National Policy Statement for Freshwater Management 2020

October 2024

Ministry for the Environment
Manatū Mō Te Taiao

Te Kāwanatanga o Aotearoa
New Zealand Government

This National Policy Statement was approved by the Governor-General under section 52(2) of the Resource Management Act 1991 on 3 August 2020, and is published by the Minister for the Environment under section 54 of that Act.

This National Policy Statement replaces the National Policy Statement for Freshwater Management 2014 (as amended in 2017), which came into force on 7 September 2017.

This version of the National Policy Statement incorporates the following:

1. amendments made by the Minister for the Environment under section 53(1) of the Resource Management Act 1991 and notified in the *New Zealand Gazette* on 8 December 2022 as the National Policy Statement for Freshwater Management 2020 Amendment No 1

2. amendments made by the Minister for the Environment under section 53(2)(a) of the Resource Management Act 1991 to correct a minor error to Appendix 6 and Appendix 7 on 23 February 2023

3. the Court of Appeal decision quashing Clause 3.33 and Appendix 5 on 13 December 2023, in *Muaūpoko Tribal Authority Incorporated v Minister for the Environment and Te Rūnanga o Raukawa Incorporated* [2023] NZCA 641

4. amendments made by section 30 of the Resource Management (Freshwater and Other Matters) Amendment Act 2024 in October 2024.

Contents

Part 1: Preliminary provisions

1.1 Title

(1) This is the National Policy Statement for Freshwater Management 2020.

1.2 Commencement

(1) This National Policy Statement comes into force on 3 September 2020.

(2) *See* Part 4 for provisions about the timing of the implementation of this National Policy Statement.

1.3 Fundamental concept – Te Mana o te Wai

Concept

(1) Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community.

(2) Te Mana o te Wai is relevant to all freshwater management and not just to the specific aspects of freshwater management referred to in this National Policy Statement.

Framework

(3) Te Mana o te Wai encompasses 6 principles relating to the roles of tangata whenua and other New Zealanders in the management of freshwater, and these principles inform this National Policy Statement and its implementation.

(4) The 6 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 obligations 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 obligations 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.

(5) There is a hierarchy of obligations in Te Mana o te Wai that 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.

1.4 Interpretation

(1) In this National Policy Statement:

Act means the Resource Management Act 1991

attribute means a measurable characteristic (numeric, narrative, or both) that can be used to assess the extent to which a particular value is provided for

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

commencement date means the date on which this National Policy Statement comes into force (ie, 3 September 2020)

compulsory value means the 4 values described in Appendix 1A, being: ecosystem health, human contact, mahinga kai, and threatened species

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 described in Appendix 1A or any other value identified for it under the NOF

degrading, in relation to an FMU or part of an FMU, means that any site or sites to which a target attribute state applies is experiencing, or is likely to experience, as a result of something other than a naturally occurring process, a deteriorating trend (as assessed under clause 3.19)

environmental outcome means, in relation to a value that applies to an FMU or part of an FMU, a desired outcome that a regional council identifies and then includes as an objective in its regional plan (*see* clause 3.9)

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

kaitiakitanga has the meaning given in the Act but includes the principle referred to in clause 1.3(4)(b)

limit means either a limit on resource use or a take limit

limit on resource use means the maximum amount of resource use that is permissible while still achieving a relevant target attribute state or a nutrient outcome needed to achieve a target attribute state (*see* clauses 3.12 and 3.14)

long-term vision means a long-term vision developed under clause 3.3 and included as an objective in a regional policy statement

Māori freshwater values means the compulsory value of mahinga kai and any other value (whether or not identified in Appendix 1A or 1B) identified for a particular FMU or part of an FMU through collaboration between tangata whenua and the relevant regional council

national bottom line means an attribute state identified as such in Appendix 2A or 2B

National Objectives Framework, or **NOF**, means the framework for managing freshwater as described in subpart 2 of Part 3

natural inland wetland has the meaning in clause 3.21

naturally occurring process means a process that occurs, or would occur, in the absence of human activity

nutrient outcomes needed to achieve target attribute states means the instream concentrations and exceedance criteria, or instream loads, for nitrogen and phosphorus, adopted under clause 3.13(4)

outstanding water body means a water body, or part of a water body, identified in a regional policy statement, a regional plan, or a water conservation order as having one or more outstanding values

over-allocation, or **over-allocated**, in relation to both the quantity and quality of freshwater, means the situation where:

