as will achieve more than Option 2 at modest additional cost and likely achieve the same as Option 3 but at lower cost.	Likely low cost but lower benefit (and higher risk of failure). Low efficiency.	Likely high cost for no greater benefit (and some risk of failure). Low efficiency.
Risks of acting or not acting if there is uncertain or insufficient information:	Risk of not acting is (in terms of Option 1) is high since: a) national environmental standards controlling rural land use change will expire at the end of 2024. b) the Wellington NRP does not fully control '*within system*' intensification in the two whaitua; and c) the NRP does not provide sufficient '*catchment context*' to ensure future FFPs will be required to pursue the relevant outcomes in the two Whaitua. The risk of acting (in terms of pursuing Option 1) is low for environmental (and most cultural) outcomes and can only be enhanced by the measures proposed, while the marginal risk to social and economic outcomes is modest.		
Overall evaluation	Having considered the foreseeable costs and benefits, and risks of acting or not acting, Option 1 is the superior option. Critical to this evaluation is the context of the Te Awarua-o-Porirua and Te Whanganui-a-Tara whaitua rural areas as described in this evaluation. In particular, the low intensity of existing farming and low potential for intensification at scale due to the limiting geophysical context. Also relevant is the timing of this plan change relative to changes in national regulation as well as the scope of the existing NRP provisions. The conclusions reached here are specific to that set of circumstances and no conclusion should be drawn about the appropriateness of the policy approach beyond the two whaitua considered here.		

7. Overview of limits and Freshwater Action Plans

7.1 Freshwater Action Plan provisions

47. As discussed in Section D1, Freshwater Action Plans are proposed to be an integrating, place-based means to support and supplement the regulatory provisions of PC1 to achieve the TASs.

48. The Freshwater Action Plan provisions assist with giving effect to the target attribute states in:

- Objective WH.O5 Table 8.2 (lakes in TWT)
- Objective WH.O9 Table 8.4 (rivers in TWT)
- Objective P.O3 Table 9.1 (coastal objectives for sediment, zinc, and copper)[11]
- Objective P.O6 Table 9.2 (rivers in TAoP).

49. This section draws on the work of Greer (2023a and 2023b) and the WIPs to document the locations and TASs requiring Freshwater Action Plans, and then on the content of Part D sections 2-6.

50. The Freshwater Action Plan provisions of PC1 must also respond to specific higher level policy directions, in particular:

- RPS Proposed Change 1 that the Council:
  - prepare all Freshwater Action Plans in partnership with mana whenua and that all Freshwater Action Plans are prepared by December 2026,[12] and
  - identify actions that will be included in Freshwater Action Plans to assist in achieving target attribute states, support regulatory actions and describe the broader context of the whole set of actions to improve the health of the waterway.[13]
- the NPS-FM that:
  - the Council should act with speed to prepare and publish Freshwater Action Plans, and
  - the Council may or may not append Freshwater Action Plans to a regional plan, and

[11] And the associated contaminant load reductions identified in Policy P.P4 Table 9.3
[12] Proposed RPS Method FW.1
[13] Proposed RPS Policy 12

- the Council will regularly review the implementation of Freshwater Action Plans at five yearly intervals.[14]

51. So far there is little practice nationally in the preparation of NPS-FM action plans (though an action plan concept is not novel in of itself). The NPS-FM does not define what an action plan is, though its intent is clear enough: a document and process that sets out the goals for a freshwater body or bodies and the actions and timeframes to get to those goals.

52. In order to demonstrate how Freshwater Action Plans will help achieve the TASs in PC1, the proposed provisions provide instruction to both when a Freshwater Action Plan is needed and its minimum content. The provisions direct the preparation of Freshwater Action Plans in partnership with mana whenua and appropriate, local-scale engagement with affected communities and stakeholders. It is recognised that Greater Wellington will also need the knowledge, funds and capability of communities, territorial authorities, and other agencies to deliver successful action plans.

7.1.1 When is a Freshwater Action Plan required?

53. The NPS-FM requires that Action Plans must be prepared for:

- Achieving the TAS for any attribute from Appendix 2B of the NPS-FM for rivers and for lakes (Clause 3.12(2))
- Any river site that is identified as naturally being hard-bottomed that is currently soft-bottomed, and is appropriate to being returned to hard-bottomed (Clause 3.25(2))[15]
- The purposes of achieving fish passage (Clause 3.26(5)).

54. The NPS-FM further identifies that Action Plans may be prepared for achieving any attribute in Appendix 2A or for any other attribute for which a TAS is set, or to otherwise support the achievement of an environmental outcome, or as a response to degradation identified by the regional council.

55. A pragmatic but conservative method has been used to identify where Freshwater Action Plans are required in PC1. This approach does not require a Freshwater Action Plan for every 2B attribute TAS set in PC1 (of which there are 112 for rivers), but rather for those TASs that require improvement from the baseline or current state.

56. For non-2B attributes Freshwater Action Plans are included in PC1 where it has been identified in Greer (2023a and 2023b) that a TAS or load reduction target is unlikely to be achieved by regulatory provisions alone, or if there is reasonable uncertainty about whether a TAS or load reduction will be achieved. In these cases, it is considered reasonable to use the action planning process as a means

[14] NPS-FM Clause 3.15
[15] There are no such rivers identified in either whaitua of PC1.

of reducing that uncertainty through either better understanding of the problem and/or identifying actions beyond the PC1 regulatory limits to help achieve the TAS.

57. In full, the method used to identify when the Freshwater Action Plan was '*triggered*' was as follows.

58. Firstly, for all 2B attributes for rivers, a freshwater action plan was triggered in a part Freshwater Management Unit when:

- Improvement is required from the baseline state to the TAS,
- Where monitoring shows that the current state shows that the TAS has already been met and there is confidence that this improvement is meaningful a Freshwater Action Plan requirement has not been included.[16]

59. Secondly, for all non-Appendix 2B attributes for rivers (i.e., attributes from Appendix 2A or identified in a WIP), a Freshwater Action Plan is included when:

- Improvement is required from the baseline state to the TAS, or a load reduction is required, and
- Greer (2023a and 2023b) concludes that the TAS will not be achieved by the regulatory provisions of PC1, or there is uncertainty that the provisions will be met by the regulatory provisions alone.

60. Instances of non-2B attributes where the regulatory provisions either will not achieve the TAS, or where it is uncertain the TAS will be achieved by those provisions alone, include:

- Periphyton biomass in Te Awa Kairangi lower main stem and Te Awa Kairangi rural streams and rural mainstem part FMUs, and in Pouewe, Wai-O-Hata, Takapū and Te Rio o Porirua and Rangituhi part FMUs,
- Ammonia in Wainuiomata urban stream's part FMU,
- Nitrate (toxicity) in Taupō part FMU, and
- Dissolved copper and dissolved zinc in Te Awa Kairangi urban streams, Waiwhetū Stream, Kaiwharawhara Stream, Wellington urban part FMUs.

61. Thirdly, where contaminant load reductions are sought by Policy P.P4 to achieve Objective P.O3 Table 9.1 and PC1 proposes to manage relevant land uses or discharges through a permitted activity rule, it is considered necessary to include a Freshwater Action Plan to support effective regulation. This is the case for sediment load reductions and the permitted activity for farming activities proposed in Rules WH.R26, WH.R27, P.R25 and P.R26 and associated Schedules Z and 36, and for stormwater contaminants (zinc and copper loads)

[16] There are eight instances of this identified in rivers in TWT (Greer 2023a) and one instance in TAoP (Greer, 2023b).

proposed in permitted activity Rules WH.R4 and P.R4 to manage stormwater from high risk and industrial trade premises.

62. Finally, PC1 does not include any Freshwater Action Plans in relation to ecosystem metabolism. This is a 2B attribute in the NPS-FM for which for which Freshwater Action Plans are required. As noted in section B.3.12 of this report, ecosystem metabolism was introduced to the NOF in 2020. The Council does not have data or modelled information to appropriately assess either the current state or the target attribute state for this attribute in any location in TAoP or TWT. As such it is not proposed to include action plans for this attribute.

63. In total, the method followed identified 72 triggers for Freshwater Action Plans for rivers across the two whaitua. A breakdown by attribute is shown in Table D8. Figure 3 shows the breakdown of this method for each TAS for TWT and Figure 4 for TAoP.[17]

Table D8: Number of triggers for Freshwater Action Plans for rivers in PC1

	Number of triggers		
	TAoP	**TWT**	**Both whaitua**
Macroinvertebrates 1 (MCI and QMCI)	5	8	13
E. coli	5	5	10
Dissolved reactive phosphorus	0	8	8
Macroinvertebrates 2 (ASPM)	2	4	6
Dissolved Zinc	3	5	8
Suspended fine sediment	0	3	3
Dissolved Copper	2	4	6
Periphyton biomass	4	2	6
Deposited fine sediment	1	3	4
Fish community health	1	2	3
Fish (IBI)	0	2	2
Ammonia (toxicity)	0	1	1
Dissolved oxygen	0	1	1
Nitrate (toxicity)	1	0	1
Ecosystem metabolism	0	0	0
Total	**24**	**48**	**72**

[17] The reference to GWRC 2022 in Figures 3 and 4 is to: Greater Wellington 2022. 2021/22 River water quality and ecology monitoring report. Greater Wellington publication, Wellington Regional Council

		Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems				Te Awa Kairangi lower mainstem				Te Awa Kairangi rural streams and rural mainstems				Te Awa Kairangi urban streams				Waiwhetū Stream			
		Whakatikei River at Riverstone				Hutt River at Boulcott				Mangaroa River at Te Marua				Hulls Creek adjacent Reynolds Bach Drive				Waiwhetū Stream at Whites Line East			
		State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?
	Parameter	Baseline	TAS			Baseline	TAS			Baseline	TAS			Baseline	TAS			Baseline	TAS		
NOF 2A attributes	Periphyton biomass	No baseline, insufficient data	A	M	Not required	D	B	I	Necessary	D	B	I	Necessary	No baseline, insufficient data	C	M	Not required	No baseline, insufficient data	C	M	Not required
	Ammonia (toxicity)	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	B	A	M	Not required
	Nitrate (toxicity)	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required
	Suspended fine sediment	A	A	M	Not required	C	A	I	Necessary	D	C	I	Not required	A	A	M	Not required	A	A	M	Not required
	*E. coli**	A	A	M	Not required	D	C	I	Not required	D	B	I	Necessary	E	C	I	Not required	E	C	I	Not required
NOF 2B attributes	Fish (IBI)	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	I	Required	No baseline, insufficient data	A	I	Required	No baseline, insufficient data	A	M	Not required
	Macroinvertebrates 1 (MCI and QMCI)	B	A	M	Not required as CAS = TAS	C	B	I	Required	C	B	I	Required	No baseline, insufficient data	C	M	Not required	D	C	I	Required
	Macroinvertebrates 2 (ASPM)	B	A	M	Not required as CAS = TAS	B	B	M	Not required	B	B	M	Not required	No baseline, insufficient data	C	M	Not required	D	C	I	Required
	Deposited fine sediment	C	A	M	Not required as CAS = TAS	A	A	M	Not required	A	A	M	Not required	B	B	M	Not required	D	C	I	Required
	Dissolved oxygen	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	I	Required
	Dissolved reactive phosphorus	Using nutrient criteria, not NOF band		I	Required	Using nutrient criteria, not NOF band		M	Not required	Using nutrient criteria, not NOF band		I	Required	Using nutrient criteria, not NOF band		M	Not required	Using nutrient criteria, not NOF band		I	Required
	Ecosystem metabolism	Maintain. No baseline or TAS, insufficient data and method for assessment																			
Whaitua attributes	Dissolved copper	No baseline, insufficient data	A	M	Not required	A	A	M	Not required	No baseline, insufficient data	A	M	Not required	C	B	I	Necessary	C	A	I	Necessary
	Dissolved zinc	No baseline, insufficient data	A	M	Not required	A	A	M	Not required	No baseline, insufficient data	A	M	Not required	C	B	I	Necessary	D	B	I	Necessary
PC1 attribute	Fish community health	No baseline, insufficient data	A	I	Necessary	No baseline, insufficient data	B	I	Necessary	No baseline, insufficient data	B	I	Not required	No baseline, insufficient data	C	M	Not required	No baseline, insufficient data	C	I	Not required

Key

Required	Required by NPS-FM as Appendix 2B TAS that requires improvement
Required	Required by NPS-FM as Appendix 2B TAS that requires improvement AND Greer 2023a shows regulatory provisions consistent with achieving TAS
Necessary	Necessary for policy package to supplement proposed limits
Not required as CAS = TAS	Current state now meets the TAS and there is confidence this is meaningful change (see GWRC 2022). Where this occurs the TAS has been reclassified as Maintain

* *E. coli* NPS-FM attributes from both Appendix 2A and 2B have been combined in this analysis

Figure 3: Identification of requirement for FAP for each part FMU for rivers – Whaitua Te Whanganui-a-Tara

		Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems				Te Awa Kairangi lower mainstem				Te Awa Kairangi rural streams and rural mainstems				Te Awa Kairangi urban streams				Waiwhetū Stream			
		Whakatikei River at Riverstone				Hutt River at Boulcott				Mangaroa River at Te Marua				Hulls Creek adjacent Reynolds Bach Drive				Waiwhetū Stream at Whites Line East			
		State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?
	Parameter	Baseline	TAS			Baseline	TAS			Baseline	TAS			Baseline	TAS			Baseline	TAS		
NOF 2A attributes	Periphyton biomass	No baseline, insufficient data	A	M	Not required	D	B	I	Necessary	D	B	I	Necessary	No baseline, insufficient data	C	M	Not required	No baseline, insufficient data	C	M	Not required
	Ammonia (toxicity)	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	B	A	M	Not required
	Nitrate (toxicity)	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required
	Suspended fine sediment	A	A	M	Not required	C	A	I	Necessary	D	C	I	Not required	A	A	M	Not required	A	A	M	Not required
	*E. coli**	A	A	M	Not required	D	C	I	Not required	D	B	I	Necessary	E	C	I	Not required	E	C	I	Not required
NOF 2B attributes	Fish (IBI)	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	I	Required	No baseline, insufficient data	A	I	Required	No baseline, insufficient data	A	M	Not required
	Macroinvertebrates 1 (MCI and QMCI)	B	A	M	Not required as CAS = TAS	C	B	I	Required	C	B	I	Required	No baseline, insufficient data	C	M	Not required	D	C	I	Required
	Macroinvertebrates 2 (ASPM)	B	A	M	Not required as CAS = TAS	B	B	M	Not required	B	B	M	Not required	No baseline, insufficient data	C	M	Not required	D	C	I	Required
	Deposited fine sediment	C	A	M	Not required as CAS = TAS	A	A	M	Not required	A	A	M	Not required	B	B	M	Not required	D	C	I	Required
	Dissolved oxygen	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	I	Required
	Dissolved reactive phosphorus	Using nutrient criteria, not NOF band		I	Required	Using nutrient criteria, not NOF band		M	Not required	Using nutrient criteria, not NOF band		I	Required	Using nutrient criteria, not NOF band		M	Not required	Using nutrient criteria, not NOF band		I	Required
	Ecosystem metabolism	Maintain. No baseline or TAS, insufficient data and method for assessment																			
Whaitua attributes	Dissolved copper	No baseline, insufficient data	A	M	Not required	A	A	M	Not required	No baseline, insufficient data	A	M	Not required	C	B	I	Necessary	C	A	I	Necessary
	Dissolved zinc	No baseline, insufficient data	A	M	Not required	A	A	M	Not required	No baseline, insufficient data	A	M	Not required	C	B	I	Necessary	D	B	I	Necessary
PC1 attribute	Fish community health	No baseline, insufficient data	A	I	Necessary	No baseline, insufficient data	B	I	Necessary	No baseline, insufficient data	B	I	Not required	No baseline, insufficient data	C	M	Not required	No baseline, insufficient data	C	I	Not required

Key

Required	Required by NPS-FM as Appendix 2B TAS that requires improvement
Required	Required by NPS-FM as Appendix 2B TAS that requires improvement AND Greer 2023a shows regulatory provisions consistent with achieving TAS
Necessary	Necessary for policy package to supplement proposed limits
Not required as CAS = TAS	Current state now meets the TAS and there is confidence this is meaningful change (see GWRC 2022). Where this occurs the TAS has been reclassified as Maintain

* *E. coli* NPS-FM attributes from both Appendix 2A and 2B have been combined in this analysis

Figure 3: Identification of requirement for FAP for each part FMU for rivers – Whaitua Te Whanganui-a-Tara (cont.)

		Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems				Te Awa Kairangi lower mainstem				Te Awa Kairangi rural streams and rural mainstems				Te Awa Kairangi urban streams				Waiwhetū Stream			
		Whakatikei River at Riverstone				Hutt River at Boulcott				Mangaroa River at Te Marua				Hulls Creek adjacent Reynolds Bach Drive				Waiwhetū Stream at Whites Line East			
		State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?	State (band)		Maintain or improve?	Action Plan?
	Parameter	Baseline	TAS			Baseline	TAS			Baseline	TAS			Baseline	TAS			Baseline	TAS		
NOF 2A attributes	Periphyton biomass	No baseline, insufficient data	A	M	Not required	D	B	I	Necessary	D	B	I	Necessary	No baseline, insufficient data	C	M	Not required	No baseline, insufficient data	C	M	Not required
	Ammonia (toxicity)	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	B	A	M	Not required
	Nitrate (toxicity)	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required	A	A	M	Not required
	Suspended fine sediment	A	A	M	Not required	C	A	I	Necessary	D	C	I	Not required	A	A	M	Not required	A	A	M	Not required
	*E. coli**	A	A	M	Not required	D	C	I	Not required	D	B	I	Necessary	E	C	I	Not required	E	C	I	Not required
NOF 2B attributes	Fish (IBI)	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	I	Required	No baseline, insufficient data	A	I	Required	No baseline, insufficient data	A	M	Not required
	Macroinvertebrates 1 (MCI and QMCI)	B	A	M	Not required as CAS = TAS	C	B	I	Required	C	B	I	Required	No baseline, insufficient data	C	M	Not required	D	C	I	Required
	Macroinvertebrates 2 (ASPM)	B	A	M	Not required as CAS = TAS	B	B	M	Not required	B	B	M	Not required	No baseline, insufficient data	C	M	Not required	D	C	I	Required
	Deposited fine sediment	C	A	M	Not required as CAS = TAS	A	A	M	Not required	A	A	M	Not required	B	B	M	Not required	D	C	I	Required
	Dissolved oxygen	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	M	Not required	No baseline, insufficient data	A	I	Required
	Dissolved reactive phosphorus	Using nutrient criteria, not NOF band		I	Required	Using nutrient criteria, not NOF band		M	Not required	Using nutrient criteria, not NOF band		I	Required	Using nutrient criteria, not NOF band		M	Not required	Using nutrient criteria, not NOF band		I	Required
	Ecosystem metabolism	Maintain. No baseline or TAS, insufficient data and method for assessment																			
Whaitua attributes	Dissolved copper	No baseline, insufficient data	A	M	Not required	A	A	M	Not required	No baseline, insufficient data	A	M	Not required	C	B	I	Necessary	C	A	I	Necessary
	Dissolved zinc	No baseline, insufficient data	A	M	Not required	A	A	M	Not required	No baseline, insufficient data	A	M	Not required	C	B	I	Necessary	D	B	I	Necessary
PC1 attribute	Fish community health	No baseline, insufficient data	A	I	Necessary	No baseline, insufficient data	B	I	Necessary	No baseline, insufficient data	B	I	Not required	No baseline, insufficient data	C	M	Not required	No baseline, insufficient data	C	I	Not required

Key

Required	Required by NPS-FM as Appendix 2B TAS that requires improvement
Required	Required by NPS-FM as Appendix 2B TAS that requires improvement AND Greer 2023a shows regulatory provisions consistent with achieving TAS
Necessary	Necessary for policy package to supplement proposed limits
Not required as CAS = TAS	Current state now meets the TAS and there is confidence this is meaningful change (see GWRC 2022). Where this occurs the TAS has been reclassified as Maintain

* *E. coli* NPS-FM attributes from both Appendix 2A and 2B have been combined in this analysis

Figure 4: Identification of requirement for FAP for each part FMU for rivers – Te Awarua-o-Porirua Whaitua

64. Following this approach, Freshwater Action Plans for rivers required in Whaitua Te Whanganui-a-Tara are shown in Table D9 below.

Table D9: Freshwater Action Plans required in Whaitua Te Whanganui-a-Tara

Part FMU	**Attribute**
Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems	Dissolved reactive phosphorus. Fish community health.
Te Awa Kairangi lower mainstem	Periphyton biomass. Suspended fine sediment. Macroinvertebrates 1 (MCI and QMCI). Fish community health.
Te Awa Kairangi rural streams and rural mainstems	Periphyton biomass. *E. coli.* Fish (IBI). Macroinvertebrates 1 (MCI and QMCI). Dissolved reactive phosphorus.
Te Awa Kairangi urban streams	Fish (IBI). Dissolved copper. Dissolved zinc.
Waiwhetū Stream	Macroinvertebrates 1 (MCI and QMCI). Macroinvertebrates 2 (ASPM). Deposited fine sediment. Dissolved oxygen. Dissolved reactive phosphorus. Dissolved copper. Dissolved zinc.
Wainuiomata urban streams	Ammonia (toxicity). *E. coli.* Macroinvertebrates 1 (MCI and QMCI). Macroinvertebrates 2 (ASPM). Dissolved reactive phosphorus. Dissolved zinc.
Wainuiomata rural streams	Suspended fine sediment. Macroinvertebrates 1 (MCI and QMCI). Macroinvertebrates 2 (ASPM). Dissolved reactive phosphorus
Parangarahu catchment streams and South-west coast rural streams	*E. coli.* Deposited fine sediment. Dissolved reactive phosphorus.

Korokoro Stream	*E. coli.* Macroinvertebrates 1 (MCI and QMCI). Macroinvertebrates 2 (ASPM). Dissolved reactive phosphorus.
Kaiwharawhara Stream	Macroinvertebrates 1 (MCI and QMCI). Dissolved reactive phosphorus. Dissolved copper. Dissolved zinc.
Wellington urban streams	*E. coli.* Macroinvertebrates 1 (MCI and QMCI). Deposited fine sediment. Dissolved copper. Dissolved zinc.