(a) resource use exceeds a limit; or

(b) if limits have not been set, an FMU or part of an FMU is degraded or degrading; or

(c) an FMU or part of an FMU is not achieving an environmental flow or level set for it under clause 3.16

primary contact site means 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 watersports, and particularly for activities where there is a high likelihood of water or water vapour being ingested or inhaled

publish, in relation to an obligation on a local authority to publish material, means to make the material freely available to the public on the local authority's internet website or another web-based platform

receiving environment includes, but is not limited to, any water body (such as a river, lake, wetland or aquifer) and the coastal marine area (including estuaries)

take limit means a limit on the volume, rate, or both volume and rate, of water that can be taken or diverted from, or dammed in, an FMU or part of an FMU, as set under clause 3.17

Te Mana o te Wai has the meaning set out in clause 1.3

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* (*see* clause 1.8).

(2) Terms defined in the Act and used in this National Policy Statement have the meanings in the Act, except as otherwise specified.

(3) Terms defined in the National Planning Standards issued under section 58E of the Act and used in this National Policy Statement have the meanings in those Standards, unless otherwise specified.

(4) A reference in this National Policy Statement to a zone is:

(a) a reference to a zone as described in Standard 8 (Zone Framework Standard) of the National Planning Standards; or

(b) for local authorities that have not yet implemented the Zone Framework Standard of the National Planning Standards, a reference to the nearest equivalent zone.

1.5 Application

(1) This National Policy Statement applies to all freshwater (including groundwater) and, to the extent they are affected by freshwater, to receiving environments (which may include estuaries and the wider coastal marine area).

1.6 Best information

(1) In giving effect to this National Policy Statement, local authorities must use the best information available at the time, which means, if practicable, using complete and scientifically robust data.

(2) In the absence of complete and scientifically robust data, the best information may include information obtained from modelling, as well as partial data, local knowledge, and information obtained from other sources, but in this case local authorities must:

(a) prefer sources of information that provide the greatest level of certainty; and

(b) take all practicable steps to reduce uncertainty (such as through improvements to monitoring or the validation of models used).

(3) A local authority:

(a) must not delay making decisions solely because of uncertainty about the quality or quantity of the information available; and

(b) if the information is uncertain, must interpret it in the way that will best give effect to this National Policy Statement.

1.7 Application of section 55(2A) of Act

(1) The changes to regional policy statements and regional plans required by the following provisions of this National Policy Statement are amendments referred to in section 55(2) of the Act (which, because of section 55(2A) of the Act, means that the changes must be made without using a process in Schedule 1 of the Act):

(a) clause 3.22(1) (Natural inland wetlands)

(b) clause 3.24(1) (Rivers)

(c) clause 3.26(1) (Fish passage)

(d) clause 3.34 (Urban development in the Bay of Plenty).

(2) *See* clause 4.3(3) about changes that merely update wording or terminology.

1.8 Incorporation by reference

(1) Clause 2(1) of Schedule 1AA of the Act does not apply to any material incorporated by reference in this National Policy Statement.

(2) However, clause 2(1) of Schedule 1AA of the Act does apply to the SmartGrowth Urban Form and Transport Initiative Connected Centres Programme.

(3) All material incorporated by reference in this National Policy Statement is available at: https://environment.govt.nz/acts-and-regulations/national-policy-statements/national-policy-statement-freshwater-management/#material-incorporated-by-reference.

Part 2: Objective and policies

2.1 Objective

(1) The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that 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.

2.2 Policies

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.

Policy 4: Freshwater is managed as part of New Zealand's integrated response to climate change.

Policy 5: Freshwater is managed (including 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 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 11: Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided.

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.

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.

Part 3: Implementation

3.1 Overview of Part

(1) This Part sets out a non-exhaustive list of things that local authorities must do to give effect to the objective and policies in Part 2 of this National Policy Statement, but nothing in this Part limits the general obligation under the Act to give effect to the objective and policies in Part 2 of this National Policy Statement.