65. FAPs required in Te Awarua-o-Porirua Whaitua are shown in Table D10 below.

Table D10: Freshwater Action Plans required in Te Awarua-o-Porirua Whaitua

Part FMU	Attribute
Pouewe	Periphyton biomass. *E. coli.* Macroinvertebrates (MCI and QMCI).
Takapū	Periphyton biomass. *E. coli.* Macroinvertebrates (MCI and QMCI). Deposited fine sediment.
Taupō	Nitrate (toxicity) *E. coli* Macroinvertebrates (MCI and QMCI) Macroinvertebrates (ASPM) Dissolved copper Dissolved zinc
Te Rio o Porirua and Rangituhi	Periphyton biomass *E. coli* Macroinvertebrates (MCI and QMCI) Dissolved zinc
Wai-O-Hata	Periphyton biomass *E. coli* Macroinvertebrates (MCI and QMCI) Macroinvertebrates (ASPM) Fish community health

	Dissolved copper Dissolved zinc
Harbour catchment	**Attribute**
Onepoto Arm	Sediment load Copper load
Pāuatahanui Inlet	Sediment load Copper load

66. Alongside the above, Freshwater Action Plans are required by PC1 for catchments/waterbodies where the Council is well-informed of mana whenua aspirations and where the part FMU trigger approach described above did not provide well for those values and aspirations. This was the case for two locations:

- Parangarahu Lakes (Lakes Kōhangaterā and Kōhangapiripiri) in Whaitua Te Whanganui-a-Tara
- Rangituhi catchment in Te Awarua-o-Porirua Whaitua.

These additional Freshwater Action Plans are explained further below.

7.1.2 Freshwater Action Plans for lakes

67. The Parangarahu Lakes, Kōhangaterā and Kōhangapiripiri, are located within a regional park on Wellington's southeast coast near the entrance to Te Whanganui-a-Tara/the Wellington Harbour. The Parangarahu Lakes are highly valued waterbodies in the Wellington region and their status as such is reflected in the operative NRP as:

- Ngā Taonga Nui a Kiwa for Taranaki Whānui ki te Upoko o te Ika (Schedule B)
- Sites of significance to Taranaki Whānui ki te Upoko o te Ika (Schedule C4)
- Lakes with outstanding indigenous ecosystem values (Schedule A2)
- The associated wetlands having outstanding indigenous biodiversity values (Schedule A3)
- Lakes with significant indigenous ecosystems, significant aquatic plant communities, significant habitats for indigenous birds s (Schedule F1, F1c, F2b), and
- The associated estuary as a site with significant indigenous biodiversity values in the coastal marine area (Schedule F4).

68. A co-management arrangement and plan for the lakes between the Port Nicholson Block Settlement Trust and the Wellington Regional Council has been in place since 2014.[18]

[18] Parangarahu Lakes Area Co-Management Plan

69. Te Mahere Wai includes many recommendations for the management of the Parangarahu Lakes relevant to Freshwater Action Plans, particularly:

- 84: Rōpū Tiaki Mana Whenua and their iwi boards have tino rangatiratanga for setting priorities and visions for the lakes
- 85, 87, 88, 91, 93: Expand and support resource monitoring and investigation, including:
  - Identify attributes for assessing mana whenua environmental outcomes.
  - Monitor of taonga species to support the long-term vision.
  - Mātauranga Māori monitoring and care of the lakes.
  - Understand ecological and water quality baseline for the lakes, including their connectivity to the sea.
  - Publicly report achievement of the targets and outcomes, including mātauranga attributes
- 86: Review public access to lakes and biosecurity management
- 89: Accelerate pest management
- 90: Prioritise and support stock exclusion from waterways in catchment
- 92: Investigate options for reinstating the lakes' ability to breach to the sea[19]

70. Further, Te Mahere Wai recommends prioritises '*special sites like Parangārehu Lakes for immediate improvement*'.[20]

71. The TWT WIP supports these recommendations of Te Mahere Wai with its own – Recommendation 74: Greater Wellington addresses the issues raised in Te Mahere Wai on the recommendations about the Parangārehu Lakes area.[21]

72. The TWT whaitua process did not test the impact of scenarios on Lake Kōhangaterā and Lake Kōhangapiripiri. Undertaking an analysis on how far the PC1 regulatory provisions go to achieving the TAS, as was undertaken for rivers, is less certain because of both this and because knowledge of critical aspects of the lakes' functioning (e.g., nutrient cycling processes) are not well advanced (Greer et al 2023). Greer (2023a) was only able to conclude that the draft regulatory provisions of PC1 will not hinder the achievement of the TAS for these lakes.

73. Using the method described earlier for river part FMUs for the Parangarahu Lakes to identify triggers for Freshwater Action Plans indicates a need for at least five attributes (phytoplankton, total nitrogen, total phosphorus, submerged plants (native species and invasive species)), of which the latter two are 2B attributes (Table D11). However, it has not been possible to confidently identify all the attributes for which a Freshwater Action Plan should be triggered for Lake Kōhangaterā and Lake Kōhangapiripiri.

[19] Te Mahere Wai p57
[20] Te Mahere Wai p63
[21] TWT WIP p49

Table D11: Freshwater Action Plans required in Lake Kōhangaterā and Lake Kōhangapiripiri

Lake	Attribute
Lake Kōhangaterā	Phytoplankton (trophic state) Total phosphorus (trophic state)
Lake Kōhangapiripiri	Total phosphorus (trophic state) Total nitrogen (trophic state) Submerged plants (native species) Submerged plants (invasive species)

74. In their technical report to inform the setting of TAS for these lakes, Perrie (in Greer et al 2023) argues that any approach to managing the lakes should be "*coupled with the implementation of a robust monitoring programme to fill current knowledge gaps (including current state and a lake nutrient budget)*" (p86).

75. As a conservative approach and particularly given the outstanding values of these lakes and the known risks to the Parangarahu Lakes, PC1 has included a specific Freshwater Action Plan requirement for these lakes. The recommendations of Te Mahere Wai were therefore used as the basis for the creation of the Freshwater Action Plans for the lakes for all NPS-FM attributes as well mana whenua environmental attributes identified by mana whenua.

7.1.3 Freshwater Action Plan for the Rangituhi catchment

76. The Rangituhi catchment in Te Awarua-o-Porirua is home to Takapūwāhia marae, one of the two remaining traditional settlements in the Porirua area, an area that remain areas of significance to Ngāti Toa today.[22] TAoP WIP notes that the streams that form part of the Rangituhi WMU '*are highly valued by Ngāti Toa Rangatira due to their proximity to marae, for mahinga kai and wāhi tapu*.' In Ngāti Toa Rangatira's statutory acknowledgement in the NRP, Takapūwāhia is '*the tūrangawaewae for the iwi and continues to be a site of great significance to Ngāti Toa Rangatira*.'[23]

77. In their Statement, Ngāti Toa Rangatira make a number of recommendations to Wellington Regional Council including for a collective Mai Uta Ki Tai (mountains to sea) Work Programme in order to better support prioritising actions across a range of issues in Te Awarua-o-Porirua.[24] Ngāti Toa suggest this could include an ecosystem enhancement action plan, *E. coli* action plan and water network action plan prioritise actions to address wastewater, stormwater, and freshwater issues. TAoP WIP Recommendation 3 is to prioritise implementation of the WIP in the Rangituhi catchment:

[22] Ngāti Toa Whaitua Statement p6-9 on the relationship between Ngāti Toa and Te Awarua-o-Porirua Whaitua
[23] p439 NRP Schedule D2: Statutory Acknowledgements from the Ngāti Toa Rangatira Claims Settlement Act 2014
[24] Ngāti Toa Whaitua Statement

Greater Wellington works with Ngāti Toa Rangatira, PCC, and Wellington Water through various mechanisms (including the Harbour Strategy) to implement this WIP and prioritise actions within the Rangituhi WMU and the catchments that contribute to hotspot areas of elevated metal concentrations within the harbour. This work will comprise:

- *identifying the catchments that contribute to the harbour hotspot areas.*
- *identifying areas of piped stream in the lower reaches of the Rangituhi WMU that could be day lighted.*
- *targeting a pollution prevention programme (Recommendation 36) within these catchments.*

78. As part of the development of the WIP spatial units into freshwater management units, the Rangituhi '*water management unit*' was incorporated into the Te Rio o Porirua part FMU (see Section 3.4.3). The methodology outlined above did not trigger a Freshwater Action Plan for the Rangituhi catchment.

79. Given the significance of the Rangituhi catchment for Ngāti Toa Rangatira and Recommendation 3 of TAoPW, a Freshwater Action Plan is included for the catchment. The recommendations of both the Ngāti Toa Whaitua Statement and TAoP WIP provide significant direction to what a Freshwater Action Plan for Rangituhi may look like.

7.1.4 What is required for Freshwater Action Plans by PC1?

80. As part of PC1's approach to ensure the combination of limits, action plans and consent conditions met the TASs, it is necessary to provide clear direction to what the FAPs include given they must be prepared as a secondary planning process to PC1. The NPS-FM anticipates that action plans may be prepared outside of regional plan. It is important that the provisions for FAPs recommended here provide certainty to those subsequent planning process.

81. The provisions for FAPs in PC1 include:

- A new method for a Wellington Regional Council programme to deliver FAPs, and two related new methods for specific FAPs for the Parangarahu Lakes (Lake Kōhangaterā and Lake Kōhangapiripiri) and Rangituhi catchment, and
- A schedule (Schedule 27) linked to these other methods that lays out the purpose, principles, necessary actions, and general and whaitua-specific content for a FAP.

82. The content Schedule 27 was informed by expert knowledge, including as identified through the analyses in Sections D2-D6, the WIPs and associated mana whenua documents, and engagement.

7.1.5 Relevant WIP and mana whenua implementation plan recommendations

83. The WIPs, Ngāti Toa whaitua statement and Te Mahere Wai provide significant direction to FAPs. In particular, Te Mahere Wai contains often highly detailed recommendations that will be valuable to the preparation of Freshwater Action Plans across TWT.[25] PC1 proposes that the recommendations of the WIPs, Ngāti Te Mahere Wai is reflected in the preparation of Freshwater Action Plans (see Schedule 27 Section C (FAPs in Te Whanganui-a-Tara) and Section D (FAPs in Te Awarua-o-Porirua Whaitua)).

84. The NPS-FM 2020 changes that established the requirements for Action Plans were gazetted in August 2020 and TAoP whaitua process was completed in 2019 and TWT whaitua process was in its final stages in August 2020. As such neither process specifically anticipated action plans, but recommendations in both WIPs were relevant and valuable to the FAP provisions of PC1 and will continue to be useful to the future preparation of the FAPs.

Whaitua Te Whanganui-a-Tara Implementation Programme

85. The recommendations of the Te Whanganui-a-Tara WIP relevant to this topic are:

- 32: Septic tank good practice programme
- 33: Aligning rural land use support programmes with TASs and farm planning priorities
- 34: Investigate *E. coli* sources including horses
- 35: Financial support options to promote revegetation and riparian management
- 36: Info to support good land management practice
- 37: Forestry good practice programme
- 46, 49: Support and education for high-risk stormwater activities
- 56: WSUD regional forum
- 77: Restoring spawning habitats
- 111: Investigation of nitrogen sources

Te Mahere Wai o Te Kāhui Taiao (Te Mahere Wai)

86. The recommendations of Te Mahere Wai most relevant to this topic and to the future implementation of Freshwater Action Plans include:

- 14: Partnered agreement between Mana Whenua and Greater Wellington for freshwater management decision-making processes, including at a local level and in implementing TWT WIP

[25] As well as recommendations related to actions as identified in bullet points, Te Mahere Wai includes detailed, place-based information and recommendations for rivers and streams across TWT relevant to making decisions about land and water management (such as might be anticipated in a Freshwater Action Plan) in Chapters 12-18.

- 28: Greater Wellington reviews point source discharges to freshwater, particularly in identified catchments
- 29: Greater Wellington prioritises audits of stormwater/ wastewater cross connection in Kaiwharawhara, Korokoro, Wainuiomata and Black Creek catchments
- 65: Farm plan implementation to support health of small streams
- 67: Retirement of marginal land in southwest coast to protect small streams
- 74: Allow fish passage for native fish but prevent invasive species in uninvaded areas
- 77: Greater Wellington-owned forestry land has harvest plans in place
- 84-93: Actions for the Parangarahu Lakes (as detailed in para 69 above)
- 101: Greater Wellington adopts best management practice for managing its own land

Te Awarua-o-Porirua Whaitua Implementation Programme

87. The recommendations of the Te Awarua-o-Porirua WIP relevant to this topic are:

- 3: Prioritising action in the Rangituhi catchment
- 13: Whaitua-wide riparian protection, planting, and maintenance programme
- 15: Mahinga kai, ecosystem health and natural form restoration programme
- 16: Reducing stream bank erosion
- 29: Supporting water sensitive urban design
- 33, 36: Run pollution prevention and stormwater best practice programme for high-risk activities
- 54, 55, 56, 57: Forestry good practice programme, including strategic compliance and permitted activity charging for effective forestry regulation
- 60, 64: Aligning rural land use support programmes with farm planning and highest erosion risk priorities
- 62: Prioritising erosion reduction on Wellington Regional Council-owned land
- 67: Onsite wastewater programme

Ngāti Toa whaitua statement

88. The recommendations of the Ngāti Toa whaitua statement most relevant to this topic are:

- Mai Uta Ki Tai Work programme under a collective between Ngāti Toa, community, Greater Wellington, and territorial authorities that could include ecosystem enhancement, targeting *E. coli* contamination issues, prioritising actions to improve contamination between freshwater and stormwater and wastewater, undertaking education programme to re-connect people with their water bodies.

- Supporting the implementation of innovative stormwater and wastewater practices.

7.1.6 Supporting the health of waterways

89. A number of other methods have also been included in PC1 to complement the FAP methods. These are two methods for supporting healthy waterways in rural and urban areas to support the achievement of the TAS outside of where a FAP was triggered. A method is also proposed to support the effective regulation of small scale farming activities and another to ensure Wellington Regional Council has an appropriate programme to monitor and respond to degradation, as anticipated by the NPS-FM. Drawing on the direction of the NPS-FM, this latter method seeks that Wellington Regional Council respond appropriately to any degradation identified, including through preparing Freshwater Action Plans or making changes to the NRP if appropriate.

7.1.7 Fish passage action plan requirements

90. The NPS-FM directs an action plan for fish passage under Clause 3.26(5). The Council already undertakes fish passage identification and remediation activities on Wellington Regional Council owned land, a process developed outside of the NPS-FM requirements but fulfilling a similar purpose. The WIP for Whaitua Te Whanganui-a-Tara provides further direction that the identification of all fish passage barriers should occur within 5 years for those on public land, and within 10 years for those on private land.

91. PC1 offered an opportunity to broaden and inform existing activities under the current fish passage programme as part the implementation of the NPS-FM. Accordingly PC1 includes another method to provide for a fish passage action plan.

7.1.8 Summary of Freshwater Action Plans approach

92. PC1 proposes that Freshwater Action Plans are prepared for TWT and TAoP to assist in achieving the target attributes states of this plan change in 72 instances for rivers and streams and to achieve the load reductions of key contaminants that move from land through freshwater to estuaries. The provisions proposed here also direct the preparation of FAPS for Lakes Kōhangaterā and Kōhangapiripiri and for the Rangituhi catchment. The provisions direct the preparation and the necessary content of FAPs.

93. Altogether, the methods for Freshwater Management Plans are considered effective. The speed of the implementation of these provisions, like any non-regulatory method, will ultimately depend on the funding provided.

7.1.9 Summary of Freshwater Action Plans approach

Summary of recommended approach	The Freshwater Action Plan content proposed in PC1 can be summarised as two new policies in each Whaitua chapter and series of new methods in Chapter 6 of the NRP. These respond to and are informed by the NPS-FM and outcomes

	of the WIPs, Te Mahere Wai and the Ngāti Toa Statement. These other methods are supported by a new schedule indicating the locations where the FAPs will be prepared and the principles and key parts of the FAPs. The applicable provisions are: – Policy WH.P2. Management of activities to achieve target attribute states and coastal water objectives. – Policy WH.P3: Freshwater Action Plans role in the health and wellbeing of waterways – Policy P.P2. Management of activities to achieve target attribute states and coastal water objectives. – Policy P.P3: Freshwater Action Plans role in the health and wellbeing of waterways – Schedule 27 Freshwater Action Plan requirements – Method M36: Freshwater Action Plan programme – Method M37: Freshwater Action Plan for the Parangarahu Lakes – Method M38: Freshwater Action Plan for the Rangituhi catchment – Method M40: Fish passage action plan programme for Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua – Method M41: Identifying and responding to degradation in freshwater bodies within Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua – Method M42: Small farm property registration within Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua – Method M43: Supporting the health of urban waterbodies. – Method M44: Supporting the health of rural waterbodies
Risks of acting or not acting if there is uncertain or insufficient information	The uncertainties / information gaps relevant to these options are: – Baseline states and TASs have been set using best available knowledge, which sometimes is modelled, however this is considered appropriate and in accordance with best knowledge (Greer et al 2023) – Reflecting uncertainty in baseline and target states, the provisions identifying where Freshwater Action Plans are required are conservative, particularly for those Appendix 2B attributes that require improvement under the NPS-FM. It is more likely the provisions overestimate the number of Freshwater Action Plan triggers than underestimate this. – The provisions that direct the content of a Freshwater Action Plan set out ground truthing of state and trends as an important step in action planning.

	While there are some risks to acting with uncertain knowledge, Clause 1.6 of the NPS-FM 2020 directs that the Council may not delay decision making because of uncertainty and should interpret uncertainty in the way to best give effect to the NPS-FM 2020. The risks of not acting (i.e., retaining the status quo of no NRP provisions relating to FAPs) are more significant to the health of freshwater ways
Overall evaluation	Altogether, the methods for Freshwater Management Plans and other non-regulatory methods to support healthy water bodies and the achievement of the TAS in PC1 are considered effective.

7.2 Overview of PC1's approach to meeting target attribute states

94. Part D Sections 2-6 describe how the proposed limits will, in conjunction with resource consent conditions and action plans, individually meet the requirements of the NPS-FM and contribute to effectively deliver the TASs.

95. In practice, the policy responses for each of the issues and activities described in Sections 2-6 are mutually supporting. That is, the achievement of any TAS is generally dependent on the combined effect of multiple policy responses (limits and action plans) to a range of activities and risks.

96. The complex map of part FMUs and their attribute states relative to TASs, limits proposed through new rules, limits in existing NRP rules, known additional non-regulatory methods as well as methods to be developed through action planning is shown in Table D12 below.

Table D12: Overview of how PC1's limits and action plans will contribute to the achievement of TASs for attributes for which limits are set in PC1

Attribute (rivers)	Part FMU where improvement is required to achieve TAS	Potential contributing/ exacerbating effect	Contributing activity	Policies, rules, and methods to achieve TAS				Part FMU where additional action required to meet TAS
				Rule containing limit on activity (existing rules in *blue* text)	Type of limit	Other (non-limit) rules	Non-regulatory actions	
APPENDIX 2A Attributes								
Periphyton	Te Awa Kairangi lower mainstem Te Awa Kairangi rural streams and rural mainstems Pouewe Wai-O-Hata Takapū Te Rio o Porirua and Rangituhi	Nutrient enrichment from diffuse nutrient discharges	• Over-intensive farming • Farming with poor nutrient management • Within system intensification on existing farms • Cultivation • Break feeding	WH.R32 / P.R29 (increase in nitrogen loss risk from existing farms non-complying if TAS exceeded)	Input/ output control Land use control	WH.R27 / P.R26 (requirement for FEP) Rule WH.R28 and WH.R29 (livestock access to streams in Makara and Mangaroa catchments with FEP)	*Actions required to aid rule implementation.* • Method M39: Freshwater Action Plans and associated Sch 27 • Method M44: Programme to support small block registration and FEP development. • Sch 27 Part D: Further investigation of sources of nutrients • Sch 27 C: Support for stock exclusion *Other mitigating deliver outcomes/ TAS (not required by rules)* • Sch 27: Programme to support vegetated riparian margins, particularly on low-slope land	Te Awa Kairangi lower mainstem Te Awa Kairangi rural streams and rural mainstems Pouewe
			• Land use change to more intensive rural use	WH.R32 / P.R29 (change to a more intensive rural land use non-complying if TAS exceeded)	Land use/ output control			
		Nutrient enrichment from deposition of animal excreta direct to rivers	• Livestock with access to water bodies	*Rule R100*	Land use/ output control			
		Nutrient enrichment from rural point sources	• Discharge of biosolids, fertiliser, collected animal effluent, leachate from stored silage, farm dumps and offal pits. • Onsite wastewater system discharges	*Rules 62 and 63 Rule R66* *Rule R74*	Mix of land use, input, and output controls			
		Nutrient enrichment from urban point sources	• Wastewater discharges including overflows. • Stormwater contaminated with wastewater. • Points source discharges from industrial or trade processes	Rule WH.R16/P.R15 (wastewater discharges non-complying if conditions not met or a new discharge) Rule WH.R12/P.R11 (Stormwater discharges non-complying if conditions not met) WH.R11/ P.R10 (new stormwater discharges prohibited if outside planned area)	Input and output controls	WH.R6/ P.R5 (requirement for a stormwater management strategy that remedies cross-connections) WH.R15/ P.R14 (requirement for a wastewater network strategy that reduces overflows) WH.R8-WH.R10/ P.R7-P.R9 (new stormwater discharges)	• Investigate the development of a wastewater management innovation programme for alternate waste disposal. • Sch 27 Part C: investigation of options to improve periphyton and MCI	
Nitrate (toxicity)	Taupō Wai-O-Hata	Diffuse nitrate discharges	As for DIN				As for DIN	Taupō
Ammonia (toxicity)	Wainuiomata urban streams Taupō		• Wastewater discharges to water, including overflows from wastewater networks. • Stormwater contaminated with wastewater discharges to water. • Point source discharges to water from industrial or trade processes. • Accidental spills	Rule WH.R16/ P.R15 (wastewater discharges non-complying if conditions not met or a new discharge to freshwater) Rule WH.R12/ P.R11 (Stormwater discharges non-complying if conditions not met) WH.R1/ P.R1 (Point source discharges of specific contaminants)	Input and output controls	WH.R9/ P.R8 (requirement for a stormwater management strategy) WH.R14/ P.R13 (requirement for a wastewater network strategy) WH.R4/P.R4 (Stormwater from high risk industrial or trade premises) WH.R5 (Stormwater from a port or airport)	• Sch 27: Development and implementation of a pollution prevention programme • Working with industry organisations (e.g., painters and cleaners) to reinforce or improve standards, communication, and training for best industry practice. • Sch 27 Part C: investigate sources of ammonia pollution	Wainuiomata urban streams
Suspended fine sediment/ coastal sediment objectives	Wainuiomata rural streams Wainuiomata urban streams	Accelerated surficial erosion.	• Grazing livestock on erosion prone land	WH.R32 / P.R29 / Schedule 36 (pastoral farming non-complying if 50% of highest erosion risk land on farm not in woody vegetation within 10 years)	Land use control	NA	*Actions required to aid rule implementation.* • Method M39 and Sch 27: ○ Programme to support erosion treatment plans	Te Awa Kairangi lower mainstem Wainuiomata rural streams

Attribute (rivers)	Part FMU where improvement is required to achieve TAS	Potential contributing/ exacerbating effect	Contributing activity	Policies, rules, and methods to achieve TAS				Part FMU where additional action required to meet TAS
				Rule containing limit on activity (existing rules in *blue* text)	Type of limit	Other (non-limit) rules	Non-regulatory actions	
	Parangarahu catchment streams and South-west coast rural streams Te Awa Kairangi lower mainstem Te Awa Kairangi rural streams and rural mainstems Takapū Mākara Estuary Onepoto Arm Pāuatahanui Inlet	Stream bank erosion	• Stock access to waterbodies	*Rules R100*	Land use control	Rule WH.R28 and WH.R29 (livestock access to streams in Makara and Mangaroa catchments with FEP)	○ Support for stock exclusion ○ Forestry strategic compliance and good practice programme ○ Programme to support vegetated riparian margins, particularly on low slope land. • Method M44: Programme to support small block registration and FEP development. *Other mitigating actions to deliver outcomes/TAS (not required by rules)* • Additional land retirement of all High Erosion Risk and Highest Erosion Risk land	Mākara Estuary
		Discharges from exposed soil	• Earthworks • Forestry • Vegetation clearance	Rule WH.R22/ P.R21 (plantation forestry on highest erosion risk land – prohibited) Rule WH.R25/ P.R24 (earthworks not meeting discharge standard non-complying)	Land use control Output control	WH.R17-R21/ P.R16-20 (controls on vegetation clearance and plantation forestry)		
E. coli	Parangarahu catchment streams and South-west coast rural streams Wainuiomata rural streams Te Awa Kairangi rural streams and rural mainstems Te Awa Kairangi lower mainstem Te Awa Kairangi urban streams Waiwhetū Stream Wainuiomata urban streams Kaiwharawhara Stream Wellington urban streams Taupō Pouewe Wai-O-Hata Takapū Te Rio o Porirua and Rangituhi	Deposition of animal excreta direct to rivers	• livestock with access to water bodies	*Rules R100*		Rule WH.R28 and WH.R29 (livestock access to streams in Makara and Mangaroa catchments)	*Actions required to aid rule implementation.* • Support for stock exclusion • Freshwater Action Plans Schedule 27 Part B *Other mitigating actions to deliver outcomes/TAS.* • Programme to support vegetated riparian margins, particularly on low-slope land	Parangarahu catchment streams and South-west coast rural streams Te Awa Kairangi rural streams and rural mainstems Wainuiomata urban streams Wellington urban streams Taupō Pouewe Wai-O-Hata Takapū Te Rio o Porirua and Rangituhi
		Overland flow from grazed land	Grazing of animals on pasture	WH.R32 / P.R29 (increase in nitrogen loss risk from existing farms non-complying of if TAS exceeded – caps intensity)	Input/ output control Land use control	WH.R27 / P.R26 (requirement for FEP and management of critical source areas)		
		Point source urban wastewater discharges	• Wastewater discharges including overflows. • Stormwater contaminated with wastewater.	Rule WH.R16/P.R15 (wastewater discharges non-complying if conditions not met or a new discharge to freshwater)	Input and output controls	WH.R14/P.R13 (requirement for a wastewater network strategy)	Investigate the development of a wastewater management innovation programme for alternate waste disposal	

Attribute (rivers)	Part FMU where TAS is not met	Potential contributing/ exacerbating effect	Contributing activity	Policies, rules, and methods to achieve TAS				Part FMU where additional action required to meet TAS
				Rule containing limit on activity (existing rules in *blue* font)	Type of limit	Other (non -limit) rules	Non-regulatory actions	
2A-like attributes – i.e., other attributes for which limits are set								
Dissolved copper/ copper load reduction	Te Awa Kairangi urban streams Waiwhetū Stream Kaiwharawhara Stream Wellington urban streams Taupō Wai-O-Hata Onepoto Arm Pāuatahanui Inlet	Urban stormwater discharges	Stormwater from roads and other impervious urban surfaces. Copper sources are vehicle brake pads, plumbing, and industrial activities	Rule WH.R12/ P.R11 (Stormwater discharges non-complying if conditions not met) Rule WH.R13/P.R12 (Stormwater from new unplanned greenfield development – prohibited activity)	Output and land use limit	Rules WH.R2-R11 (Stormwater rules – existing and new development)	*Actions required to aid rule implementation.* • Method M39: Freshwater Action Plans • Freshwater Action Plans Schedule 27 Part B • Method M43 Supporting health of urban waterbodies. • Method M45 Funding of wastewater and stormwater network upgrades	-
Dissolved zinc/ zinc load reduction	Te Awa Kairangi urban streams Waiwhetū Stream Wainuiomata urban streams Kaiwharawhara Stream Wellington urban streams Taupō Wai-O-Hata Te Rio o Porirua and Rangituhi Onepoto Arm Pāuatahanui Inlet	Urban stormwater discharges	In stormwater from roads and other impervious urban surfaces. Zinc sources are vehicle tyres, galvanised roofs and building materials, paints, and industrial activities.	Rule WH.R12/ P.R11 (Stormwater discharges non-complying if conditions not met)	Output and land use limit	Rules WH.R2-R11 (Stormwater rules – existing and new development)		-
Dissolved reactive phosphorus (DRP)	Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems Te Awa Kairangi rural streams and rural mainstems Waiwhetū Stream Wainuiomata urban streams Wainuiomata rural streams Korokoro Stream Kaiwharawhara Stream Parangarahu catchment streams and South-west coast rural streams	Diffuse and points source rural and urban discharges plus sediment loss	• As above plus as set out for suspended fine sediment					Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems Kaiwharawhara Stream Parangarahu catchment streams and South-west coast rural streams Wainuiomata rural streams Waiwhetū Stream

97. Table D12 above illustrates how limits proposed in PC1 combine with limits in the existing NRP, controls imposed by other rules in PC1 and anticipated methods to be included in FAPs, to address exceedances in the TASs currently experienced in various part FMUs.

98. As discussed in section C, in a small number of cases (i.e., in those part FMUs described in the far right-hand column of Table D12), the best information available suggests that the currently anticipated methods in FAPs may not be sufficient to fully '*close the gap*' between what limits and other rules may achieve and what is needed to ensure specific TASs are achieved at the individual part FMU scale. For those situations, future freshwater action planning will examine what additional actions and resources can be deployed to ensure Greater Wellington's obligations under the NPS-FM are fully met.

99. This approach to dealing with residual challenges is considered prudent in the face of potentially excessive limit setting and where there remains uncertainty about the efficacy of proposed limits and other non-limit methods.

8. Water allocation (Te Awarua-o-Porirua whaitua only)

8.1 Relevant objectives

170. The water allocation provisions in PC1 seek to address the following operative[1] and proposed NRP objectives within the Te Awarua-o-Porirua Whaitua:

Operative

- Objective O3 – Mauri particularly the mauri of fresh and coastal waters is sustained and, where it has been depleted, natural resources and processes are enhanced to replenish mauri.

- Objective O4 – The intrinsic values of fresh water and marine ecosystems are recognised, and the life supporting capacity of air, water, soil, and ecosystems is safeguarded.

- Objective O7 – The recreational values of the coastal marine area, rivers and lakes and their margins and natural wetlands are maintained and where appropriate for recreational purposes, is enhanced.

- Objective O12 – The relationships of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga are recognised and provided for, including:

  (a) maintaining and improving opportunities for Māori customary use of the coastal marine area, rivers, lakes and their margins and natural wetlands, and

  (b) maintaining and improving the availability of mahinga kai species, in terms of quantity, quality and diversity, to support Māori customary harvest, and

  (c) providing for the relationship of mana whenua with Ngā Taonga Nui a Kiwa, including by maintaining or improving Ngā Taonga Nui a Kiwa so that the huanga identified in Schedule B are provided for, and

  (d) protecting sites with significant mana whenua values from use and development that will adversely affect their values and restoring those sites to a state where their characteristics and qualities sustain the identified values.

- Objective O14 – The natural character of the coastal marine area, natural wetlands, and rivers, lakes and their margins are preserved and protected from inappropriate use and development.

- Objective O43 – The efficient allocation and efficient use of water is improved and maximised through time including through water harvesting.

[1] The following list includes Objectives that will continue to apply to Te Awarua-o-Porirua Whaitua.

- Objective O44 – Any further over-allocation of fresh water is avoided, and existing over-allocation is phased out.

Proposed

- Objective P.O1

  The health of Te Awarua-o-Porirua's groundwater, rivers, lakes, **natural wetlands**, estuaries, harbours, and coastal marine area is progressively improved and is wai ora by 2100.

  Note
  In the wai ora state:

  - Te Awarua-o-Porirua is a taonga of Ngāti Toa Rangatira and must be respected by others.
  - **Mauri** is restored and waters are in a natural state.
  - Ecological health is excellent in fresh water and coastal water environments.
  - Rivers flow naturally, with ripples and the riverbeds are stony.
  - **Mahinga kai**, taonga, mahinga ika and kaimoana species are healthy, abundant, diverse, present across all stages of life, sizeable, and able to be culturally harvested by **mana whenua.**
  - **Mahinga kai**, taonga, mahinga ika and kai moana species are safe to harvest and eat or use, including for **mana whenua** to exercise manaakitanga.
  - **Mana whenua** and communities can undertake a full range of activities.
  - **Mana whenua** are able to undertake cultural activities and practices.

- Objective P.O2

  By 2040, Te Awarua-o-Porirua's groundwater, rivers, lakes and **natural wetlands**, and their margins are on a trajectory of measurable improvement, such that:

  (a) water quality, habitats, water quantity and ecological processes are at a level where the state of aquatic life is meaningfully improved, and

  (b) erosion processes, including bank stability, are improved to significantly reduce the sedimentation rate in the harbour to a more natural level, and

  (c) the extent and condition of indigenous riparian vegetation is increased and improved to improve water quality, ecosystem health and habitats, and

(d) the diversity, abundance, and condition of **mahinga kai** are increased so that **mana whenua** are able to harvest healthy **mahinga kai** for their people, and

(e) **huanga** of **mahinga kai** and **Māori customary use** for locations identified by **mana whenua** in Schedule B (**Ngā Taonga Nui a Kiwa**) are maintained or improved, and

(f) **mana whenua** are able to safely connect with freshwater and can practice their customary and cultural practices, including **mahinga kai** gathering, and

(g) **mana whenua** and communities can safely connect with waterbodies and enjoy a wider range of activities, including swimming, paddling and food gathering, and

the freshwater **environmental outcomes** must contribute to the:

(h) maintenance and improvement of the health and wellbeing of estuaries, harbours, and open coastal areas, and

(i) protection and **restoration** of sites within significant values.

- Objective P.O5

  Groundwater flows and levels, and water quality, are maintained at levels that protect:

  (a) groundwater dependent ecosystems, and

  (b) the values of connected **surface water bodies** in places where groundwater flows to surface water.

171. Numerous other objectives could also be listed as providing more indirect direction for the water allocation provisions. Therefore, broadly speaking, the Te Awarua-o-Porirua water allocation provisions included in PC1 need to ensure that the environmental flows and levels, and take limits avoid future over-allocation[2], improves the efficient allocation and use of water, in manner that protects various values.

8.2 Policy context – problem/issue

172. The national policy direction for water allocation is provided by Policy 11 of the NPS-FM, which directs that:

Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided.

173. This policy is supported by clauses 3.16 and 3.17 of the NPS-FM National Objectives Framework, which require regional councils to set:

[2] As identified in 6.1.2, there is not considered to be existing over-allocation in the Whaitua, but the operative NRP provisions create the potential for future over-allocation.

- Environmental flows and levels that achieve, or will achieve overtime, the environmental outcomes sought for the values of each freshwater management unit; and

- Limits on the taking of water from each freshwater management unit.

174. By reducing water flow and water levels in water bodies, the taking of water can directly affect a wide variety of values, including the mauri and mana of the water body, mahinga kai, ecological health and life supporting capacity, and recreation values. Takes from surface water can also impact connected groundwater.

175. There is less demand for water in Te Awarua-o-Porirua Whaitua[3] compared to other parts of the region. Much of the Whaitua's population is served by a reticulated water supply sourced from outside the Whaitua (from the Hutt, Wainuiomata and Ōrongorongo catchments) and the Whaitua does not have significant demands for irrigation. Existing water takes within the Whaitua are largely limited to abstraction for:

- Individual domestic needs and animal drinking water in rural areas (under NRP permitted activity rules or as authorised by s14 of the RMA).

- irrigation for two golf courses and a nursery; and

- temporary construction works (e.g., for dust suppression, trench dewatering, etc).

176. However, the total amount of water that could potentially be taken and used under the current NRP provisions is substantial and could exceed sustainable allocation for some of the streams. The Te Awarua-o-Porirua Whaitua Committee considered that the potential for abstraction under the permitted activity rules presented too great of a risk to the Whaitua. Since the Whaitua process concluded, expert advice has been provided to the Council which identifies that allocation limits for consented takes in the Whaitua do not align with Te Mana o Te Wai (Thompson, 2023).

1. Plan Change 1 implements the requirements of the NPS-FM and, with three exceptions, the recommendations for Te Awarua-o-Porirua Whaitua. The three matters on which Plan Change 1 varies from Te Awarua-o-Porirua Whaitua water quantity recommendations are:

    a Te Awarua-o-Porirua Whaitua recommended that the maximum amount of water available for allocation by resource consent be restricted to 30% of mean annual low flow. Plan Change 1 proposes to limit the allocation available through resource consent to 20% of mean annual low flow. This is based on technical advice that 20% is more consistent with Te Mana o te Wai, which was received after Te Awarua-o-Porirua Whaitua concluded.

[3] With respect to water allocation, Plan Change 1 only addresses Te Awarua-o-Porirua Whaitua

b Te Awarua-o-Porirua Whaitua recommended that permitted takes be required to cease in all parts of the Whaitua when stream flow drops below minimum flows. Plan Change 1 proposes that minimum flow restrictions would only apply in the Porirua, Pāuatahanui and Horokiri Catchment Management Units as the restriction cannot be applied elsewhere given the lack of information on stream flows. Further the risk to stream health of not applying a minimum flow in all catchments has been assessed as being 'likely low'.

c Te Awarua-o-Porirua Whaitua recommended that users of permitted takes must keep records of the amount of water taken. Plan Change 1 does not include this requirement based on the assessment that the burden to individual users was not justified by the low value of the resulting dataset. Periodic land and water use surveys are more likely to yield better information.

177. Plan Change 1 does not implement the water quantity recommendations of Whaitua Te Whanganui-a-Tara and Te Mahere Wai. These recommendations will be covered in a future plan change. Incorporating these recommendations in later provides more time for technical work on the recommendations, aligns with the preference of Ngāti Toa Rangatira and enables the future water supply options work being undertaken by Wellington Water to be advanced and inform the consideration of the plan change.

178. The following assessment separately evaluates the options to address these issues for permitted activity takes and consented takes.

8.2.1 Water allocation (permitted takes) - efficiency and effectiveness of provisions

This policy package is part of a suite that contribute to achieving the Objectives set out in 6.1.1 above.
Intent of this policy package: To address risks identified by the Whaitua Committee with respect to the sustainability of the current permitted activity water abstraction rules in Te Awarua-o-Porirua.
Policy package Option 1 – preferred option[4] Amend existing Permitted Activity Rules R152, R153 and R154[5] so that they no longer apply in Te Awarua-o-Porirua. Introduce a new rule that provides for only limited takes as permitted activities in Te Awarua-o-Porirua, where these do not exceed 2.5L/s, 5,000 litres per day and 10,000 litres in any one calendar month. Within the Porirua, Pāuatahanui and Horokiri catchment management units, these permitted takes would not be allowed to be abstracted when flow in that catchment management unit is below a stated minimum flow. Outside of these three catchment management units minimum flow restrictions would not apply to permitted takes. **Policy package Option 2 – WIP recommendation** This option would fully implement all aspects of the Whaitua Committee recommendation. It is the same as Option 1 with the additions that: • The requirement to cease a permitted take under the new permitted activity rule when flow in the relevant river is below minimum flow would apply across the Whaitua, i.e., it would not be limited to three catchment management units as proposed in option 1. • Users taking water under the permitted rule would be required to install a meter and keep records of the amount of water taken. **Policy package Option 3 – Status quo** Retain the current NRP region-wide provisions. These allow: • Rule R152 – allows a property that is less than 20 ha to take up to 10,000 litres of water per day and a larger property to take up to 20,000 litres of water per day without resource consent. There is no current requirement to register or monitor a permitted use (although this can be required at Council's discretion by R152 (f)), nor is there a requirement to cease the take when stream flow drops below minimum flows. • Rule R153 – allows water to be taken for dairy washdown and milk-cooling, up to 70 litres a day per head based on the maximum herd size during the three years prior to end July 2015. • Rule R154 – Water may be taken from authorised water races.

[4] The amendments proposed in Option 1 and 2 would not impact water takes authorised under s14(3)(b) of the RMA.
[5] Rules R153 or R154 are not exercised in Te Awarua-o-Porirua because there are no dairy herds or water races within the Whaitua. The rules are therefore not relevant to the Whaitua.

Policy package option 4 – Region-wide Amendment

This package would involve the development of an amended suite of uniform, region-wide permitted activity water take provisions. This would likely occur as part of Plan Change 2 that is scheduled to be notified in 2024. It is assumed that to accommodate needs in different Whaitua of the region, the uniform permitted rules would be set to allow more water than would be permitted to be taken under option 1 and 2, but less than is currently provided for (option 3).

	Option 1 (Preferred)	**Option 2 (WIP recommendation)**	**Option 3 (Status quo)**	**Option 4 (new region-wide rules)**
Costs:				
Environmental	This option will limit the potential impact of permitted takes on aquatic ecology by significantly restricting the allowable abstraction rate and volume. There would be a small risk of some additional environmental cost, relative to option 2, by not restricting permitted takes outside of the three specified catchment management units at the time of minimum flows. However, these potential costs are considered small based on the limited amount of water able to be taken under the proposed '*one-off*' rule.	The environmental costs are similar to option 1, although potentially slightly less because of the Whaitua-wide requirement to cease the permitted takes at times of minimum flow.	Under the status quo there is the potential for significant volumes of water (relative to the size of the water bodies) to be abstracted as a permitted activity. A 2017 modelling report[6] indicates that the water that could be taken under the current plan rules is well above sustainable levels. While the consequence of this risk might be high (i.e., unsustainable levels of water take that equate to over-allocation) the likelihood of it occurring in the foreseeable future seems low (i.e., there is no indication that abstraction up to the maximum permitted is undertaken or widespread).	This option would allow for more water to be abstracted than under options 1 and 2 but less than option 3. It would therefore result in the potential for higher environmental risks than options 1 and 2, but lower risks than option 3.