(2) Nothing in this Part:

(a) prevents a local authority adopting more stringent measures than required by this National Policy Statement; or

(b) limits a local authority's functions and duties under the Act in relation to freshwater.

(3) In this Part:

(a) subpart 1 sets out how local authorities must implement this National Policy Statement, particularly in relation to giving effect to Te Mana o te Wai

(b) subpart 2 sets out the National Objectives Framework for managing freshwater

(c) subpart 3 sets out additional specific requirements on regional councils relating to freshwater management.

Subpart 1 Approaches to implementing the National Policy Statement

3.2 Te Mana o te Wai

(1) 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.

(2) Every regional council must give effect to Te Mana o te Wai, and in doing so must:

(a) actively involve tangata whenua in freshwater management (including decision-making processes), as required by clause 3.4; and

(b) engage with communities and tangata whenua to identify long-term visions, environmental outcomes, and other elements of the NOF; and

(c) apply the hierarchy of obligations, as set out in clause 1.3(5):

(i) when developing long-term visions under clause 3.3; and

(ii) when implementing the NOF under subpart 2; and

(iii) when developing objectives, policies, methods, and criteria for any purpose under subpart 3 relating to natural inland wetlands, rivers, fish passage, primary contact sites, and water allocation; and

(d) enable the application of a diversity of systems of values and knowledge, such as mātauranga Māori, to the management of freshwater; and

(e) adopt an integrated approach, ki uta ki tai, to the management of freshwater (*see* clause 3.5).

(3) 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.

(4) In addition to subclauses (1) to (3), Te Mana o te Wai must inform the interpretation of:

(a) this National Policy Statement; and

(b) the provisions required by this National Policy Statement to be included in regional policy statements and regional and district plans.

3.3 Long-term visions for freshwater

(1) 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.

(2) Long-term visions:

(a) may be set at FMU, part of an FMU, or catchment level; and

(b) must set goals that are ambitious but reasonable (that is, difficult to achieve but not impossible); and

(c) identify a timeframe to achieve those goals that is both ambitious and reasonable (for example, 30 years after the commencement date).

(3) Every long-term vision must:

(a) be developed through engagement with communities and tangata whenua about their long-term wishes for the water bodies and freshwater ecosystems in the region; and

(b) be informed by an understanding of the history of, and environmental pressures on, the FMU, part of the FMU, or catchment; and

(c) express what communities and tangata whenua want the FMU, part of the FMU, or catchment to be like in the future.

(4) Every regional council must assess whether each FMU, part of an FMU, or catchment (as relevant) can provide for its long-term vision, or whether improvement to the health and well-being of water bodies and freshwater ecosystems is required to achieve the vision.

3.4 Tangata whenua involvement

(1) Every local authority must actively involve tangata whenua (to the extent they wish to be involved) in freshwater management (including decision-making processes), including in all the following:

(a) identifying the local approach to giving effect to Te Mana o te Wai

(b) making or changing regional policy statements and regional and district plans so far as they relate to freshwater management

(c) implementing the NOF (*see* subclause (2))

(d) developing and implementing mātauranga Māori and other monitoring.

(2) In particular, and without limiting subclause (1), for the purpose of implementing the NOF, every regional council must work collaboratively with, and enable, tangata whenua to:

(a) identify any Māori freshwater values (in addition to mahinga kai) that apply to any FMU or part of an FMU in the region; and

(b) be actively involved (to the extent they wish to be involved) in decision-making processes relating to Māori freshwater values at each subsequent step of the NOF process.

(3) Every regional council must work with tangata whenua to investigate the use of mechanisms available under the Act, to involve tangata whenua in freshwater management, such as:

(a) transfers or delegations of power under section 33 of the Act

(b) joint management agreements under section 36B of the Act

(c) mana whakahono a rohe (iwi participation arrangements) under subpart 2 of Part 5 of the Act.

(4) To avoid doubt, nothing in this National Policy Statement permits or requires a local authority to act in a manner that is, or make decisions that are, inconsistent with any relevant iwi participation legislation or any directions or visions under that legislation.

3.5 Integrated management

(1) Adopting an integrated approach, ki uta ki tai, as required by Te Mana o te Wai, requires that local authorities must:

(a) recognise the interconnectedness of the whole environment, from the mountains and lakes, down the rivers to hāpua (lagoons), wahapū (estuaries) and to the sea; and

(b) recognise interactions between freshwater, land, water bodies, ecosystems, and receiving environments; and

(c) manage freshwater, and land use and development, in catchments in an integrated and sustainable way to avoid, remedy, or mitigate adverse effects, including cumulative effects, on the health and well-being of water bodies, freshwater ecosystems, and receiving environments; and

(d) encourage the co-ordination and sequencing of regional or urban growth.

(2) Every regional council must make or change its regional policy statement to the extent needed to provide for the integrated management of the effects of:

(a) the use and development of land on freshwater; and

(b) the use and development of land and freshwater on receiving environments.

(3) In order to give effect to this National Policy Statement, local authorities that share jurisdiction over a catchment must co-operate in the integrated management of the effects of land use and development on freshwater.

(4) Every territorial authority must include objectives, policies, and methods in its district plan to promote positive effects, and avoid, remedy, or mitigate adverse effects (including cumulative effects), of urban development on the health and well-being of water bodies, freshwater ecosystems, and receiving environments.

3.6 Transparent decision-making

(1) This clause applies to all decisions made by regional councils in giving effect to this National Policy Statement, including but not limited to decisions relating to clauses 3.4 and 3.15.

(2) Every regional council must:

(a) record matters considered and all decisions reached; and

(b) specify the reasons for each decision reached; and

(c) publish the matters considered, decisions reached, and the reasons for each decision, as soon as practicable after the decision is reached, unless publication would be contrary to any other legal obligation.

(3) In this clause, **decision** includes a decision not to decide on, or to postpone deciding, any substantive issue and, in relation to decisions about mechanisms to involve tangata whenua in freshwater management, includes a decision to use or not use a mechanism.

(4) The obligation in this clause is in addition to any other requirement under the Act relating to processes for making or changing regional policy statements or regional plans; but where the requirements of this clause are already met by complying with the requirements under the Act (for example, by publishing a report under section 32 of the Act), no additional action is required by this clause.

Subpart 2 National Objectives Framework

3.7 NOF process

(1) At each step of the NOF process, every regional council must:

(a) engage with communities and tangata whenua; and

(b) apply the hierarchy of obligations set out in clause 1.3(5), as required by clause 3.2(2)(c).

(2) By way of summary, the NOF process requires regional councils to undertake the following steps:

(a) identify FMUs in the region (clause 3.8)

(b) identify values for each FMU (clause 3.9)

(c) set environmental outcomes for each value and include them as objectives in regional plans (clause 3.9)

(d) identify attributes for each value and identify baseline states for those attributes (clause 3.10)

(e) set target attribute states, environmental flows and levels, and other criteria to support the achievement of environmental outcomes (clauses 3.11, 3.13, 3.16)

(f) set limits as rules and prepare action plans (as appropriate) to achieve environmental outcomes (clauses 3.12, 3.15, 3.17).

(3) The NOF also requires that regional councils:

(a) monitor water bodies and freshwater ecosystems (clauses 3.18 and 3.19); and

(b) take action if degradation is detected (clause 3.20).

3.8 Identifying FMUs and special sites and features

(1) Every regional council must identify FMUs for its region.

(2) Every water body in the region must be located within at least one FMU.

(3) Every regional council must also identify the following (if present) within each FMU:

(a) sites to be used for monitoring

(b) primary contact sites

(c) the location of habitats of threatened species

(d) outstanding water bodies

(e) natural inland wetlands.

(4) Monitoring sites for an FMU must be located at sites that are either or both of the following:

(a) representative of the FMU or relevant part of the FMU

(b) representative of one or more primary contact sites in the FMU.

(5) Monitoring sites relating to Māori freshwater values:

(a) need not comply with subclause (4), but may instead reflect one or more Māori freshwater values; and

(b) must be determined in collaboration with tangata whenua.

3.9 Identifying values and setting environmental outcomes as objectives

(1) The compulsory values listed in Appendix 1A apply to every FMU, and the requirements in this subpart relating to values apply to each of the 5 biophysical components of the value Ecosystem health.