[6] Modelling Permitted Surface Water Use in the Porirua Whaitua catchment (23 May 2017) by Beca for Greater Wellington Regional Council

Social	There is the potential for small social costs (community tension) as result of some permitted takes being restricted at minimum flows while permitted takes in other parts of the Whaitua are not restricted. Social costs could also arise from the additional effort required to maintain compliance with the rules under this option.	There is the potential for social costs (community tension) because of the economic cost of metering for landowners and the additional effort required to maintain compliance with the rules under this option.	There is a potential risk of social costs (community tension) with this option if actual takes increased to the maximums permitted under the current rules. Takes at this level would equate to over-allocation and could result in increasingly unreliable supplies for all users. While the social consequence of this risk might be moderate (i.e., unreliable supply) the likelihood of it occurring in the foreseeable future seems low.	Likely limited, if any, social costs (community tension) arising from this option.
Economic	Wider community – potential costs arising from processing more consents and enforcement of minimum flow restriction. Landowners – These costs could potentially arise from needing to: • Seek consent for takes that are currently permitted under the status quo but which no longer would be permitted. • Source an alternative water supply when	Wider community – potential costs arising from processing more consents, receipt of metering data, and enforcement of minimum flow restriction. Landowners – These costs could potentially arise from needing to: • Seek consent for takes that are currently permitted under the status quo but which no longer would be permitted. • Source an alternative water supply when stream flow is below minimum flows.	There are relatively few restrictions on permitted takes under the current plan provisions. As a result, it is expected that users within the catchment can meet most of their needs. However, if the maximum allowable takes under permitted rules were abstracted this could result in overallocation of the streams and could result in economic costs associated with unreliable water supplies for all users. While the economic consequences of this risk might	Economic costs generally as per option 1 and 2, although costs may be marginally lower because: • The option would permit more water to be taken and therefore potentially reduce the need for additional resource consents. • the region-wide consistency may reduce the cost of enforcement and compliance processes.

	stream flow is below minimum flows. It is considered likely that these costs are quite small as most unconsented takes would occur under s14(3) rather than the NRP permitted rules.	Install a water meter and supply records to GWRC. It is considered likely that the first two of these costs are quite small as most unconsented takes occur under s14(3) rather than the NRP permitted rules. However, the cost of installing and maintaining a meter for each individual landowner could be substantial (see Thompson, 2023).	be moderate (i.e., unreliable supply) the likelihood of it occurring in the foreseeable future seems low.	
Cultural	This option will limit the potential impact of permitted takes on the cultural values of the streams within the Whaitua by restricting the allowable abstraction rate and volume, and requiring some takes to cease when the relevant stream drops below minimum flows. There would be a small risk of some additional cultural cost, compared to option 2, by not restricting permitted takes outside of the specific catchment management units at the time of minimum flows. However, these potential costs	The cultural costs are similar to option 1, although slightly less because of the Whaitua-wide requirement to cease the permitted takes at times of minimum flow.	Under the status quo there is the potential for significant volumes of water (relative to the size of the water bodies) to be abstracted from the streams in the Whaitua as a permitted activity. This would have the potential to have inappropriate adverse effects on the cultural values associated with the streams (e.g., on mahinga kai, replenishment of Te Awarua-o-Porirua provided by the streams). While the consequence of this risk might be high the likelihood of it occurring in the foreseeable future seems low.	This option would result in the potential for higher cultural risks than options 1 and 2, but lower risks than option 3.

	are considered small based on the amount of water able to be taken under the permitted activity rule.			
Benefits:				
Environmental	This option would reduce the future risks to the ecological values of the streams that exist under the current permitted rules. The changes may also have some immediate benefits to the ecological values in the specified catchment management units by restricting permitted takes when stream flows fall below minimum flows.	This option would reduce the future risks to the ecological values of the streams that exist under the current permitted rules. Future management of the environmental effect of permitted takes may also be improved because of the data gathered through metering. However, given the limitations of the metering, this benefit is not expected to be meaningful. The changes may also have some immediate benefits to the stream ecological values by restricting permitted takes when stream flows fall below minimum flows. As this restriction would apply across the Whaitua, in theory the benefit would be greater than for option 1.	No change to the current situation, therefore the existing risks to the environmental values of the streams would remain.	The immediate benefits of this option would be the same as per options 1 and 2, while the avoided future risk (benefit) would be less than options 1 and 2 but greater than option 3.
Social	This option would reduce the risk under the status quo that	This option would reduce the risk under the status quo that	This option avoids potential community tensions caused by	Benefits as per option 1 and 2, but less.

	permitted water takes would reach levels that result in water supply for all users becoming unreliable.	permitted water takes would reach levels that result in water supply for all users becoming unreliable.	additional economic costs to landowners.	
Economic	The abstraction of water has the potential for economic benefits. Therefore, the provision for smaller permitted takes under this option is expected to provide some economic benefit, although this will be less than the status quo (option 3).	The abstraction of water has the potential for economic benefits. Therefore, the provision for smaller permitted takes under this option is expected to provide some economic benefit, although this will be less than the status quo (option 3).	The abstraction of water has the potential for economic benefits. As this option provides for the greatest level of permitted takes its economic benefit is likely to be the greatest.	The abstraction of water has the potential for economic benefits. The level of abstraction provided for as a permitted activity under this option is uncertain therefore the scale of the potential economic benefit is also uncertain.
Cultural	This option would reduce the future risks to the cultural values of the streams that exist under the current permitted rules. The changes may also have some immediate benefits to the cultural values in the specified catchment management units by restricting permitted takes when stream flows fall below minimum flows.	This option would reduce the future risks to the cultural values of the streams that exist under the current permitted rules. The changes may also have some immediate benefits to the cultural values by restricting permitted takes when stream flows fall below minimum flows. As this restriction would apply across the Whaitua, in theory the benefit would be greater than for option 1.	No change to the current situation, therefore the existing risks of further degradation to the cultural values of the streams would remain.	The immediate benefits of this option would be the same as per options 1 and 2, while the avoided future risk (benefit) would be less than options 1 and 2 but greater than option 3.
Effectiveness:				
How successful will	As the option will significantly reduce the future risk of over-	As the option will significantly reduce the future risk of over-	It is not considered that the status quo would successfully	While this option would be more effective than option 3, it

you be in providing the outcome set by the objectives?	allocation due to permitted takes, this option will successfully provide for the relevant NRP objectives. Any limitations created by the application of minimum flows in only the specified catchment management units are not considered substantive. This is because the amount of water able to be taken from water bodies not subject to the minimum flow restrictions is small.	allocation due to permitted takes, this option will successfully provide for the relevant NRP objectives. The Whaitua wide application of minimum flow restrictions would theoretically implement the NRP objectives more successfully. However, the minimum flow restrictions could not be practically applied outside of the Porirua, Pāuatahanui and Horokiri catchment management units, where the lack of hydrological information prevents minimum flows being stated as a number (L/s). Again, theoretically data gathered through the metering requirements in this option may enable better management of permitted takes in the future. However, in practice it is expected that the metering would not be widespread and therefore its effect in improving future management would likely be very limited.	implement the NRP objectives (e.g., O3, O4, O14, O44 & P.O2). As identified by the Whaitua Committee, the existing NRP provisions enable an unsustainable amount of water to be taken as a permitted activity.	is considered to be less effective than options 1 and 2 as it would likely allow more water to be taken as a permitted activity than would be provided for under options 1 and 2.

Efficiency:				
Do the benefits of the option outweigh the costs?	Environmental and cultural benefits (slightly reduced compared with option 2) arise from the reduced risks to instream values. Economic and social costs (reduced compared with option 2) arise from increased compliance requirements and the potential need for alternative water supplies to cover minimum flow restrictions and / or resource consent applications for those that currently use the status quo permitted rules to abstract more water than would be permitted under option 1.	Environmental and cultural benefits arise from the reduced risks to instream values. Economic and social costs arise from increased compliance requirements (including metering costs) and the potential need for alternative water supplies to cover minimum flow restrictions and / or resource consent applications for those that currently use the status quo permitted rules to abstract more water than would be permitted under option 2.	Economic and social benefits due to less compliance costs and more water being available for permitted abstraction. Environmental, economic, and cultural costs due to risks to instream values (overallocation) and potential for unreliable supplies if there is widespread abstraction of the full permitted allowance.	Similar to option 1 and 2, although potentially smaller environmental and cultural benefits and lower social and economic costs.
Risks of acting or not acting if there is uncertain or insufficient information:	The uncertainties / information gaps relevant to these options are: • The full impact of the PC1 permitted water takes on Ngāti Toa's values is not fully understood at this time. • There is limited information on what proportion of the water abstraction that is lawfully taken without resource consent relies on the current permitted activity rules or is authorised under s14(3) (b) of the RMA (which is not subject to PC1) • There is limited information on the rate and volume of the water takes in the Te Awarua-o-Porirua Whaitua that operate under the current permitted activity rules. These uncertainties and information gaps mean that there is a risk that costs and benefits could be understated or overstated in the assessment above. However, it is considered that the risk to the environmental and cultural values of the Whaitua's streams by not acting (i.e. retaining the status quo - option 3) outweighs the economic (and associated social) risk of acting (i.e. adopting options 1, 2 or			

	4) and that acting to protect the streams from a potential environmental risk, under option 1 or 2 is aligned with Te Mana o Te Wai and the NRP objectives. As noted, there is currently limited information on the rate and volume of takes that occur without consent (i.e., takes either permitted under the NRP or authorised by s14(3) of the RMA).The preferred option (Option 1) does not seek to directly address this existing information gap. In contrast Option 2 would require metering of permitted takes. This would provide some information on the rate and volume of water being taken without consent. However, the dataset would not be complete. It would not cover s14(3) takes, which are expected to account for much of the unconsented water takes. It would also be reliant on users '*voluntarily*' adopting metering as enforcement will be difficult. Given this the metering under option 2 is likely to at best provide a partial dataset for evaluating the effectiveness of permitted rules in the future; user surveys and modelling is therefore likely to continue to be needed. Further, the cost for those landowners that do adopt metering would be substantial. It is therefore considered that the risk of not acting on metering is not significant.
Overall evaluation	Key costs and benefits of all options relate to the potential future risk to instream values (over-allocation). It is considered that by avoiding this risk (no matter how uncertain it is) options 1 and 2 more effectively and efficiently give effect to the relevant NRP objectives and that the benefit of acting (i.e., adopting option 1 or 2) outweighs the risks associated with the uncertainties and information gaps. Further, the potential cost of having to seek resource consent or find alternative supplies during times of low flow are outweighed by the instream benefits (i.e., options 1, 2 and 4 are favoured over option 3). While there is the potential for some reductions in environmental and social costs because of the Whaitua wide application of the minimum flow restrictions under option 2, compared to option 1, these reductions are expected to be small, and implementing the minimum flow restrictions in waterbodies subject to default minimum flows would not be practical. The economic cost to each individual landowner of metering and recording permitted takes (under option 2) are considered substantive and the information obtained may not be that useful (as described above).[7] Uniform, region wide provisions (option 4) may provide benefits in terms of more certainty and more efficient implementation and enforcement, however this approach would not respond directly to the needs and values in each Whaitua. Therefore overall, it is considered that option 1 represents the most effective and efficient means of achieving the relevant NRP objectives.

[7] See sections 4.2.2. (b) and 5.2 of Thompson, 2023

8.2.2 Water allocation (consented takes) - efficiency and effectiveness of provisions

This policy package is part of a suite that contribute to achieving the Objectives set out in 6.1.1 above.

Intent of this policy package: To ensure that the environmental flows and allocation limits applying to consented takes align with the NPS-FM and NRP objectives, and to introduce specific water allocation limits and minimum flows, in place of defaults, for those catchment management units where sufficient information is available.

Policy package Option 1 – Preferred Option

Amend existing Policies P118 and P121, and Rules R158 so that they no longer apply in Te Awarua-o-Porirua. Amend Te Awarua o Porirua Chapter provisions P.P1 and P.R1 and include new provisions (P.P2, P.P3, P.R2, P.R4) so that:

1. In the Porirua, Pāuatahanui and Horokiri catchment management units, the allocation limits and minimum flows would be expressed as specific numbers (as set out in Table 1 and Table 2 below) rather than default percentages of mean annual low flow as presently set out in Policy P121 and Policy P.P1 of the NRP.
2. For three catchment management units, introduce a Restricted Discretionary Activity rule for takes that are not otherwise permitted or controlled, and which meet the minimum flow requirements and allocation limits; and introduce a Prohibited Activity rule for takes that do not meet minimum flow or allocation requirements.
3. All allocation limits in the Whaitua (both specified and default) are based on 20% of mean annual low flow, rather than 30% as in the status quo NRP provisions[8].

The existing default Discretionary Activity rule (P.R1), minimum flow (Policy P.P1) and allocation amounts (Policy P121) would remain for takes outside of three catchment management units covered by Tables 1 and 2. Ancillary amendments to NRP definitions and to Table 4.1 of Policy P115.

Table 1: Minimum Flows

Catchment Management Unit	Management Point	Minimum flow (litres per second)
Porirua Stream	Town Centre	128
Pāuatahanui Stream	Gorge	101
Horokiri Stream	Snodgrass	82

Table 2: Allocation amounts

Catchment Management Unit	Allocation amount (litres per second)
Porirua Stream	40
Pāuatahanui Stream	22
Horokiri Stream	18

[8] Note this element of Option 1 is proposed in response to specialist advice that Council has received since the Te Awarua-o-Porirua Whaitua process was completed. See the Water quantity and allocation technical report (Thomson 2023) for further explanation.

Policy package Option 2 – WIP recommendation

As per option 1 with the exception that all allocation limits in the Whaitua (both specified and default) would be based on 30% of mean annual low flow.

Policy package Option 3 – Status quo

This option would retain the existing provisions, relating to consented water takes in the Whaitua, specifically:

- Policy P121 which sets the maximum allocation amounts for rivers with flows less than 5m3 of 30% of mean annual low flow.
- Policy P.P1 in the Te Awarua-o-Porirua Whaitua chapter which sets minimum flows at 90% of mean annual low flow for rivers.
- Rule P.R1 in the Te Awarua-o-Porirua Whaitua chapter which makes takes a discretionary activity, where they are not provided for as a permitted activity. The minimum flow and allocation limits are implemented through conditions on these discretionary consents.

Note 1: the allocation limits and minimum flows in the WIP recommendation (option 2) and the status quo (option 3) are similar. Under option 3 all allocation limits and minimum flows would be percentage based. Whereas under option 2 the allocation limits and minimum flows in three catchment management units would change from default percentages to specific numbers that are equivalent to the default percentages.

Note 2: This webpage, https://www.gw.govt.nz/environment/environmental-data-and-information/water-monitoring/water-quantity-allocations/, uses data and information from Greater Wellington's Natural Resources Plan and GIS system to show what water is available for allocation and what has been allocated through resource consents in a catchment management unit.

	Option 1 (Preferred)	**Option 2 (WIP recommendation)**	**Option 3 (Status quo)**
Costs:			
Environmental	All water takes present some cost to instream values. The costs of this option would be lowest of the three as the allocation limits within the Whaitua would be restricted to the equivalent of 20% of mean annual low flow.	All water takes present some cost to instream values. As this option does not involve a material change to the current NRP provisions, this option presents no additional environment costs to the status quo.	All water takes present some cost to instream values. The costs of this option would be higher than option 1, but the same as option 2.

Social	Potential social costs (community tension) arising from the economic costs to users from the minimum flow restrictions as per the status quo. Higher opportunity costs associated with the lower allocation limits may create small additional social costs, in the future, compared with options 2 and 3.	As this option does not involve a material change to the NRP provisions, this option presents no additional social costs to the status quo.	Potential social costs (community tension) arising from the economic costs to users from the minimum flow restrictions.
Economic	While this option would reduce the water available for allocation through resource consent, it would not restrict current consented water use which is below the proposed allocation limits. The option does present greater opportunity costs compared with options 2 and 3 as it would limit the potential for future additional takes and impose a Prohibited Activity status on any takes above the proposed allocation limit. No material changes are proposed to the minimum flow restrictions, and therefore no additional costs will arise with respect to those provisions.	Restrictions on water use can have an economic cost by limiting access to a resource. This option sets the same allocation limits as per option 3, but higher allocation limits than option 1.Its economic costs will therefore be less than option 1, but they will be higher than option 3 because option 2 will prohibit takes above the allocation limit.	Restrictions on water use can have an economic cost. Given low demand in the Whaitua, the existing allocation limits do not restrict current water use but may present a future opportunity cost. The minimum flow restrictions under the status quo may have costs for users, e.g., they may result in users needing to access alternative supplies or install storage to cover demand during low flow conditions. It is noted that all three existing core allocation take consents in the Whaitua have low flow restrictions on them. Two of these restrictions are in line with the current NRP requirements (and those proposed in PC1). The low flow requirement on the third consent applies on an as requested basis and the minimum flow threshold is lower than in the NRP (and PC1). The NRP threshold will be imposed on this consent through consent

			review/replacement processes in[9] the future. The economic costs under this option are to some extent mitigated by the potentially greater flexibility inherent in the discretionary activity status of takes that do not comply with minimum flows and allocation limits.
Cultural	All water takes present some cost to the cultural values of waterbodies. The costs of this option would be lowest of the three options as the allocation limits within the Whaitua would be restricted to the equivalent of 20% of mean annual low flow. While this more restrictive allocation limit is a direct response to potential environmental costs, it is also expected to better provide for cultural values.	All water takes present some cost to the cultural values of waterbodies. As this option does not involve a material change to the NRP provisions, this option presents similar cultural costs to the status quo.	All water takes present some cost to the cultural values of waterbodies. The costs of this option would be higher than option 1, but the same as option 2.
Benefits:			
Environmental	This option provides the same environment benefit to the status quo with respect to minimum flow restrictions. It would provide greater benefit with respect to allocation limits as the proposed 20% of mean annual low flow limits are considered to better align with Te Mana o Te Wai and would avoid future over-allocation.	This option would have more benefit compared with the status quo (option 3) given the greater certainty provided by the proposed prohibited activity status for takes not complying with the proposed allocation limit and minimum flows.	The minimum flow restrictions in the NRP are considered to appropriately protect instream values during times of low flow. The 30% of mean annual low flow allocation limits will also provide some benefit for instream values. While the analysis that informed the WIP indicated that 30% of mean annual low flow is

[9] The Regional Council does not intend to undertake a wholesale review of water take consents to impose the NRP minimum flow requirements. As per Policy P4 of the NRP, the review of existing consents will only be undertaken where this is appropriate to the management of water quantity in the Whaitua or sub-catchment.

	Overall, the option provides greater certainty of environmental benefits because of the proposed prohibited activity status for takes not complying with the proposed allocation limit and minimum flows.	As the allocation limit under this option is higher than Option 1, its environmental benefits would be less.	appropriate, more recent advice indicates that this limit would not protect the instream values in a manner fully consistent with Te Mana o Te Wai and may not avoid future over-allocation[10].
Social	Option 1 may have lower social benefits than options 2 and 3, because less water would be available for allocation.	Options 2 and 3 would make a greater amount of water available for allocation, which may have social benefits.	Options 2 and 3 would make a greater amount of water available for allocation, which may have social benefits.
Economic	The economic benefits of option 1 are less than options 2 and 3 as less water would be available for future uses. Compared with option 3, options 1 and 2 may also offer a small cost saving to future applicants within the three specified catchment management units, as there will not be the need to calculate allocation limits or minimum flows on a consent-by-consent basis.	Options 2 and 3 would make a greater amount of water available for allocation. While this is above current demand, it would provide greater future economic opportunities. Compared with option 3, options 1 and 2 may also offer a small cost saving to future applicants within the three specified catchment management units, as there will not be the need to calculate allocation limits or minimum flows on a consent-by-consent basis.	Options 2 and 3 would make a greater amount of water available for allocation. While this is above current demand, it would provide greater future economic opportunities.
Cultural	The cultural benefit (reduced cost) of this option is expected to be higher than for options 2 and 3 as the allocation limits within the Whaitua would be restricted to the equivalent of 20% of mean annual low flow. While this more restrictive allocation limit is a direct response to potential	The protections under option 2 would provide some benefit (i.e., reduced adverse effect) for cultural values. As the option2 provisions are less protective it is expected that the benefits of this option would be lower than option 1, but the same as option 3.	The protections under the status quo provide some benefit (i.e., reduced adverse effect) for cultural values. As the status quo provisions are less protective it is expected that the benefits of this option would be lower than option 1, but the same as option 2.

[10] See section 4.1.2 of Thompson, 2023

	environmental costs it is also expected to better provide for cultural values.		
Effectiveness:			
How successful will you be in providing the outcome set by the objective?	By setting allocation limits at 20% rather than 30% of mean annual low flow, this option will reduce the risk of future over-allocation due to consented takes. The proposed Prohibited Activity status for takes not complying with the allocation limits and minimum flows also provides greater certainty that the objectives will be met. It is therefore expected to best deliver the outcomes sought in the NRP objectives.	This option would set allocation limits at 30% of mean annual low flow. While supported by the Whaitua Committee more recent advice indicates that this would not align with Te Mana o Te Wai and could result in future over-allocation. This option would provide some effectiveness benefit relative to option 3 because of the proposed Prohibited Activity status for takes not complying with the allocation limits and minimum flows.	This option would set allocation limits at 30% of mean annual low flow. While supported by the Whaitua Committee more recent advice indicates that this would not align with Te Mana o Te Wai and could result in future over-allocation.
Efficiency:			
Do the benefits of the option outweigh the costs?	Environmental benefits (greater than options 2 and 3) arise from this option because of the more restrictive allocation limits. This benefit is considered to exceed the opportunity cost to future users arising from the more restrictive allocation limits.	The potential economic benefit arising from more water being available for future allocation is not considered to warrant the potential environmental cost to the streams of the Whaitua.	The potential economic benefit arising from more water being available for future allocation is not considered to warrant the potential environmental cost to the streams of the Whaitua.
Risks of acting or not acting if there is uncertain or insufficient information:	The uncertainties / information gaps relevant to these options are: How well the options provide for Ngāti Toa Rangatira's values is not fully understood. Except for information on mahinga kai species impacted within this whaitua, no analysis against these values is available. Future demand for water, and therefore the potential opportunity costs of the options, is unknown. These information gaps mean that the economic and cultural costs and benefits could be understated or overstated in the assessment above. However, based on ecological advice provided by Cawthron, and referenced in section 4.1.2 of the Water quantity and		

	allocation technical report, it is considered that the environmental benefit of adopting option 1 is likely to reflect a benefit with respect to Ngāti Toa Rangatira's values and, given the small size of the streams in the Whaitua, the benefits will outweigh any opportunity costs.
Overall evaluation	It is considered that option 1 presents the greatest environmental benefit (lowest risk of future over-allocation), which outweighs its potential economic costs. The costs and benefits of options 2 and 3 are similar. Option 1 is expected to give effect more successfully to the NRP objectives, and Te Mana o Te Wai, as it would better avoid future over-allocation. While there are risks of acting given information gaps, the risks of not acting (i.e., retaining the potential for over-allocation under the status quo) are considered to be more significant. Overall, it is considered that option 1 represents the most effective and efficient means of achieving the relevant NRP objectives.

8.3 Overall effectiveness and efficiency

179. With respect to the permitted activity provisions for water takes, the key costs and benefits of all options relate to the potential future risk to instream values (over-allocation). It is considered that by avoiding this risk (no matter how uncertain it is) options 1 and 2 more effectively and efficiently give effect to the relevant NRP objectives. The potential cost of having to seek resource consent or find alternative supplies during times of low flow are considered to be outweighed by the instream benefits (i.e., options 1, 2 and 4 are favoured over option 3).

180. While there is the potential for some future environmental benefits because of the Whaitua wide application of the minimum flow restrictions under option 2, compared to option 1, these benefits are expected to be small, and implementing the minimum flow restrictions in waterbodies subject to default minimum flows would not be practical. The economic cost to each individual landowner of metering and recording permitted takes (under option 2) are considered substantive and the information obtained may not be that useful.

181. Uniform, region wide provisions (option 4) may provide benefits in terms of more certainty and more efficient implementation and enforcement, however this approach would not respond directly to the needs and values in each Whaitua. Therefore overall, it is considered that permitted activity option 1 represents the most effective and efficient means of achieving the relevant NRP objectives.

182. With respect to consent takes, it is considered that allocation limits based on 20% of mean annual low flow are better aligned with Te Mana o Te Wai and would better avoid future over-allocation. Therefore option 1 presents the greatest environmental benefit. This benefit is considered to outweigh its potential economic costs (opportunity costs).

183. While there are risks of acting given information gaps, the risks of not acting (i.e., retaining the potential for over-allocation under the status quo) are considered to be more significant. Overall, it is considered that consented take option 1 represents the most effective and efficient means of achieving the relevant NRP objectives.