(2) A regional council may identify other values applying to an FMU or part of an FMU, and must in every case consider whether the values listed in Appendix 1B apply.

(3) The regional council must identify an environmental outcome for every value that applies to an FMU or part of an FMU.

(4) The regional council must include the environmental outcomes as an objective, or multiple objectives, in its regional plan.

(5) The environmental outcomes must:

(a) describe the environmental outcome sought for the value in a way that enables an assessment of the effectiveness of the regional policy statement and plans (including limits and methods) and action plans in achieving the environmental outcome; and

(b) when achieved, fulfil the relevant long-term visions developed under clause 3.3 and the objective of this National Policy Statement.

3.10 Identifying attributes and their baseline states, or other criteria for assessing achievement of environmental outcomes

(1) For each value that applies to an FMU or part of an FMU, the regional council:

(a) must use all the relevant attributes identified in Appendix 2A and 2B for the compulsory values listed (except where specifically provided otherwise); and

(b) may identify other attributes for any compulsory value; and

(c) must identify, where practicable, attributes for all other applicable values; and

(d) if attributes cannot be identified for a value, or if attributes are insufficient to assess a value, must identify alternative criteria to assess whether the environmental outcome of the value is being achieved.

(2) Any attribute identified by a regional council under subclause (1)(b) or (c) must be specific and, where practicable, be able to be assessed in numeric terms.

(3) Every regional council must identify the baseline state of each attribute.

(4) Attribute states and baseline states may be expressed in a way that accounts for natural variability and sampling error.

3.11 Setting target attribute states

(1) In order to achieve the environmental outcomes included as objectives under clause 3.9, every regional council must:

(a) set a target attribute state for every attribute identified for a value; and

(b) identify the site or sites to which the target attribute state applies.

(2) The target attribute state for every value with attributes (except the value human contact) must be set at or above the baseline state of that attribute.

(3) The target attribute state for the value human contact must be set above the baseline state of that attribute, unless the baseline state is already within the A band of Tables 9 or 10 in Appendix 2A, as applicable.

(4) If the baseline state of an attribute is below any national bottom line for that attribute, the target attribute state must be set at or above the national bottom line (*see* clauses 3.31 and 3.32 for exceptions to this).

(5) Every target attribute state must:

(a) specify a timeframe for achieving the target attribute state or, if the target attribute state has already been achieved, state that it will be maintained as from a specified date; and

(b) for attributes identified in Appendix 2A or 2B, be set in the terms specified in the relevant Appendix; and

(c) for any other attribute, be set in any way appropriate to the attribute.

(6) Timeframes for achieving target attribute states may be of any length or period but, if timeframes are long term:

(a) they must include interim target attribute states (set for intervals of not more than 10 years) to be used to assess progress towards achieving the target attribute state in the long term; and

(b) if interim target attribute states are set, references in this National Policy Statement to achieving a target attribute state can be taken as referring to achieving the next interim target attribute state.

(7) Every regional council must ensure that target attribute states are set in such a way that they will achieve the environmental outcomes for the relevant values, and the relevant long-term vision.

(8) When setting target attribute states, every regional council must:

(a) have regard to the following:

(i) the environmental outcomes and target attribute states of any receiving environments

(ii) the connections between water bodies

(iii) the connection of water bodies to receiving environments; and

(b) take into account results or information from freshwater accounting systems (*see* clause 3.29).

3.12 How to achieve target attribute states and environmental outcomes

(1) In order to achieve target attribute states for the attributes in Appendix 2A, and the nutrient outcomes needed to achieve target attribute states (*see* clause 3.13), every regional council:

(a) must identify limits on resource use that will achieve:

(i) the target attribute states; and

(ii) any nutrient outcomes needed to achieve target attribute states; and

(b) must include those limits as rules in its regional plan; and

(c) may prepare an action plan; and

(d) may impose conditions on resource consents to achieve target attribute states or any nutrient outcomes needed to achieve target attribute states.

(2) In order to achieve target attribute states for the attributes in Appendix 2B, every regional council:

(a) must prepare an action plan for achieving the target attribute states within a specified timeframe; and

(b) may identify limits on resource use and include them as rules in its regional plan; and

(c) may impose conditions on resource consents to achieve target attribute states.