9. Nationally threatened freshwater species

9.1 Relevant objectives

182. The National Policy Statement for Freshwater Management 2020 (NPS-FM) identifies threatened species as a compulsory value under the National Objectives Framework (NOF) and requires regional councils to:

- identify the locations of habitats of threatened freshwater species.
- set an environmental outcome for threatened species and include this as an objective in regional plans.
- identify attributes for threatened species and set baseline states, target attribute states, environmental flows and levels and other criteria support the achievement of environmental outcomes.
- set limits as rules and prepare a Freshwater Action Plan to achieve environmental outcomes.

183. Plan Change 1 includes two new objectives, WH.O4 and P.O4; these require that the extent, condition, and connectivity of habitats for nationally threatened freshwater species be increased and that long-term population numbers are also increased.

9.2 Policy context – problem/issue

184. New Zealand has the highest proportion of threatened species in the world.[1]

185. With respect to freshwater, the NPS-FM defines threatened species as "*any indigenous species of flora or fauna that: (a) relies on water bodies for at least part of its life cycle; and (b) meets the criteria for nationally critical, nationally endangered, or nationally vulnerable species in the New Zealand Threat Classification System Manual*." The process used to identify which species found in the Wellington region meet this definition is described in Crisp (2023).[2]

186. The Wellington region supports a total of 30 nationally threatened freshwater species; seven birds, two fish, eleven plants, nine invertebrates and one bat species.[3] The loss and degradation of freshwater ecosystems across the region has meant that many species that rely on freshwater environments are under pressure and have declining populations. The diversity and abundance of life in our freshwater ecosystems are key indicators of the health and well-being of the region's aquatic environments.

187. Freshwater flora and fauna interact to create complex ecosystems, and a decline in one species can result in significant ecosystem impacts. Invertebrates, for example are important processors of energy in the food

[1] Bradshaw CJA, Giam X, Sodhi NS (2010) Evaluating the Relative Environmental Impact of Countries. PLoS ONE 5(5): e10440. https://doi.org/10.1371/journal.pone.0010440
[2] Crisp P (2023). Threatened freshwater species mapping technical guide for the Wellington region.
[3] Long-tailed bats are considered to be freshwater-dependent, as they require freshwater invertebrates as a food source.

chain, while freshwater fish are highly valued as taonga and mahinga kai, and support cultural, recreational, and commercial fisheries. Wetland and riparian environments are home to a range of threatened native plants, including taonga species that Māori use in rongoā (medicine), raranga/ahatu (weaving) and mahinga kai. Maintaining species diversity is key to the continuation of ecosystem services that freshwater habitats provide.

188. Nationally threatened species are of the highest conservation concern. The thirty freshwater species that have been identified in the region are present in very low numbers and/or have high rates of population decline. The NPS-FM identifies threatened species as a compulsory value. It aims to support the survival and recovery of these species, with the identification of the locations, habitats and critical habitat attributes of those species being the first steps in the process.

9.3 Efficiency and effectiveness of provisions

This amending proposal is part of a suite of changes that contribute to achieving the Objectives set out in 6.14.1 above.

Intent of the amending proposal:

To add provisions to manage the habitats of nationally threatened freshwater species, as required by the NPS-FM 2020 (nationally threatened freshwater species are one of the four compulsory NOF values)

Proposed amendment (Option 1 – Preferred Option):

For Whaitua Te Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua, add provisions to manage national threatened freshwater species as required by the NPS-FM, including:

1. identifying populations of nationally threatened freshwater species in these whaitua, by highlighting the location of their habitats in Schedules A2, F1, F2, and F3 and associated maps; and

2. setting an environmental outcome for these species through new nationally threatened freshwater species objectives for Whaitua Te Whanganui a Tara and Te Awarua-o-Porirua Whaitua (new Objectives WH.O4 and P.O4); and

3. identifying critical habitat attributes for each species in Schedules A2, F1, F2, and F3, additional to the NOF attributes listed in Tables 8.4 and 9.2, which are considered to provide appropriate water quality for protection for these species. The additional attributes describe biophysical features that are key habitat features necessary to the recovery of each species, such as suitable spawning substrate or an absence of exotic aquatic pest plants; and

4. adding a new method (Method M39) to develop a Freshwater Action Plan for nationally threatened freshwater species to contribute to achieving the new objectives WH.O4 and P.O4, comprising species-specific modules that will identify actions to contribute to achieving new Objectives WH.O4 and P.O4, along with indicators and monitoring details.

Note that no additional limits, set as rules, have been identified for protection of threatened species at this stage beyond those arising for the NOF attributes in Tables 8.4 and 9.2. Existing NRP rules apply to these sites as the sites are already included in NRP Schedules A and F (refer to Option 2: Status Quo). The protection provided by these rules, has been reviewed and is considered to be adequate to protect these species from the adverse effects of activities. Also note that NRP Schedule G2 and G3 include limits to offsetting and compensation where the ecosystems or species are *"threatened"*.

Option 2 – Status Quo:

The second option is the status quo: habitats that support threatened freshwater species are already included in NRP Schedule A (Outstanding waterbodies) and Schedule F (Significant waterbodies), as threat is one of the RPS criteria for identifying indigenous ecosystems and habitats with significant indigenous biodiversity values. However, the NRP schedules do not differentiate which species are nationally threatened.

The NPR includes a range of provisions that seek to protect Schedule A and F ecosystems and habitats from the adverse effects of use and development, in particular Objectives O25 and O28, Policies P31–P44 and a range of rules that give stronger protection to habitats and ecosystems.

The status quo does not provide for any of the NOF requirements, including highlighting the location of habitats for '*nationally threatened freshwater species*', setting environmental outcomes for this value as a regional plan objective, identifying critical habitat attributes and other matters, including preparing freshwater action plans, to support the achievement of the environmental outcome.

	Option 1 (Preferred)	**Option 2 (Status quo)**
Costs:		
Environmental	There are no anticipated environmental costs.	Low-medium. The lack of specific focus on nationally threatened freshwater species means they are likely to continue to decline. Our freshwater flora and fauna interact to create complex ecosystems, and a decrease in one species can have large-scale ecosystem impacts. Although the NRP manages for the health of indigenous ecosystems generally, it does not highlight the value and critical habitat attributes of nationally threatened freshwater species populations, nor set a particular outcome, as required by the NOF. Their habitat may require a more particular management approach than that required to sustain indigenous aquatic life more generally, but at present the critical attributes are not always identified or managed appropriately to achieve the more focused outcomes set in the proposed new objectives.

Social	There are no anticipated social costs.	Low-Moderate. New Zealanders have a special connection with freshwater and freshwater species. The continued loss of nationally threatened freshwater species has social costs, recognising their intrinsic values, along with their value for regional identity and natural heritage. Indigenous freshwater fish are highly valued for supporting cultural, recreational, and commercial fisheries.
Economic	Low-Moderate. While the new provisions do not introduce new rules, nationally threatened freshwater species should receive greater attention in consenting as Schedules A2, F1 and F2 highlight their presence and the critical attributes that need to be appropriately managed to ensure their recovery. This may result in higher costs for resource consent applicants in terms of management requirements or may result in consents being declined.	Low- Moderate. The continued loss of nationally threatened freshwater species has economic costs. These animals are important for freshwater ecosystem processes, mahinga kai, and cultural, recreational, and commercial fisheries.
Cultural	There are no anticipated cultural costs.	Low-Medium. Many nationally threatened freshwater species are highly valued as taonga, mahinga kai, and for supporting cultural fisheries. Lack of focused management risks their continuing decline, which could result in the loss of cultural traditions and knowledge transfer to the next generation, as well as reduced potential economic opportunities for iwi.
Benefits:		
Environmental	Medium. The new provisions will give greater visibility of the presence of nationally threatened freshwater species and the specific conditions (their critical habitat attributes) that need to be managed for the species with the highest conservation concern in the region to survive.	The status quo, by working to improve the management of general aquatic ecosystem health, will provide some benefits for nationally threatened freshwater species.

	The resulting enhanced regulatory focus on these sites and habitats should provide increased protection and ensure that there is no further habitat loss or degradation, with the Freshwater Action Plan working to achieve an increase in habitat area and condition. This will support an increase in the long-term population numbers of nationally threatened freshwater species and the area over which they occur, improving their threat classification status.	
Social	Moderate. Retaining and improving populations of threatened species provides benefits for the community's social and cultural wellbeing. Greater Wellington and its people place significant value on the remnant biodiversity of the region.[4]	As above, there may be some social benefits where threatened species benefit from an improvement in general aquatic habitat health.
Economic	Low in the short-term but in the longer-term, retaining and increasing populations of nationally threatened freshwater species is anticipated to have economic benefits associated, for example, with supporting sustainable indigenous fisheries.	As above, there may be some economic benefits where nationally threatened freshwater species benefit from an improvement in general aquatic habitat health.
Cultural	Moderate. Retaining and improving populations of nationally threatened freshwater species provides cultural benefits, recognising that a number of these species are taonga species or valued for mahinga kai.	As above, there may be some cultural benefits where threatened freshwater species benefit from an improvement in general aquatic habitat health.
Effectiveness:		
How successful will you be in providing	Indigenous freshwater flora and fauna that are nationally threatened will be at reduced risk of extinction because the	The status quo will be less effective than Option 1 as it does not provide for the specific requirements of the NPS-FM NOF for nationally threatened freshwater species.

[4] Biodiversity Strategy. Greater Wellington Regional Council, Mauri Tūhono Framework: https://static1.squarespace.com/static/6339ebdb6308a657f363fa48/t/641110146086b917446c4ce0/1678839840540/Mauri+T%C5%ABhono+Framework.pdf

the outcome set by the objective?	environmental conditions necessary for their existence will be better safeguarded. Option 1 is the most effective option to give effect to the NPS-FM NOF requirements for threatened species.	
	Net benefit high. Option 1 will increase the net benefit to society by supporting and enhancing the habitats, particularly the critical habitat attributes, for nationally threatened freshwater species. Biodiverse and healthy ecosystems better provide for the community's environmental, social, and cultural wellbeing.	Net benefit low. The status quo would not change the net benefit to society.
Efficiency		
Do the benefits of the option outweigh the costs?	Option 1 will increase the net benefit to society as actions are targeted at habitats where nationally threatened freshwater species live and will focus management requirements on the critical habitat attributes.	The status quo would not change the net benefit to society.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.	
Overall evaluation	Overall, Option 1 is the most effective and efficient in achieving the requirements of the NPS-FM 2020 for nationally threatened freshwater species, improving the management of habitat for the species of highest conservation concern.	

Section 32 report: Part E

Miscellaneous region-wide changes

for Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region

Contents

1. Miscellaneous region-plan changes

1.1 Proposed plan changes – the amendment proposals

1. The proposed changes to amend the NRP covered in this part of the report are as follows:

- Proposal No. 1 – Amend air quality permitted activity rules to give effect to the NZCPS for discharges of contaminants into the CMA.

- Proposal No. 2 – Remove the coastal icon from air quality permitted activity Rules R7, R8, R9, R10, R11, R12, R14, R15, R16, R17, R18, R19, R20, R21, R25, R26, R27, R29, R30, R31, R34, R35, R36, R37, R38, and R40.

- Proposal No. 3 – Update Standards New Zealand references in air quality permitted activity Rules R14, R18, R38, and R39.

- Proposal No. 4 – Amend Rule R35 by separating discharges into air from natural gas flaring and venting and the discharges of gases and odours from wastewater conveyance systems to provide clarity for plan users.

- Proposal No. 5 – Amend Rule R42 for all other discharges to not inadvertently capture minor discharges to air and provide clarity for plan users.

- Proposal No. 6 – Amend Rules R29 and R30 to add conditions to allow the operation of the discharge to air rule cascade for activities that do not comply with a permitted activity rule.

- Proposal No. 7 – Amend general condition 5.4.4(n) to also protect birds identified in Schedule F2a and F2b that don't have a critical period for nesting, roosting, and foraging.

- Proposal No. 8 – Amend Rule R128 to narrow the scope of the rule from all applying to all new structures applying to the placement of new sediment retention weirs, pipelines, hydrological and water quality monitoring equipment, fences, debris arrestor structures, and structures associated with vegetative bank edge protection. Additionally, amend Rule R128 to remove all explicit reference to the placement of new erosion protection structures. Amend Rule R145 to align with the amendments proposed to Rule R128.

- Proposal No. 9 - Remove reference to deposition on the bed of a lake from Rule R132.

- Proposal No. 10 – Amend Rule R133 to include wording more consistent with section 13 (Restriction on certain uses of beds of lakes and rivers) of the RMA and to replace reference to the coastal Schedules F4, F5 and J with reference to the ecosystems and habitats of rivers and lake Schedule F1.

- Proposal No. 11 – Add a new rule Rule R151A: Ongoing diversion of a river to remove the need for long-term consents (i.e., 35 years) to be issued for the permanent diversion of rivers.

- Proposal No. 12 – Update Schedules F4 and F5, with new sites requiring protection in accordance with existing rules, arising from new information on biodiversity values across the region becoming available.

2. Efficiency and effectiveness of miscellaneous plan changes

2.1 Amending Proposal No.1 – Amend air quality permitted activity rules to give effect to the NZCPS.

2.1.1 Relevant objectives

2. Rules R1, R3, R28, R33 and the General Conditions of Agrichemicals give effect to the following existing NRP objectives:

   - Objective O31 - Human health, property, and the environment are protected from the adverse effects of point source discharges of air pollutants.
   - Objective O32 - The adverse effects of odour, smoke and dust on amenity values and people's well-being are minimised.

3. The proposal intends to improve the effectiveness and efficiency of Rules R1, R3, R28, R33 and the General Conditions of Agrichemicals to the extent that they give effect to Objectives O31 and O32. This would result in improved functionality of the NRP.

2.1.2 Policy context – problem/issue

4. Most of the permitted activity rules in the Air Quality chapter use a condition to ensure that adverse effects are limited to the property that the discharge originates from. Compliance with these permitted rules requires that discharges shall not cause noxious, dangerous, offensive, or objectionable odour, dust, particulate, smoke, vapours, droplets or ash beyond the boundary of the property.

5. The use of property boundaries to control adverse effects is ineffective in the coastal marine area due to the absence of property boundaries. The coastal marine area is primarily public space, and the rule condition does not effectively control or contain adverse effects in this area.

2.1.3 Amending Proposal No. 1 – efficiency and effectiveness of provisions

This amending proposal contributes to achieving the Objectives set out in 2.2.1 above.
Intent of the amending proposal: Amend air quality permitted activity rules R1, R3, R28, R33 and the General Conditions of Agrichemicals to give effect to the NZCPS and NRP Objectives O31 and O32 for discharges into the coastal marine area.

The proposed change would insert protections in the listed rules and conditions by requiring that activities shall not cause noxious, dangerous, offensive or objectionable odour, dust, particulate, smoke, vapours, droplets anywhere in the coastal marine area, without reference to property boundaries, in order for activities to achieve permitted activity status.

Proposed amendment (Option 1 – preferred):

This amendment applies to the following permitted activity rules, Rule R1 – Outdoor Burning, R3 – Outdoor burning for firefighter training, R28 – Cement Storage, R33 – Petroleum storage or transfer facilities, and the General Conditions of Agrichemicals(a).

Rule R1 provides an example of the amendments that will apply to the rules listed above:

Rule R1: Outdoor burning – permitted activity.

The discharge of contaminants into air from **outdoor burning** is a permitted activity, provided the following conditions are met:

(a) the discharge shall not cause noxious, dangerous, offensive or objectionable odour, dust, particulate, smoke, vapours, droplets or ash beyond the boundary of the **property** or in the coastal marine area, and

(b) there is no burning of **specified materials.**

Note

Outdoor burning is also controlled by provisions in district plans and bylaws.

Option 2 – status quo:

The second option is the status quo, maintaining the existing rules in the NRP.

	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	There are no environmental costs associated with this proposal.	Medium. The amendment applies to several different rules and types of activities that are currently permitted in the coastal marine area. The status quo option would continue to permit these activities with no adequate protection of the coastal marine area from any potential adverse effects from discharges to air as no property boundary restrictions would be '*breached*' where the activity occurred with the coastal marine area unless effects extended to nearby land.

Social	Low. There is potential for the additional protections for the coastal marine area in this proposal to restrict activities carried out by the public such as outdoor burning if they meet the noxious, dangerous, offensive or objectionable test outlined in the rule.	Low - Medium. The status quo option allows noxious, dangerous, offensive or objectionable air discharges within the coastal marine area. This has the potential to prevent the public from using this coastal marine area and may have adverse effects on human health.
Economic	Low. There is potential for activities that are considered to have a discharge that is noxious, dangerous, offensive or objectionable to not achieve compliance with the conditions for permitted status. The activity would therefore become discretionary under Rule R42 and incur resource consenting costs.	There are no economic costs associated with this option.
Cultural	There are no cultural costs associated with this proposal.	Low- Medium. The status quo option would continue to permit inappropriate activities with no adequate protection of the coastal marine area from any potential adverse effects from discharges to air. These activities have potential to have impacts on the coastal marine area, a location of high cultural importance for iwi.
Benefits:		
Environmental	Medium. The proposal provides protection of the coastal marine area from the relevant effects.	The status quo provides no environmental benefits.
Social	Medium. The proposal allows the public to access and use the coastal marine area without adverse effects on amenity values or people' health and wellbeing.	The status quo provides no social benefits.
Economic	The proposal provides no additional economic benefits.	The status quo provides no economic benefits.

Cultural	Low. The protections for the coastal marine area would avoid any potential cultural costs associated with previously unregulated activities.	The status quo provides no cultural benefits.
Effectiveness:		
How successful will this be in providing the outcome set by the objective?	The proposal will successfully address the lack of protection within the coastal marine area. The amendments will protect human health and the environment from adverse effects from activities discharging to air when occurring in the coastal marine area. The rule will regulate the adverse effects of odour, smoke, and dust and minimise the impact on the environment, amenity values and people's health and wellbeing.	The status quo option will not effectively protect the environment and users of the coastal marine area from the adverse effects of discharges to air.
Efficiency		
Do the benefits of the option outweigh the costs?	There are low costs to society of the proposal relative to the high environmental and social benefits that will be achieved. There will be a low level of restriction for activities as those with minimal effects will retain permitted activity status.	The cost to society of the status quo option is potentially high if an activity permitted by the plan were to have significant adverse effects and was unable to be controlled through the current rules. Negligible benefits are achieved by retaining the current rule conditions for the coastal marine area.
Risks of acting or not acting if there is uncertain or insufficient information:	There is sufficient information to act.	
Overall evaluation	The proposal outlined in option 1 provides the necessary protections for the environment and the wellbeing of people using the coastal marine area. In addition, the proposal maintains the ability of the specified activities to continue as a permitted activity in the coastal marine area where these are unlikely to cause material effects on people and the environment. The status quo option 2 while also maintaining permitted activity status has the potential to allow significant environmental, social, and cultural costs.	

2.2 Amending Proposal No.2 – Remove the coastal icon

2.2.1 Relevant objectives

6. Rules R7, R8, R9, R10, R11, R12, R14, R15, R16, R17, R18, R19, R20, R21, R25, R26, R27, R29, R30, R31, R34, R35, R36, R37, R38, and R40 give effect to the following existing NRP objectives:

- Objective O31 - Human health, property, and the environment are protected from the adverse effects of point source discharges of air pollutants.
- Objective O32 - The adverse effects of odour, smoke and dust on amenity values and people's well-being are minimised.

7. The proposal intends to improve the effectiveness and efficiency of Rules R7, R8, R9, R10, R11, R12, R14, R15, R16, R17, R18, R19, R20, R21, R25, R26, R27, R29, R30, R31, R34, R35, R36, R37, R38, and R40 to the extent that they give effect to Objective O31 and O32. This would result in improved functionality of the NRP.

2.2.2 Policy context – problem/issue

8. The Rules listed are permitted activities within the coastal marine area as indicated by the coastal icon. These rules have been identified as inappropriate for permitted activity status in the coastal marine area. The activities are unsuitable and potentially detrimental to the coastal marine area. Given there is no precedent or demand for these activities to occur within the coastal marine area the retention of the coastal icon is unnecessary.

2.2.3 Amending Proposal No. 2 – efficiency and effectiveness of provisions

The amending proposal contributes to achieving the Objectives set out in 2.2.1 above.
Intent of the amending proposal: Remove the coastal icon from air quality permitted activity Rules: R7: Natural gas and liquefied petroleum R8: Diesel or kerosene blends R9: Biogas R10: Untreated wood R11: Coal, light fuel oil, and petroleum distillates of higher viscosity R12: Emergency power generators R14: Spray coating within an enclosed space R15: Spray coating not within an enclosed space R16: Printing processes R17: Dry cleaning R18: Fume cupboards R19: Workplace ventilation R20: Mechanical processing of metals R21: Thermal metal spraying R25: Abrasive blasting within an enclosed booth

R26: Abrasive blasting outside an enclosed area

R27: Handling of bulk solid materials

R29: Alcoholic beverage production

R30: Coffee roasting

R31: Food, animal or plant matter manufacturing and processing

R34: Mobile source emissions

R35: Gas, water and wastewater processes

R36: Drying and heating of minerals

R37: Handheld discharge of agrichemicals

R38: Motorised and aerial discharge of agrichemicals

R40: Fumigation

The removal of the coastal icon from these rules will remove the permitted activity status in the coastal marine area. The activities covered by these rules will therefore be managed by Rule R42: All other discharges – discretionary activity where they occur in the coastal marine area.

Proposed amendment (Option 1 – preferred):

This amendment applies to Rules R7, R8, R9, R10, R11, R12, R14, R15, R16, R17, R18, R19, R20, R21, R25, R26, R27, R29, R30, R31, R34, R35, R36, R37, R38, and R40.

Rule R7 provides an example of the amendment that will apply to the rules listed above:

Rule R7: Natural gas and liquefied petroleum gas – permitted activity

The discharge of contaminants into air from a **large-scale generator** not exceeding a maximum generating capacity of 5MW, from the combustion of natural gas or liquefied petroleum gas is a permitted activity, provided the following conditions are met:

(a) the discharge shall not cause noxious, dangerous, offensive or objectionable odour, dust, particulate, smoke, vapours, droplets or ash beyond the boundary of the **property**, and

(b) when the maximum generating capacity is more than 1MW, the discharge shall occur via a chimney stack or chimney at least 9.5m above ground level, or at least 3m above the ridge line of the roof or building or other structure, whichever is the highest, within a radius of 50m of the chimney stack or chimney, and

(c) the discharge shall be directed vertically into air, and shall not be impeded by any obstruction above the chimney stack or chimney that decreases the vertical efflux velocity, and

(d) rain excluders shall not impede the vertical discharge of combustion gases, and

(e) the fuel burning equipment is maintained by a suitably qualified person at least once per annum, with a copy of the maintenance report held by the operator and presented to the Wellington Regional Council on request.

Option 2 – status quo:

The second option is the status quo, maintaining the application of the existing rules in the NRP cited above within the coastal marine area.

	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	There are no environmental costs associated with this proposal.	Medium. The activities covered by the relevant rules are unlikely to occur within the coastal marine area. However, maintaining permitted activity status under the status quo option provides no protection for the coastal marine area in the unlikely event that these activities were to arise. Discharges to air of the nature permitted in terrestrial location occurring in the coastal marine area could have significant environmental costs.
Social	Low. The social costs are likely to be low given there is limited demand for these activities to occur in the coastal marine area.	Low - Medium. The status quo option permits inappropriate activities within the coastal marine area. This has the potential to prevent the public from using this coastal marine area or have adverse effects on human health.
Economic	Low. The economic costs are likely to be low given there is limited demand for these activities to occur in the coastal marine area.	There are no economic costs associated with this proposal.
Cultural	There are no cultural costs associated with this proposal.	Low-Medium. The status quo option would continue to permit inappropriate activities in the coastal marine area. These activities have potential to have impacts on the coastal marine area, a location of high cultural importance for iwi.
Benefits:		
Environmental	Medium. The proposal excludes inappropriate activities with potentially significant adverse environmental effects from occurring in the coastal marine area.	The status quo provides no environmental benefits.

Social	Low. The proposal allows the public to access and use the coastal marine area without adverse effects on amenity values or people's wellbeing.	The status quo provides no social benefits.
Economic	The proposal provides no economic benefits.	The status quo provides no economic benefits.
Cultural	Low-Medium. The protections for the coastal marine area would avoid any potential cultural costs associated with previously permitted activities, and therefore would provide cultural benefits.	The status quo provides no cultural benefits.
Effectiveness:		
How successful will you be in providing the outcome set by the objective?	The proposal will exclude the activities managed by the rules from occurring in the coastal marine area. This will offer full protection for human health, property and the environment and reduce the potential for adverse effects on amenity values and people's wellbeing.	The status quo option will not effectively protect the environment and users of the coastal marine area from adverse effects of discharges to air.
Efficiency		
Do the benefits of the option outweigh the costs?	There are low costs to society of the proposal relative to the high environmental and social benefits that will be achieved. There is low demand for these activities to occur within the coastal marine area.	The cost to society of the status quo option is potentially high if an activity permitted by the plan were to have significant adverse effects and was unable to be controlled through the current rules. Negligible benefits are achieved by retaining the current activities as permitted in the coastal marine area.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.	
Overall evaluation	The proposal outlined in option 1 provides the necessary protections for the environment and the wellbeing of people using the coastal marine area by excluding inappropriate activities from occurring without consideration through a discretionary consent process. The status quo option has the potential to allow significant adverse effects within the coastal marine area.	

2.3 Amending Proposal No.3 – Update New Zealand Standards

2.3.1 Relevant objectives

9. Rules R14, R18, R38, and R39 give effect to the following existing NRP objectives:

- Objective O31 - Human health, property, and the environment are protected from the adverse effects of point source discharges of air pollutants.
- Objective O32 - The adverse effects of odour, smoke and dust on amenity values and people's well-being are minimised.

10. The proposal intends to improve the effectiveness and efficiency of Rules R14, R18, R38, and R39 to the extent that it gives effect to Objective O31 and O32. This would result in improved functionality of the NRP.

2.3.2 Policy context – problem/issue

11. The listed rules make reference to outdated New Zealand standards (NZ standards) that have been replaced. The plan rules use NZ standards as an advice note, a condition of permitted activity status, and a matter of discretion for a restricted discretionary activity. The outdated standards inhibit the effective operation of these rules as uncertainty arises as to which standard to apply when the referenced version is no longer available or regarded as current best practice.

2.3.3 Amending Proposal No.3 – efficiency and effectiveness of provisions

The amending proposal contributes to achieving the Objectives set out in 2.2.1 above.
Intent of the amending proposal: Update Standards New Zealand references in air quality permitted activity Rules R14, R18, R38, and R39. The references to the outdated standard will be replaced with the current standard. Where the rule makes reference to a particular section or appendix within a standard the relevant provisions in the current standard will be referenced.
Proposed amendment (Option 1 – preferred): This amendment applies to the following rules, R14 – Spray coating within an enclosed space, R18 – Fume cupboards, R38 – Motorised and aerial discharge of agrichemicals, and R39 – Agrichemicals not permitted. Rule R18 provides an example of the amendments that will apply to the rules listed above: Rule R18: Fume cupboards – permitted activity. The discharge of contaminants into air from a fume cupboard is a permitted activity, provided the following conditions are met:

(a) the discharge shall not cause noxious, dangerous, offensive or objectionable odour, dust, particulate, smoke, vapours, droplets or ash beyond the boundary of the **property**, and (b) the discharge shall occur from a vent 3m above the height of the ridge line of the roof of the building, and (c) the vent shall be 15m or more from a public access area. *Note* Laboratory fume cupboard shall comply with *AS/NZS 2243.8: 2014 Safety in Laboratories - Part 8: Fume cupboards ~~(2006)~~*.		
	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	There are no environmental costs associated with this proposal.	Low-Medium. The status quo option makes reference to outdated standards, reducing the functionality of the plan. This issue has the potential to create confusion for plan users. The correct application of the standards prevents adverse effects on the environment.
Social	There are no social costs associated with this proposal.	There are no social costs associated with the status quo option.
Economic	There are no economic costs associated with this proposal.	Low. The status quo option has the potential to increase costs for applicants and other plan users interpreting outdated standards.
Cultural	There are no cultural costs associated with this proposal.	There are no cultural costs associated with this proposal.
Benefits:		
Environmental	Medium. The proposal will provide clarity and certainty for plan users. The plan will operate more effectively, and adverse environmental effects will be better managed accordingly.	The status quo provides no environmental benefits.
Social	The proposal provides no social benefits.	The status quo provides no social benefits.
Economic	Low. The proposal will reduce time for plan users by providing the current standards within the rule, reducing costs.	The status quo provides no economic benefits.
Cultural	The proposal provides no cultural benefits.	The status quo provides no cultural benefits.

Effectiveness:		
How successful will you be in providing the outcome set by the objective?	The proposal will allow the effective operation of the rule framework for both plan users and regulators. The effective operation of the plan will support the air quality objectives.	The status quo option will limit the effectiveness of the plan rules and have a negative impact on the achieving the air quality objectives.
Efficiency		
Do the benefits of the option outweigh the costs?	There are no costs to society of this proposal and therefore the net benefits are high.	The status quo option will have no benefits and has the potential to have costs to society through plan interpretation uncertainty.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.	
Overall evaluation	The option 1 proposal brings the rules up to date with the latest NZ standards ensuring that the most relevant protections are referenced for plan users. This will ensure the rules operate effectively to achieve the air quality objectives. There are no costs to this proposal, making it an efficient option relative to the status quo.	

2.4 Amending Proposal No.4 – Amend natural gas and wastewater gas rules.

2.4.1 Relevant objectives

12. Rule R35 gives effect to the following existing NRP objectives:

- Objective O31 - Human health, property, and the environment are protected from the adverse effects of point source discharges of air pollutants.
- Objective O32 - The adverse effects of odour, smoke and dust on amenity values and people's well-being are minimised.

13. The proposal intends to improve the effectiveness and efficiency of Rule R35 to the extent that it gives effect to Objective O31 and O32. This would result in improved functionality of the NRP.

2.4.2 Policy context – problem/issue

14. Rule R35 pertains to discharge of contaminants from both waste or wastewater processes and gas processes. In current form, the rule is not explicit to which processes are covered as a permitted activity. This has the potential to create confusion for plan users. Wastewater processes are also not appropriately defined, increasing uncertainty for plan users.

2.4.3 Amending Proposal No. 4 – efficiency and effectiveness of provisions

This amending proposal contributes to achieving the Objectives set out 2.2.1 above.

Intent of the proposal:

Amend Rule R35 by separating discharges into air from natural gas flaring and venting and the discharges of gases and odours from water and wastewater conveyance system activities.

The proposed change will separate the rule into R35 covering water and wastewater processes and R35A covering gas processes. This separation will increase clarity for plan users. Water and wastewater processes are permitted, provided compliance with conditions is achieved. Wastewater processes are also defined to improve user understanding of the rule.

Proposed amendment (Option 1 – preferred):

This amendment applies to Rule R35.

Rule R35: ~~Gas,~~ water and wastewater processes – permitted activity ~~Control~~

The discharge of contaminants into air from ~~the enclosed storage, conveyance and/or pumping of gas (including the flaring and venting of natural gas from gas distribution and transmission networks),~~ water and **wastewater** processes including pump stations and venting is a permitted activity, provided the following condition~~s are~~ met:

a) the discharge shall not cause offensive or objectionable odour at the boundary of a **sensitive activity~~., and~~**

b) ~~for venting and flaring of natural gas:~~

~~(i) the discharge is required for operational, maintenance or repair purposes, and~~

~~(ii) any equipment used is specifically designed for that purpose and in the case of flaring, provides for an unimpeded vertical discharge from an emission stack, and~~

(iii) ~~there is no emission of **hazardous air pollutants** as identified in Schedule L2 (air pollutants) beyond the boundary of the **property** that does, or is likely to, cause adverse effect on human health, ecosystems or **property**.~~

Rule R35A: Gas Processes – permitted activity

The discharge of contaminants into air from the enclosed storage, conveyance and/or pumping of gas (including the flaring and venting of natural gas from gas distribution and transmission networks) is a permitted activity, provided the following conditions are met:

(c) The discharge shall not cause offensive or objectionable odour at the boundary of a **sensitive activity**.

(d) The discharge is required for operational, maintenance or repair purposes, and

(e) Any equipment used is specifically designed for that purpose and in the case of flaring, provides for an unimpeded vertical discharge from an emission stack, and

(f) There is no emission of **hazardous air pollutants** as identified in Schedule L2 (air pollutants) beyond the boundary of the **property** that does, or is likely to, cause adverse effect on human health, ecosystems or **property**.

Option 2 – status quo:

The second option is the status quo, maintaining the existing single rule in the NRP.

	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	There are no environmental costs associated with this proposal.	Low. The current rule structure combining two different activities reduces the functionality of the plan. This issue has the potential to create confusion for plan users and could result in adverse effects on the environment.
Social	There are no social costs associated with this proposal.	There are no social costs associated with the status quo option.
Economic	There are no economic costs associated with this proposal.	Low-Medium. The status quo option conflates two activities in a single rule, reducing the functionality of the plan. This issue has the potential to create confusion for plan users and result in added time and economic costs.
Cultural	There are no cultural costs associated with this proposal.	There are no cultural costs associated with this proposal.
Benefits:		
Environmental	Medium. The proposal will provide clarity and certainty for plan users. The plan will operate more effectively, and adverse environmental effects will be better managed.	The status quo provides no environmental benefits.
Social	The proposal provides no social benefits.	The status quo provides no social benefits.
Economic	Low-Medium. The proposal will provide clarity and certainty for plan users. The plan will operate more effectively, and result in economic benefits.	The status quo provides no economic benefits.

Cultural	The proposal provides no cultural benefits.	The status quo provides no cultural benefits.
Effectiveness:		
How successful will you be in providing the outcome set by the objective?	The proposal will allow the effective operation of the rule framework for both plan users and regulators. The effective operation of the plan will support the air quality objectives.	The status quo option will limit the effectiveness of the plan rules and have a negative impact on the achieving the air quality objectives.
Efficiency		
Do the benefits of the option outweigh the costs?	There are no costs to society of this proposal and therefore the net benefits are high.	The status quo option will have no benefits and has the potential to have costs to society.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.	
Overall evaluation	The option 1 proposal effectively addresses the limited functionality of the plan by separating into separate rules for both water/wastewater and gas processes. This will ensure the rules operate effectively to achieve the air quality objectives. There are no costs to this proposal, making it an efficient option relative to the status quo.	

2.5 Amending Proposal No.5 – Amend All other discharges rule.

2.5.1 Relevant objectives

15. Rule R42 gives effect to the following existing NRP objectives:

- Objective O31 – Human health, property, and the environment are protected from the adverse effects of point source discharges of air pollutants.
- Objective O32 – The adverse effects of odour, smoke and dust on amenity values and people's well-being are minimised.

16. The proposal intends to improve the effectiveness and efficiency of Rule R42 to the extent that it gives effect to Objective O31 and O32. This would result in improved functionality of the NRP.

2.5.2 Policy context – problem/issue

17. Rule 42 inadvertently requires all air discharges (including minor discharges outside of industrial or trade premise that are intended to not be restricted by RMA section 15(1)) to have a resource consent as a discretionary activity.

2.5.3 Amending Proposal No. 5 – efficiency and effectiveness of provisions

This amending proposal that contributes to achieving the Objectives set out in 2.2.1 above.

Intent of the proposal:

Amend Rule R42 for all other discharges to air to not inadvertently capture minor discharges and provide clarity for plan users.

The amendment will more explicitly specify and narrow the conditions in which a discharge of contaminants into air is a discretionary activity under this rule. Discharges of contaminants that are from an industrial or trade premise or that do not comply with a condition of a permitted activity rule and are not expressly managed under another rule are a discretionary activity. This amendment permits minor discharges outside of industrial and premises that are not managed by the plan. The changes also make the rule cascade to Rule 42 for non-compliance with a permitted activity conditions clear for plan users.

Proposed amendment (Option 1 – preferred):

This amendment applies to Rule R42.

Rule R42: All other discharges – discretionary activity COASTAL

The discharge of contaminants into air <u>from activities which either:</u>

(a) <u>Is from an industrial or trade premise; or</u>

(b) <u>Does not comply with one or more conditions of permitted rules R1, R2, R3, R7, R8, R9, R10, R11, R12, R14, R15, R16, R17, R18, R19, R20, R21, R25, R27, R28, R29, R30, R31, R33, R35, R35A, R36, R37, R38 and R40.</u>

<u>And is not expressly classified as a</u> ~~that are not~~ permitted, controlled, discretionary, non-complying or prohibited <u>activity in the plan</u> is a discretionary activity.

Option 2 – status quo:

The second option is the status quo, maintaining the existing rule in the NRP.

	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	Low. Discharges outside of industrial or trade premise that are not managed by the plan are permitted under this option. These discharges are likely to be minor and have no significant environmental costs.	Low. The status quo option does not provide clear direction that activities that do not achieve compliance with a permitted activity rule are then managed by Rule R42 as a discretionary activity. In addition, Rule R42 is not clear as to which activities should be managed under the rule. These issues have the potential to create confusion for plan users and may result in

		adverse effects on the environment.
Social	There are no social costs associated with this proposal.	Medium. The status quo option has the potential to heavily regulate a range of activities that produce minor discharges. If maintained these rules could discourage people from carrying out minor activities.
Economic	There are no economic costs associated with this proposal.	Medium. The status quo option could lead to significant compliance costs for resource consenting assuming the rules are enforced to the full extent.
Cultural	There are no cultural costs associated with this proposal.	There are no cultural costs associated with the status quo.
Benefits:		
Environmental	Medium. The proposal will provide clarity and certainty for plan users. The plan will operate more effectively, and adverse environmental effects will be minimised.	Low. The discharges regulated under the status quo option are minor and likely to have minimal adverse effects. The environmental benefits of this option are therefore limited.
Social	Low. The proposal will reduce unnecessary restrictions on activities carried out by people.	The status quo provides no social benefits.
Economic	Medium. The proposal will remove unnecessary compliance costs for resource consenting.	The status quo provides no economic benefits.
Cultural	The proposal provides no cultural benefits.	The status quo provides no cultural benefits.
Effectiveness:		
How successful will you be in providing the outcome set by the objective?	The proposal will continue to provide an effective rule framework to regulate discharges to air. The changes will improve the functionality of the plan resulting in minimal adverse effects.	The status quo options provide an overly restrictive rule framework that is unlikely to be enforceable due to the absence of environmental effects associated with minor discharges. This inhibits the operational effectiveness of the plan.

Efficiency		
Do the benefits of the option outweigh the costs?	The proposal will effectively regulate air discharges while reducing unnecessary costs to society. The net benefits of this option are therefore high.	The status quo is not an efficient option for managing air discharges. The costs to society are potentially high for limited additional benefit from the regulation of minor discharges.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.	
Overall evaluation	The option 1 proposal removes the overly restrictive rule framework under the status quo whereby minor discharges are inadvertently captured by the catch all rule R42. The proposal will only regulate potentially harmful discharges occurring on industrial or trade premises beyond those specific activities that may not be anticipated from the direct activity rules applying region wide (i.e., to industrial and trade premises and all other locations) in the plan. The proposal will also provide additional benefits by outlining for plan users that non-compliance with a permitted activity rule is managed under rule R42.	

2.6 Amending Proposal No.6 – Amend Rules R29 and R30

2.6.1 Relevant objectives

18. Rules R29 and R30 give effect to the following existing NRP objectives:

- Objective O31 – Human health, property, and the environment are protected from the adverse effects of point source discharges of air pollutants.
- Objective O32 – The adverse effects of odour, smoke and dust on amenity values and people's well-being are minimised.

19. The proposal intends to improve the effectiveness and efficiency of Rules R29 and R30 to the extent that it gives effect to Objective O31 and O32. This would result in improved functionality of the NRP.

2.6.2 Policy context – problem/issue

20. Rules R29 and R30 include the protection that the discharge of contaminants to air shall not cause offensive or objectionable odour, dust, particulate, smoke, vapours, droplets or ash beyond the boundary of the property. These protections are part of the rule body and are not a separate condition. This does not allow the effective rule cascade for non-compliance with the protection test.

2.6.3 Amending Proposal No. 6 – efficiency and effectiveness of provisions

This amending proposal contributes to achieving the Objectives set out in 2.2.1 above.

Intent of the proposal:

Amend Rules R29 and R30 to add conditions to allow the operation of the rule cascade for activities that do not comply with a permitted activity rule.

A condition (a) will be added to Rules R29 and R30 requiring the discharge shall not cause offensive or objectionable odour, dust, particulate, smoke, vapours, droplets or ash beyond the boundary of the property to achieve permitted activity status.

Proposed amendment (Option 1 – preferred):

The amendment applies to Rule R29 - Alcoholic beverage production and R30 – Coffee roasting.

Rule R29: Alcoholic beverage production – permitted activity

The discharge of contaminants into air from alcoholic beverage production is a permitted activity, provided the following condition is met:

(a) the discharge shall not cause offensive or objectionable odour, dust, particulate, smoke, vapours, droplets or ash beyond the boundary of the **property**.

Rule R30: Coffee roasting – permitted activity

The discharge of contaminants into air from roasting of coffee is a permitted activity, provided the following condition is met:

(a) the discharge shall not cause offensive or objectionable odour, dust, particulate, smoke, vapours, droplets or ash beyond the boundary of the **property**.

Option 2 – status quo:

The second option is the status quo, maintaining the existing rules in the NRP.

	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	Low. There are no environmental costs associated with this proposal.	Low. The status quo option does not provide for the effective operation of the rule cascade for non - compliance with the permitted activity rules. There is potential for adverse effects arising from the ineffective operation of the rules.

Social	There are no social costs associated with this proposal.		There are no social costs associated with the status quo option.
Economic	There are no economic costs associated with this proposal.		There are no economic costs associated with the status quo option
Cultural	There are no cultural costs associated with this proposal.		There are no cultural costs associated with the status quo option.
Benefits:			
Environmental	Medium. The proposal will create conditions that are more effectively understood by plan users. The increased effectiveness of the plan will result in environmental benefits.		The status quo provides no environmental benefits.
Social	The proposal provides no social benefits.		The status quo provides no social benefits.
Economic	The proposal provides no economic benefits.		The status quo provides no economic benefits.
Cultural	The proposal provides no cultural benefits.		The status quo provides no cultural benefits.
Effectiveness:			
How successful will you be in providing the outcome set by the objective?	The proposal will continue to provide an effective rule framework to regulate discharges to air. The changes will improve the functionality of the plan resulting in minimised adverse effects.		The status quo option will limit the effectiveness of the plan rules and have a negative impact on the achieving the air quality objectives.
Efficiency			
Do the benefits of the option outweigh the costs?	There are no costs to society of this proposal and therefore the net benefits are high.	The status quo option will have no benefits and has the potential to have costs to society.	The status quo option will have no benefits and has the potential to have costs to society.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.		
Overall evaluation	The proposal maintains the rule framework for regulating discharges to air while providing for the effective operation of the rule cascade for non-compliance with permitted activity rules. The proposal is a minor change that has no potential costs.		

2.7 Amending Proposal No.7 – Amend General condition 5.4.4(n)

2.7.1 Relevant objectives

21. General condition 5.4.4(n) gives effect to the following existing NRP objective:

- Objective O28: Ecosystems and habitats with significant indigenous biodiversity values are protected from the adverse effects of use and development, and where appropriate restored to a healthy functioning state including as defined by Tables 3.4, 3.5, 3.6, 3.7 and 3.8.

22. The proposal intends to improve the effectiveness and efficiency of general condition 5.4.4(n) to the extent that it gives effect to Objective O28. This would result in improved functionality of the NRP.

2.7.2 Policy context – problem/issue

23. Policy P30 of the NRP requires that the adverse effect of use and development are managed to *maintain or where practicable restore habitats that are important to the life cycle and survival of indigenous aquatic species and the habitats of indigenous birds in the coastal marine area, natural wetlands and the beds of lakes and rivers and their margins that are used for breeding, roosting, feeding, and migration.*

24. Policy P42 also requires that the habitats of indigenous birds identified in Schedule F2 are protected and where appropriate, restored.

25. General condition (n) relates solely to the critical period for nesting, roosting, and foraging of birds listed in Schedule F2a and F2b. Some birds listed in Schedule F2a and F2b don't have a critical period, and so are not protected by the general condition. If the bird species do not have a listed critical period, habitats of these indigenous birds in beds of lakes are rivers that are used for breeding, roosting, feeding and migration will not be maintained or restored and so the permitted activity rules which refer to this condition are not consistent with Policies P30 and P42, or Objective O28.

2.7.3 Amending Proposal No. 7 – efficiency and effectiveness of provisions

This amending proposal is contributes to achieving the objectives set out in 2.21 above.
Intent of the proposal: To broaden the scope of general condition (n) to all nesting, roosting and foraging birds listed in Schedule F2a and F2b. The condition will continue to protect birds identified in Schedule F2a and F2b with critical periods but will also protect birds identified in Schedule F2a and F2b that don't have a critical period for nesting, roosting and foraging.

Proposed amendment (Option 1 – Preferred Option):

"*In any part of a river or lakebed identified in Schedule F2a (birds-rivers) or Schedule F2b (birds-lakes), no structure shall be constructed, and no disturbance shall take place~~, during the critical period~~ <u>if the named birds</u> identified in Schedule F2a (birds-rivers) or Schedule F2b (birds-lakes) ~~if the named birds~~ are identified as nesting, roosting and foraging at the work site, and*"

Option 2 – Status Quo:

The second option is the status quo, maintaining the existing general condition 5.4.4(n) drafting in the NRP.

	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	There are no anticipated environmental costs.	High. Birds listed in Schedule F2a and F2b that don't have a critical period, many of which being threatened or at-risk species, would continue to not be protected by general condition 5.4.4(n).
Social	There are no anticipated social costs.	High. Birds listed in Schedule F2a and F2b that don't have a critical period, many of which are threatened or at-risk species, would continue to not be protected by general condition 5.4.4(n). Biodiverse ecosystems provide for the community's environmental, social, and cultural wellbeing. Thus, biodiversity loss would incur a social cost.
Economic	Any economic costs are anticipated to be minimal.	There are no anticipated economic costs.
Cultural	There are no anticipated cultural costs.	High. Birds listed in Schedule F2a and F2b that don't have a critical period, many of which being threatened or at-risk species, would continue to not

			be protected by general condition 5.4.4(n). Biodiverse ecosystems provide for the community's environmental, social, and cultural wellbeing. Thus, biodiversity loss would incur a cultural cost.
Benefits:			
Environmental	High. All birds listed in Schedule F2a and F2b, many of which being threatened or at-risk species, would be protected by general condition 5.4.4(n). Biodiverse ecosystems provide for the community's environmental, social, and cultural wellbeing.		There are no anticipated environmental benefits.
Social	Moderate. All birds listed in Schedule F2a and F2b, many of which are threatened or at-risk species, would be protected by general condition 5.4.4(n). Biodiverse ecosystems provide for the community's environmental, social, and cultural wellbeing.		There are no anticipated social benefits.
Economic	There are no anticipated economic benefits.	There are no anticipated economic benefits.	There are no anticipated economic benefits.
Cultural	Moderate. All birds listed in Schedule F2a and F2b, many of which being threatened or at-risk species, would be protected by general condition 5.4.4(n). Biodiverse ecosystems provide for the community's environmental, social, and cultural wellbeing.		There are no anticipated cultural benefits.
Effectiveness:			
How successful will you be in providing the outcome set by the objective?	Option 1 is assessed as being the most effective option in providing the outcome set by Objective O28.		The status quo is assessed as being less effective than Option 1 in providing the outcome set by Objective O28, as it does not adequately protect indigenous birds and their habitats from the adverse effects of use and development.

Efficiency		
Do the benefits of the option outweigh the costs?	Net benefit high. Option 1 will increase the net benefit to society by providing environmental, social, and cultural benefits over the status quo.	Net benefit low. The status quo would not change the net benefit to society.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.	
Overall evaluation	Overall, Option 1 is the most effective and efficient in achieving the outcome set by Objective O28.	

2.8 Proposal No.8 – Amend Rule R128 and make associated changes to Rule R145

2.8.1 Relevant objectives

26. In respect to the scope of this proposal, Rule R128 primarily seeks to give effect to the following existing NRP objectives:

- Objective O14 (Natural character, form, and function)
- Objective O16 (Natural hazards)
- Objective O17 (Water quality)
- Objective O19 (Biodiversity, aquatic ecosystem health, and mahinga kai)

27. Additionally, the current wording for Rule R128 is inconsistent with the following policies :

- Policy P24(c, d, e) aims to preserve and protect natural character (outside the coastal environment) from inappropriate development by avoiding, remedying, or mitigating adverse effects of activities on the natural character of wetlands, rivers, lakes, and their margins.
- Policy P27 '*discourages*' 'hard hazard engineering mitigation and protection methods', such as erosion protection structures.

28. The proposal intends to improve the effectiveness and efficiency of Rule R128 to the extent that it gives effect to Objectives O14, O16, O17, and O19, and Policies P24 and P27. This would result in improved functionality of the NRP and better alignment of the rule with objectives and policies.

2.8.2 Policy context – problem/issue

29. Rule R128 uses the word '*including*' in reference to the list of structures that are permitted by this rule, which broadens the scope of the rule, making it imprecise and uncertain. Additionally, the use of the word '*including*' in this manner means that any structure not explicitly provided for under another rule is provided for under Rule R128. The activity class and the permitted activity conditions of Rule R128 are inadequate for appropriately managing such a

broad variety of structures. This rule is also inconsistent with Rule R122's permitted activity conditions where the controls over the replacement, extension or upgrade of existing structures is more stringent than Rule R128's permitted activity conditions for new structures.

30. Rule R128 provides for the placement of erosion protection structures. Such structures are typically placed along the beds of rivers and lakes in a longitudinal form. The permitted activity conditions of Rule R128 restrict the scale of the bed area that the structure can occupy as a permitted activity but does not prevent multiple structures being constructed in close proximity along a river reach. This would have much the same effect as a single structure of indefinite length, which could include adverse effects on the natural character, ecosystem health, and the hydrological or ecological function of rivers or lakes.

31. Use of the word '*pipe*' in Rule R128 creates confusion with the culvert and reclamation rules in relation to stream piping and reclamation. The intention was to provide for the installation of small diameter pipelines such as small natural gas pipelines.

32. Multiple instances of consecutive grammatical negation within the wording of Rule R128 are confusing and hinder the efficient interpretation of the rule:

- E.g., "*The placement of a new structure, including sediment retention weirs … except a structure permitted by … excluding activities regulated by … except general condition … including any associated: …"*

2.8.3 Amending Proposal No. 8 – efficiency and effectiveness of provisions

The amending proposal contributes to achieving the Objectives set out in 2.21 above.
Intent of the amending proposal: To remove all explicit references to erosion protection structures from permitted activity Rule R128. The placement of new erosion protection structures would become a discretionary activity under Rule R145. – As a discretionary activity under Rule R145, the Council would require consent applications and reserve the right to decline applications for the placement of new erosion protection structures. This would provide the Council the ability to control these structures and give effect to Policies P24 and P27. To remove the word '*including*' from Rule R128 where it is used in reference to the list of structures that are relevant to the rule. This would restrict the scope of the rule only to the placement of structures which are explicitly listed in the rule. All components of Rule R128's main stem that result from the presence of the word '*including*' would also be removed (e.g., the explicit exclusion of structures permitted by Rules R125, R126, R127 and passive flap gates would no longer need to be explicit). – Following the removal of reference to erosion protection structures, the rule would explicitly provide for the following permitted structures: – Sediment retention weirs. – Pipelines (such as natural gas pipelines), ducts, lines, cables.

- Hydrological and water quality monitoring equipment.
- Fences.
- Debris arrestor structures.
- Structures associated with vegetative bank edge protection.

- Some structures of a longitudinal form such as pipelines and structures associated with vegetative bank edge protection would remain in Rule R128. The effect of these structures on natural character, ecosystem health, and function of rivers and lakes is deemed to be low.
- Following the removal of the word '*including*', where it is used in reference to the list of structures that are relevant to the rule, the placement of new passive flap gates would become a discretionary activity under Rule R145. The note associated with the placement of passive flap gates in Rule R128 must move to Rule R145 to reflect this change.

To change all uses of the word '*pipe*' in Rule R128 to '*pipeline*' to make the interpretation and function of Rule R128 more certain.

To move the following component of Rule R128's main stem to the end of the numbered activity clauses to make the interpretation and function of Rule R128 more certain:

"*Excluding activities regulated by the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 except when general condition 5.4.4(n) applies*"

Proposed amendment (Option 1 – Preferred Option):

"*Rule R128: New structures – permitted activity.*

The placement of a new ~~structure, including~~ sediment retention weir~~s~~, pipe<u>line</u>~~s~~ <u>(such as a natural gas pipeline)</u>, duct~~s~~, cable~~s~~, hydrological and water quality monitoring equipment, fence~~s~~, ~~erosion protection structures~~, debris arrestor structure <u>or a</u> ~~and~~ structure associated with vegetative bank edge protection ~~except a structure permitted by Rules R125, R126 and R127 and passive flap gates~~, that is fixed in, on, under, or over the bed of any river or lake, ~~excluding activities regulated by the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 except general condition 5.4.4(n),~~ including any associated:

(a) disturbance of the river or lakebed, and

(b) deposition on the river or lakebed, and

(c) diversion of water, and

(d) discharge of sediment to water, and

(e) temporary damming of water,

<u>excluding activities regulated by the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 except when general condition 5.4.4(n) applies,</u>

is a permitted activity, provided the following conditions are met:

(f) the activity shall comply with the beds of lakes and rivers general conditions specified above in Section 5.4.4, and

(g) the activity does not occur within a site identified in Schedule C (mana whenua), excluding adding pipelines or cables to an existing structure or providing for fish refuge, and

(h) the activity does not occur in or on any part of the riverbed identified as inanga spawning habitat in Schedule F1 (rivers/lakes), and

(i) the structure does not occupy a bed area any greater than 10m², except for where the structure is associated with vegetative bank edge protection, or a pipe pipeline, duct, fence or cable which is located over or under the bed where no bed occupancy limits apply, and

…

~~Note~~

~~The placement of a passive flap gate in, on, over or under the bed of any river or connected area is a non-complying activity regulated by the Resource Management (National Environment Standards for Freshwater) Regulations 2020."~~

"*Rule R145: All other uses of river and lake beds*

All other uses that would otherwise contravene section 13(1) or 13(2) of the RMA and any associated activities under sections 14 or 15 of the RMA, in, on, under or over river and lake beds that is not permitted, controlled or restricted discretionary by Rule R122 to Rule R129 is a discretionary activity, except for reclamation, damming and diverting of water.

Note

The placement of a passive flap gate in, on, over or under the bed of any river or connected area is a non-complying activity regulated by the Resource Management (National Environment Standards for Freshwater) Regulations 2020."

Option 2 – Status Quo:

The second option is the status quo, maintaining the existing rule drafting in the NRP.

	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	There are no anticipated environmental costs.	High. The environmental costs from the status quo are anticipated to be high due to adverse impacts on water quality and aquatic ecosystem health.
Social	There are no anticipated social costs.	High. The social costs from the status quo are anticipated to be high due to adverse impacts on natural character and natural hazard risk.
Economic	Moderate. The economic costs from option 1 are anticipated to be moderate due to some new structures becoming discretionary activities under Rule R145, and therefore being subject to	There are no anticipated economic costs.

	application preparation costs and council fees associated with the resource consent process.	
Cultural	There are no anticipated cultural costs.	High. The cultural costs from the status quo are anticipated to be high primarily due to adverse impacts on water quality and aquatic ecosystem health.
Benefits:		
Environmental	High. The environmental benefits are anticipated to be high due to positive impacts on water quality and aquatic ecosystem health.	There are no anticipated environmental benefits.
Social	High. The social benefits are anticipated to be high due to positive impacts on natural character and natural hazard risk.	There are no anticipated social benefits.
Economic	There are no anticipated economic benefits.	There are no anticipated economic benefits.
Cultural	High. The cultural benefits are anticipated to be high primarily due to positive impacts on water quality and aquatic ecosystem health.	There are no anticipated cultural benefits.
Effectiveness:		
How successful will you be in providing the outcome set by the objective?	Option 1 is assessed as being the most effective option in providing for the outcomes set by Objectives O14, O16, O17, and O19, and Policies P24 and P27.	The status quo is assessed as being less effective than Option 1 in providing the outcome set by Objectives O14, O16, O17, and O19. Additionally, the status quo is assessed as being inconsistent with Policies P24 and P27.
Efficiency		
Do the benefits of the option outweigh the costs?	Net benefit high. Option 1 will increase the net benefit to society by providing environmental, social, and cultural benefits over the status quo.	Net benefit low. The status quo would not change the net benefit to society.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.	
Overall evaluation	Overall, Option 1 is the most effective and efficient in achieving the outcome set by Objectives O14, O16, O17, and O19, and Policies P24 and P27.	

2.9 Amending Proposal No.9 – Amend Rule R132

2.9.1 Relevant objectives

33. Policy R132 gives effect to the following existing NRP objectives:

- Objective O14 (Natural character, form, and function)
- Objective O16 (Natural hazards)
- Objective O17 (Water quality)
- Objective O19 (Biodiversity, aquatic ecosystem health, and mahinga kai).

34. The proposal intends to improve the effectiveness and efficiency of Rule R132 to the extent that it gives effect to Objectives O14, O16, O17, and O19. This would result in improved functionality of the NRP.

2.9.2 Policy context – problem/issue

35. Clause (a) of Rule R132 states:

- "*Deposition on the river or lakebed*"

36. This is the sole reference to the beds of lakes in the rule and has the effect of making the interpretation and function of the rule uncertain.

37. Other than clause (a), the conditions of this rule relate to measures to avoid or mitigate adverse effects of gravel extraction from rivers, including limiting any extraction of material to the dry gravel beach.

2.9.3 Amending Proposal No. 9 – efficiency and effectiveness of provisions

This amending proposal contributes to achieving the Objectives set out in 2.2.1 above.
Intent of the amending proposal: To remove reference to deposition on the bed of a lake from Rule R132, which clarifies the wording of the rule and makes the interpretation and function of the rule more certain. Following the removal of reference to lakes from Rule R132, any gravel extraction from the bed of a lake, and any associated deposition will be a discretionary activity under Rule R145.
Proposed amendment (Option 1 – Preferred Option): "***Rule R132: Minor sand and gravel extraction – permitted activity.*** *The excavation or other disturbance of the bed of a river for the purpose of extracting gravel or other bed material, excluding activities regulated by the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 except general condition 5.4.4(n) including any associated:* *(a) deposition on the river ~~or lake~~ bed.* *is a permitted activity, provided the following conditions are met:* *(b) the activity shall comply with the beds of lakes and rivers general conditions specified above in Section 5.4.4, and…"*

Option 2 – Status Quo:

The second option is the status quo, maintaining the existing rule drafting in the NRP.

	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	There are no anticipated environmental costs.	Low-Moderate: The lone and likely unintended reference to the beds of lakes in Rule R132 reduces the functionality of the plan as the main stem of the rule does not refer to gravel or other bed material extraction from a lake, just a river. This also has the potential to create confusion for plan users, and results in unanticipated environmental costs if removal of lakebed material were to occur as a permitted activity. Removing material from the beach area of a lake could result in more significant adverse effects than a river due to the reduced input of bed material to a lake and more stable water levels compared with a river which result in less opportunity to replenish extracted bed material.
Social	There are no anticipated social costs.	Low-Moderate: The lone and unintended reference to the beds of lakes in Rule R132 reduces the functionality of the plan. This also has the potential to cause concern and confusion for plan users. Removing material from the beach area of a lake could result in more significant social effects if recreation areas are affected as the beach areas of a lake are likely to take longer to replenish than a river.

Economic	There are no anticipated economic costs.	Low-Moderate: The lone and unintended reference to the beds of lakes in Rule R132 reduces the functionality of the plan. This has the potential to create confusion for plan users, and economic costs arising from plan uncertainty.
Cultural	There are no anticipated cultural costs.	Low-Moderate: The lone and unintended reference to the beds of lakes in Rule R132 reduces the functionality of the plan. This has the potential to create confusion for plan users and could result in unanticipated cultural costs in the event that the removal of lakebed material was to occur as a permitted activity.
Benefits:		
Environmental	Low-Moderate: Removing the lone reference to the beds of lakes in Rule R132 makes the interpretation and function of the rule more certain for plan users and provides better protection for beach areas of lakes.	There are no anticipated environmental benefits.
Social	Low-Moderate: Removing the lone reference to the beds of lakes in Rule R132 makes the interpretation and function of the rule more certain for plan users, thus, potentially and better protects recreation areas of lakes.	There are no anticipated social benefits.
Economic	Low-Moderate: Removing the lone reference to the beds of lakes in Rule R132 makes the interpretation and function of the rule more certain for plan users, thus, potentially avoiding unanticipated economic costs.	There are no anticipated economic benefits.
Cultural	Low-Moderate: Removing the lone reference to the beds of lakes in Rule R132 makes the interpretation and function of the rule more certain for plan users, thus, potentially avoiding unanticipated cultural costs.	There are no anticipated cultural benefits.

Effectiveness:		
How successful will you be in providing the outcome set by the objective?	Option 1 is assessed as being the most effective option in providing the outcome set by Objectives O14, O16, O17, and O19.	The status quo is assessed as being less effective than Option 1 in providing the outcome set by Objectives O14, O16, O17, and O19.
Efficiency		
Do the benefits of the option outweigh the costs?	Net benefit moderate. Option 1 will increase the net benefit to society by making the interpretation and function of the rule more certain for plan users, thus, potentially avoiding unanticipated environmental, social, economic, and cultural costs.	Net benefit low. The status quo would not change the net benefit to society.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.	
Overall evaluation	Overall, Option 1 is the most effective and efficient in achieving the outcome set by Objectives O14, O16, O17, and O19.	

2.10 Amending Proposal No.10 – Amend Rule R133

2.10.1 Relevant objectives

38. Policy R133 gives effect to the following existing NRP objectives:

- Objective O14 (Natural character, form, and function)
- Objective O16 (Natural hazards)
- Objective O17 (Water quality)
- Objective O19 (Biodiversity, aquatic ecosystem health, and mahinga kai).

39. The proposal intends to improve the effectiveness and efficiency of Rule R133 to the extent that it gives effect to Objectives O14, O16, O17, and O19. This would result in improved functionality of the NRP.

2.10.2 Policy context – problem/issue

40. Rule R133 includes wording more consistent with s12 (Restrictions on use of coastal marine area) of the Resource Management Act 1991 rather than s13 (Restriction on certain uses of beds of lakes and rivers), specifically s12(1)(e) which refers to "*destroy, damage, disturb*". This description of the activity is also inconsistent with related Rule R132 (Minor sand and gravel extraction).

41. Rule R133 refers to Schedule F4 (coastal sites), Schedule F5 (coastal habitats) and Schedule J (geological features in the coastal marine environment), all of which are irrelevant to the scope of Chapter 5.4.5 (Uses of beds of lakes and rivers).

2.10.3 Amending Proposal No. 10 – efficiency and effectiveness of provisions

This amending proposal contributes to achieving the Objectives set out in 2.2.1 above.

Intent of the amending proposal:

To amend the wording '*destruction, damage*' to '*excavation, deposition*' to make the wording of Rule R133 more consistent with the activities controlled by s13 (Restriction on certain uses of beds of lakes and rivers) of the RMA, namely:

- s13(1)(b) "*excavate … disturb*".
- s13(1)(d) "*deposit*"

To remove reference to the coastal Schedules F4, F5 and J from Rule R133, and to add Schedule F1 to Rule R133. This amendment is needed as the rule only relates to beds of lakes and rivers and not coastal activities which are set out in Chapter 5.6. Schedule F1 (Ecosystems and habitats with significant indigenous biodiversity values) identifies the ecosystems and habitats of rivers and lakes.

Proposed amendment (Option 1 – Preferred Option):

"Rule R133: Gravel extraction for flood protection purposes or erosion mitigation inside sites of significance – discretionary activity

~~Destruction, damage~~ Excavation, deposition or disturbance associated with gravel extraction for flood protection purposes or erosion mitigation inside a site or habitat identified in Schedule C (mana whenua) or Schedule F1 (rivers and lakes with significant indigenous ecosystems)~~, Schedule F4 (coastal sites), Schedule F5 (coastal habitats) or Schedule J (geological features)~~ in the bed of a lake or river, including any associated:

~~(a) deposition on the river or lakebed, and~~

(a ~~b~~) discharge of sediment to water, and

(b ~~c~~) diversion of water

is a discretionary activity."

Option 2 – Status Quo:

The second option is the status quo, maintaining the existing rule drafting in the NRP.

	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	There are no anticipated environmental costs.	Low-Moderate: The drafting and incorrect reference to schedules in Rule R133 reduces the functionality of the plan. This also has the potential to create

		confusion for plan users and does not protect the relevant values in Schedule F1, and so results in unanticipated environmental costs.
Social	There are no anticipated social costs.	Low-Moderate: The drafting and incorrect reference to schedules in Rule R133 reduces the functionality of the plan. This also has the potential to create confusion for plan users.
Economic	There are no anticipated economic costs.	Low-Moderate: The drafting and incorrect reference to schedules in Rule R133 reduces the functionality of the plan. This also has the potential to create confusion for plan users, and result in unanticipated economic costs.
Cultural	There are no anticipated cultural costs.	Low-Moderate: The drafting and incorrect reference to schedules in Rule R133 reduces the functionality of the plan. This also has the potential to create confusion for plan users, and result in unanticipated cultural costs in the event that the relevant values in Schedule F1 are not protected.
Benefits:		
Environmental	Low-Moderate: Correcting word-choice and reference to schedules in Rule R133 makes the interpretation and function of the rule more certain for plan users and ensures that the relevant values in schedule F1 are protected, thus, potentially avoiding unanticipated environmental costs.	There are no anticipated environmental benefits.

Social	Low-Moderate: Correcting word-choice and reference to schedules in Rule R133 makes the interpretation and function of the rule more certain for plan users.		There are no anticipated social benefits.
Economic	Low-Moderate: Correcting word-choice and reference to schedules in Rule R133 makes the interpretation and function of the rule more certain for plan users, thus, potentially avoiding unanticipated economic costs.		Low. There are no anticipated economic benefits.
Cultural	Low-Moderate: Correcting word-choice and reference to schedules in Rule R133 makes the interpretation and function of the rule more certain for plan users, and potentially avoids unanticipated cultural costs by ensuring that the relevant values in schedule F1 are protected.	Low. There are no anticipated cultural benefits.	Low. There are no anticipated cultural benefits.
Effectiveness:			
How successful will you be in providing the outcome set by the objective?	Option 1 is assessed as being the most effective option in providing the outcome set by Objectives O14, O16, O17, and O19.		The status quo is assessed as being less effective than Option 1 in providing the outcome set by Objectives O14, O16, O17, and O19.
Efficiency			
Do the benefits of the option outweigh the costs?	Net benefit moderate. Option 1 will increase the net benefit to society by making the interpretation and function of the rule more certain for plan users, thus, potentially avoiding unanticipated environmental, social, economic, and cultural costs.		Net benefit low. The status quo would not change the net benefit to society.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.		
Overall evaluation	Overall, Option 1 is the most effective and efficient in achieving the outcome set by Objectives O14, O16, O17, and O19.		

2.11 Amending Proposal No.11 – New Rule - Rule R151A: Ongoing diversion of a river

2.11.1 Relevant objectives

42. In respect to the scope of this proposal, proposed Rule R151A primarily seeks to give effect to the following existing NRP objectives:

- Objective O14 (Natural character, form, and function)
- Objective O15 (Natural hazards)
- Objective O17 (Water quality)
- Objective O19 (Biodiversity, aquatic ecosystem health, and mahinga kai).

43. The proposal intends to improve the effectiveness and efficiency of the NRP by inserting Rule R151A to the extent that it gives effect to Objectives O14, O15, O17 and O19. This would result in improved functionality and internal consistency within the NRP.

2.11.2 Policy context – problem/issue

44. Currently under the NRP (and the previous Regional Freshwater Plan), long-term consents (i.e. 35 years) for the ongoing or permanent diversion of a river are being issued. The consent conditions for these consents usually relate to a period within the first five or ten years following the diversion of the river, for any effects such as impeding fish passage, erosion or scour, or riparian planting. Following this period, the water body stabilises and becomes part of the existing environment. As such, there is no need for the ongoing and permanent diversion of the water body to be controlled by a resource consent. Currently, at the end of the term of these 35-year consents, a replacement application for resource consent is technically required and there is a question of what purpose would such a consent be seeking to achieve.

45. Rule R122 allows for the diversion of water in association with the maintenance, repair, replacement, upgrade, or use of existing structures as a permitted activity. Therefore, diversion of water in association with an existing structure does not require a water permit to divert water as a result of the ongoing use of the structure, whereas for diversions where no structure is required for the diversion of the water (e.g., where rivers are diverted into a newly created section of river) a water permit must be held for this diversion of water.

46. A recent example of a permanent water diversion of this nature is the diversion of the lower part of Wai-o-Hata or Duck Creek. To allow room for a residential development, resource consent was sought in 2011 for part of the river to be moved from one side of the valley to the other. A new section of river was created and bed material was recovered from the reclaimed section of river to assist with recolonisation of the riverbed. This new section of river needed to stabilise over time, and resource consent conditions were included on the water permit to ensure that any adverse effects as a result of the diversion, such as scour, erosion, fish passage impediments, or lack of colonisation of riparian vegetation or instream ecology were remedied if needed. In 2019, GWRC

confirmed that despite some earlier remediation requirements, there were no ongoing or outstanding requirements under the consent conditions for this diversion, as the new section of river had been naturalised.

47. The following are other examples of existing permanent diversions that Rule R151A could apply to:

- Department of Corrections holds a water permit to divert a stream to an old dry channel to prevent flooding of Rimutaka Prison.
- Various developers hold water permits to divert streams to enable greenfield development. Housing now exists on the land where the stream was previously located.
- Kāpiti Coast District Council holds a water permit to divert Mazengarb Stream in connection with the construction of a shared pathway.

48. As noted above, once a diversion has been in place for a period of between 5 and 10 years, the new section of river typically becomes naturalised and any erosion, scour or instability of the stream bed or banks or other potential adverse effects of the diversion are difficult to attribute to the diversion works, rather than natural causes. Usually by this time there is no observable difference between the diverted part of the river and the lengths that were not diverted. As such, there is no ability to attribute any adverse effects to the consent holder and no need for further monitoring of the diversion by the consent holder or Greater Wellington.

49. Where conditions of the initial diversion consent have not been satisfied, the conditions of the original water permit to divert the water continue to require any adverse effects to be mitigated or remedied. In the event that adverse effects are still occurring, then proposed Rule R151A would not apply, as permitted activity condition (d) would not be met. If the original consent is about to expire and adverse effects are still occurring, then a new application would be required as a discretionary activity under Rule R151.

50. In order to understand the potential impact of this new rule, existing consents held for permanent diversions that would become a permitted activity upon expiry of the current permit have been identified from the GW consents database. This rule could apply to up to approximately 75 existing water permits which were generally granted a term of 35 years.

2.11.3 Amending proposal No. 11 – efficiency and effectiveness of provisions

This amending proposal contributes to achieving the Objectives set out in 2.2.1
Intent of the amending proposal: The intention of Rule R151A is to allow for surface water to continue to be diverted once the permanent diversion has been lawfully established by a resource consent. In doing so, consents granted for surface water diversion can be short, allowing time solely for the applicant to construct/implement the diversion (i.e., 5 or 10 years) and undertake any maintenance required. This new rule removes the need for long-term consents (i.e., 35

years) and a replacement consent to be issued for the ongoing diversion of a river for those diversions that sit beyond the scope of Rule R122.

Proposed amendment (Option 1 – Preferred Option):

"*Rule R151A: Ongoing diversion of a river*

The diversion of a river as a result of:

(a) an existing permanent diversion, that is not associated with existing structures, that was lawfully established by way of a resource consent as at the date of this rule becoming operative, or

(b) permanent diversion, that is not associated with existing structures, that has been lawfully established by way of a resource consent after the operative date of this rule,

is a permitted activity subject to the following conditions:

(c) the permanent diversion has been in place for at least 10 years, and

(d) all of the conditions of the resource consent to lawfully establish the diversion have been complied with.

Note

Diversion of water in association with existing structures is subject to permitted activity rule R122 (Maintenance, repair, replacement, upgrade or use of existing structures (excluding the Barrage Gates) – permitted activity)."

Option 2 – Status Quo:

The second option is the status quo, maintaining the existing rule drafting in the NRP, which requires a resource consent for the diversion of a river unless it is in relation to the use of an existing structure.

	Option 1 (Preferred)	Option 2 (Status quo)
Costs:		
Environmental	There are no anticipated environmental costs.	There are no anticipated environmental costs.
Social	There are no anticipated social costs.	Low to Moderate – the ongoing requirement for a resource consent can cause concern for property owners. This is particularly the case when there is a sale of the property once the works have been completed.
Economic	There are no anticipated economic costs.	Moderate. Resource consents of unnecessary duration and unnecessary reapplication for river diversion resource consents creates an adverse economic cost for applicants and Greater Wellington.
Cultural	There are no anticipated cultural costs.	There are no anticipated cultural costs.

Benefits:		
Environmental	There are no anticipated environmental benefits.	There are no anticipated environmental benefits.
Social	Low to Moderate - Consent holders and potential parties involved in the sale of a property will be less concerned if they can avoid having to hold a resource consent for a longer duration than necessary and avoid the need to reapply for a new water permit where there are no ongoing adverse effects to manage.	There are no anticipated social benefits.
Economic	Moderate. Avoiding resource consents of unnecessary duration and unnecessary reapplication for river diversion resource consents avoids an adverse economic cost for applicants and Greater Wellington.	There are no anticipated economic benefits.
Cultural	There are no anticipated cultural benefits.	There are no anticipated cultural benefits.
Effectiveness:		
How successful will you be in providing the outcome set by the objective?	Option 1 is assessed as being the most effective option in providing the outcome set by Objectives O14, O15, O17 and O19.	The status quo is assessed as being less effective than Option 1 in providing the outcome set by Objectives O14, O15, O17 and O19.
Efficiency		
Do the benefits of the option outweigh the costs?	Net benefit moderate. Option 1 will increase the net benefit to society by avoiding unnecessary consenting processes for river diversion resource consents, thereby, avoiding adverse economic cost for applicants and Greater Wellington.	Net benefit low. The status quo would not change the net benefit to society.
Risks of acting or not acting if there is uncertain or insufficient information	There is sufficient information to act.	
Overall evaluation	Overall, Option 1 is the most effective and efficient in achieving the outcome set by Objectives O14, O15, O17 andO19.	

2.12 Amending Proposal No.12 – Update Schedules F4 and F5 and associated maps

2.12.1 Relevant objectives

51. In respect to the scope of this proposal, Schedules F4 and F5 (sites and habitats with significant indigenous biodiversity values in the coastal marine area) primarily seek to give effect to the following NRP objectives:

- Objective O19 (Biodiversity, aquatic ecosystem health, and mahinga kai)
- Objective O28 (Sites with significant indigenous biodiversity values)

52. NRP Method 24 requires GWRC to identify sites in the coastal marine area that meet criteria for significant indigenous biodiversity set out in the New Zealand Coastal Policy Statement Policy 11, meaning that the NRP schedules need to be updated as new information becomes available.

53. The proposal intends to improve the effectiveness and efficiency of Schedules F4 and F5 to the extent that they give effect to Objectives O19 and O28. This would result in improved functionality of the NRP.

2.12.2 Policy context – problem/issue

54. Objective 16 of proposed Change 1 to the Regional Policy Statement (RPS) is that: "Indigenous ecosystems and habitats with significant ecosystem and/or biodiversity vales are ~~maintained~~ protected, enhanced and restored to a healthy functioning state." RPS Policy 23 sets out criteria to be used to identify these ecosystems and habitats, while Policy 24 requires regional and district plans to protect these areas from inappropriate subdivision, use and development. The NRP includes a set of objectives, policies, rules and methods to give effect to these policies within the coastal marine area, wetlands and the beds of lakes and rivers.

55. Method 24 in the NRP requires GWRC to update the indigenous ecosystem schedules in the coastal marine area (Schedules F4 and F5) as new information becomes available. This method gives effect to requirements under Policy 11 of the New Zealand Coastal Policy Statement (NZCPS) which directs how activities are to be managed to protect indigenous biological diversity in the coastal environment.

56. New ecological surveys have been undertaken since the NRP was notified in 2015, and updates are now required to Schedules F4 and F5 to add the new sites and habitats identified and make updates to several existing sites and habitats.

2.12.3 Amending Proposal No. 12 – efficiency and effectiveness of provisions

This amending proposal is part of a suite of changes that contribute to achieving the Objectives set out in 6.12.1
Intent of the amending proposal: This proposal is to add ten new sites and habitats to, and update one existing site in, NRP Schedule F4 and add two new habitats to, and update four existing habitats in, Schedule F5.

These are new sites and habitats that have been identified subsequent to the NRP being notified in 2015 as a result of investigations in the coastal marine area and are summarised in a technical memo [1]. Five estuaries identified in the technical memo are not being proposed to be added as part of PC1, as these sites would become "*Category 1 surface water bodies*", defined in the NRP as including estuaries identified in Schedule F4 (coastal sites). Rule R98(a) is that there shall be no livestock access to a Category 1 surface water body. As each of these estuaries adjoin and/or overlap with private farm boundaries, an evaluation of the implications of the Rule R98 stock access restrictions, along with engagement with the affected landowners, is required before proposing to add these sites to the NRP. Resources were not available to undertake this work prior to notification of PC1. The intent is that this engagement will be undertaken soon so that these sites can be proposed to be added as part of the next change to the NRP.

Schedule F4 ecosystems are discrete sites and are mapped in the NRP (Map 19). The proposal is to add a new map #27 to display both existing and proposed new Schedule F4 sites. The ten new sites are located in Evans Bay, around Kāpiti and Mana Islands, and include two seamounts located in the Outer Cook Strait. As these sites are not estuaries, they will not become Category 1 surface water bodies and therefore there are no implications for livestock as for the estuarine sites discussed above.

Schedule F5 lists habitat types with significant indigenous biodiversity values. These habitat types are either not well mapped or their location and extent can change over time in response to environmental and human-induced pressures. For these reasons they are not mapped in the NRP. If they are found as part of a site survey for an anticipated ecological effects report, then NRP Policy P42 requires the habitat to be protected and restored to a healthy functioning state. The known locations of the two new Schedule F5 habitats are in Evans Bay and around Kāpiti Island.

The implications of being added to Schedules F4 and F5 are that some activities in these significant sites and habitats will be subject to stronger policies and rules to protect the significant values of these areas (as required by the NZCPS, RPS Objective 16 and Policy 24 and NRP Objective O28).

Activities that have a stronger regulatory requirement in Schedule F4 and F5 ecosystems and habitats

Many activities in the coastal marine area have a separate rule if they occur in a site in Schedule F4, generally being one rule category higher than in non-significant areas (i.e., activities that are discretionary, become non-complying in a scheduled area). Activities likely to be damaging to significant areas, including new structures (R182), seawalls (R188), vehicles on the foreshore (R218), dredging (R221), dumping of waste or other matter (R230), reclamation (R233), and disturbance and damage (R235), are non-complying activities inside scheduled sites. Standards for suspended sediment are lower for discharges and disturbances to Schedule F4 sites associated with stormwater (R48), existing pumped drainage schemes (R57), minor discharges (R91), and dewatering (R159). For some activities that are controlled, restricted discretionary, or discretionary activities (e.g., Rules R171-additions or alteration of structures, R220 - dredging), the effects of an activity on a Schedule F4 or F5 site is an additional matter of control, assessment, or discretion.

Main implications of scheduling new sites

The majority of new sites are located in open coastal water, therefore the main implications of scheduling these new sites is anticipated to be for new activities in the Evans Bay area, where stronger rules may affect activities in the surrounding area, for example requiring

[1] Oliver, M. 2023

higher standards for stormwater discharges (e.g., from roads, development) and higher consent requirements for new structures.

Notwithstanding the implications of stronger rules or standards applying to the newly scheduled sites, there are policies available which support case-by case consideration for activities associated with regionally significant infrastructure or renewable energy generation:

- Policy P39 provides a bespoke policy approach for existing regionally significant infrastructure and renewable energy generation activities within sites identified in Schedule F4 and F5 where there is a functional or operational need and no practicable alternative, with specified requirements for the management of indigenous biodiversity; and

Policy P41 provides more specific "*carve-outs*" for the airport in the Wellington Airport South Coastal Environment near the new Evans Bay sites. Regionally significant infrastructure proposals will need to consider their impacts on the newly identified biodiversity values, but the consenting pathway is expected to remain largely unchanged in these cases.

Proposed amendment (Option 1 – Preferred Option):

- Schedule F4 - Sites with significant indigenous biodiversity values in the coastal marine area: 10 new sites have been mapped, and amendments made to 1 existing scheduled site.

New Schedule F4 Sites	
Location	**Description**
Evans Bay	Adamsiella beds
Evans Bay and Kāpiti Island	Horse mussel beds
Kāpiti Island	Anemone beds
Kāpiti Island	Black coral colony
Kāpiti Island	Rhodolith beds
Mana Island and Kāpiti Island	Sponge gardens
Mataikona Reef	Seagrass
Outer Cook Straight	Seamounts

- Schedule F5 - Habitats with significant biodiversity values in the coastal marine area: 2 new habitats are proposed to be added to this schedule, and amendments to 4 existing scheduled habitats.

New Schedule F5 Habitats	
Location	**Description**
Evans Bay and Kāpiti Island	Horse mussel beds
Kāpiti Island	Black coral colonies

- Associated Maps - New maps (Map #27) for Schedule F4 (Schedule F5 is not a mapped schedule) to display both existing and proposed new sites.

Option 2 – Status Quo:

The second option is the status quo, not to update existing schedules F4 and F5 in the NRP with new information. This means that GWRC is not meeting its commitment under NRP Method M24 to identify sites in the coastal marine area that meet NZCPS Policy 11. Not scheduling these sites means that their significant indigenous ecosystem values are not obvious to resource users and resource consent officers, meaning that they remain vulnerable to adverse effects from human activities.

	Option 1 (Preferred)		Option 2 (Status quo)
Costs:			
Environmental	There are no anticipated environmental costs.	Moderate-high risk of loss of indigenous biodiversity values for the sites around Wellington Harbour, due to the potential for new activities adjacent to these sites, in particular new structures. If these sites are not added to NRP Schedule F4 or F5, there is a lack of awareness of their significant values, and they will not receive the added protection provided by the schedules via existing NRP rules. Although the NRP manages for the health of indigenous ecosystems generally, it does not highlight the particular needs of significant sites. This reduced protection may result in increased stress and population loss to already threatened	Moderate-high risk of loss of indigenous biodiversity values for the sites around Wellington Harbour, due to the potential for new activities adjacent to these sites, in particular new structures. If these sites are not added to NRP Schedule F4 or F5, there is a lack of awareness of their significant values, and they will not receive the added protection provided by the schedules via existing NRP rules. Although the NRP manages for the health of indigenous ecosystems generally, it does not highlight the particular needs of significant sites. This reduced protection may result in increased stress and population loss to already threatened species and habitats.

		species and habitats. Low-Moderate risk for other sites. Risks providing plan-users with out-of-date information, therefore reducing the efficiency and effectiveness of NRP Schedule F.	
Social	Low. While there will be higher standards required for structures associated with recreation, such as jetties, these are considered to be justified by the importance of protecting the significant values of these sites.		Moderate. Lack of appropriate management for sites with significant indigenous biodiversity, risks a loss of values which has social costs, recognising their intrinsic values, along with values, such as for mahinga kai, recreation, regional identity, and natural heritage.
Economic	Low-Moderate. Enhanced regulatory controls, primarily in the Evans Bay area, has potential to increase costs for consent applicants applying for activities involving new structures, discharges and disturbances within or to these sites, requiring that they are carried out to a higher standard than otherwise required or that they are relocated to avoid impacts on the significant site. These activities are already subject to rules and restrictions under the RMA (s12) and the NZCPS (Policy 11). Scheduling the sites clarifies the values and consenting requirements for resource users.		Moderate. The continued loss of indigenous biodiversity has economic costs. Many significant indigenous species are important for freshwater ecosystem processes, mahinga kai, and culture and recreation, such as white baiting and fishing.

Cultural		There are no anticipated cultural costs.	Moderate. For iwi, the health and well-being of people are inextricably linked with the health and wellbeing of the natural environment and indigenous biodiversity. Many threatened species are highly valued as taonga and mahinga kai, and for supporting cultural fisheries. Lack of focused management risks their continuing decline, and loss of cultural traditions and knowledge transfer to the next generation.	Moderate. For iwi, the health and well-being of people are inextricably linked with the health and wellbeing of the natural environment and indigenous biodiversity.
Benefits:				
Environmental		Moderate-High. 10 new ecosystems and 2 new habitats are proposed to be added across schedules F4 and F5. The resulting enhanced regulatory controls on these sites and habitats is anticipated to support and protect significant coastal habitats and ecosystems, including increased delivery of ecosystem services.		There are no anticipated environmental benefits.
Social	Moderate. The identification of scheduled sites in the proposed Plan will benefit resource users and the community	Moderate.		There are no anticipated social benefits.

	through improved clarity and certainty of the activity status for anticipated or proposed actions. The people and communities of the Wellington Region place significant value on the remnant biodiversity of the region.[2] All parts of the community will benefit from retaining the intrinsic and amenity values of these sites and habitats.		
Economic		Low (due the small number and scale of additional sites/habitats). Maintaining and enhancing regional biodiversity helps to preserve key ecosystem services such as providing fish nurseries and helps to make the region a desirable place to live. If these habitats and ecosystems degrade, it risks flow on negative economic impacts to people and communities.	There are no anticipated economic benefits.
Cultural		Moderate. Many threatened species are highly valued as taonga and mahinga kai by iwi, and for supporting cultural fisheries. This helps to preserve the continuation of cultural practices and knowledge.	There are no anticipated cultural benefits.

[2] Biodiversity Strategy 2011-2021. Greater Wellington Regional Council

Effectiveness:			
How successful will you be in providing the outcome set by the objective?		Option 1 is assessed as being the most effective option to provide for the outcome set by Objectives O19 and O28 and to give effect to RPS Policies 23 and 24.	The status quo is assessed as being less effective than Option 1 in providing the outcome set by Objectives O19 and O28.
Efficiency			
Do the benefits of the option outweigh the costs?	Net benefit high. Option 1 will increase the net benefit to society by supporting and protecting significant coastal habitats and ecosystems. Biodiverse and healthy ecosystems provide for the community's environmental, social, and cultural wellbeing.	Net benefit high.	Net benefit low. The status quo would not change the net benefit to society.
Risks of acting or not acting if there is uncertain or insufficient information		There is sufficient information about the historical loss and on-going pressures on indigenous biodiversity to determine that the risk of not acting is greater than the risk of acting.	
Overall evaluation		The proposed provisions are appropriate given the high level of efficiency and effectiveness for meeting the purpose of the RMA, implementing the RPS, and achieving the proposed objective to protect and restore ecosystems and habitats with significant indigenous biodiversity values the outcome sought by Objectives O19 and O28.	

Section 32 report: Part F

References

for Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region

References

This report includes relevant references in footnotes throughout the report.

In addition to the specific references provided in footnotes, the following materials were also used in the preparation of Plan Change 1 and Section 32 report

- All relevant Acts, National Policy Statements, National Environmental Standards and Regulations

- Greater Wellington Regional Council regional plans and strategies, Regional Policy Statement for the Wellington Region (2022)

- City and District Plans within the Wellington Region

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- Greer, M.J.C. 2023b. Assessment of alignment between the regulatory provisions and target attribute states in proposed Plan Change 1 to the Natural Resources Plan – Te Awarua-o-Porirua Whaitua. Prepared for Wellington Regional Council. Torlesse Environmental Report No. 2023-007. Torlesse Environmental Limited, Christchurch, New Zealand.

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- Oliver, M. 2023. Coastal sites and habitats with significant indigenous biodiversity values in the Wellington region: Technical memo to support updates to Schedules F4 and F5 in the 2023 Plan Change. Prepared by Wellington Regional Council.

- Thompson, M.J. 2023. Plan Change 1 – Te Awarua o Porirua, Water quantity and allocation technical report. Prepared by Greater Wellington Regional Council to support Section 32 assessment for Plan Change 1.