(3) In order to achieve any other target attribute states or otherwise support the achievement of environmental outcomes, a regional council must do at least one of the following:

(a) identify limits on resource use and include them as rules in its regional plan

(b) prepare an action plan

(c) impose conditions on resource consents to achieve target attribute states.

(4) Where the same attribute provides for more than one value, it is the most stringent target attribute state applying to those values that must be achieved.

3.13 Special provisions for attributes affected by nutrients

(1) To achieve a target attribute state for any nutrient attribute, and any attribute affected by nutrients, every regional council must, at a minimum, set appropriate instream concentrations and exceedance criteria, or instream loads, for nitrogen and phosphorus.

(2) Where there are nutrient-sensitive downstream receiving environments, the instream concentrations and exceedance criteria, or the instream loads, for nitrogen and phosphorus for the upstream contributing water bodies must be set so as to achieve the environmental outcomes sought for the nutrient-sensitive downstream receiving environments.

(3) In setting instream concentrations and exceedance criteria, or instream loads, for nitrogen and phosphorus under this clause, the regional council must determine the most appropriate form(s) of nitrogen and phosphorus to be managed for the receiving environment.

(4) Every regional council must adopt the instream concentrations and exceedance criteria, or instream loads, set under subclauses (1) and (2) as nutrient outcomes needed to achieve target attribute states.

(5) Examples of attributes affected by nutrients include periphyton, dissolved oxygen (Appendix 2A, Tables 2 and 7 and Appendix 2B, Tables 17, 18, and 19), submerged plants (invasive species) (Appendix 2B, Table 12), fish (rivers) (Appendix 2B, Table 13), macroinvertebrates (Appendix 2B, Tables 14 and 15), and ecosystem metabolism (Appendix 2B, Table 21).

3.14 Setting limits on resource use

(1) Limits on resource use may:

(a) apply to any activity or land use; and

(b) apply at any scale (such as to all or any part of an FMU, or to a specific water body or individual property); and

(c) be expressed as any of the following:

(i) a land-use control (such as a control on the extent of an activity)

(ii) an input control (such as an amount of fertiliser that may be applied)

(iii) an output control (such as a volume or rate of discharge); and

(d) describe the circumstances in which the limit applies.

(2) In setting limits on resource use, every regional council must:

(a) have regard to the following:

(i) the long-term vision set under clause 3.3

(ii) the foreseeable impacts of climate change; and

(b) take into account results or information from freshwater accounting systems.

3.15 Preparing action plans

(1) Action plans prepared for the purpose of this National Policy Statement may:

(a) be prepared for whole FMUs, parts of FMUs, or multiple FMUs; and

(b) set out a phased approach to achieving environmental outcomes; and

(c) be 'prepared' by adding to, amending, or replacing an existing action plan.

(2) An action plan may describe both regulatory measures (such as proposals to amend regional policy statements and plans, and actions taken under the Biosecurity Act 1993 or other legislation) and non-regulatory measures (such as work plans and partnership arrangements with tangata whenua and community groups).

(3) If an action plan is prepared for the purpose of achieving a specific target attribute state or otherwise supporting the achievement of environmental outcomes it must:

(a) identify the environmental outcome that the target attribute state is aimed at achieving; and

(b) set out how the regional council will (or intends) to achieve the target attribute state.

(4) Action plans:

(a) must be published as soon as practicable; and

(b) may be published either by appending them to a regional plan or by publishing them separately.

(5) Before preparing an action plan, or amending an action plan other than in a minor way, the regional council must consult with communities and tangata whenua.

(6) Every action plan, or part of an action plan, prepared for the purpose of this National Policy Statement must be reviewed within 5 years after the action plan or part of the action plan is published.

3.16 Setting environmental flows and levels

(1) Every regional council must include rules in its regional plan that set environmental flows and levels for each FMU, and may set different flows and levels for different parts of an FMU.

(2) Environmental flows and levels:

(a) must be set at a level that achieves the environmental outcomes for the values relating to the FMU or relevant part of the FMU and all relevant long-term visions; but

(b) may be set and adapted over time to take a phased approach to achieving those environmental outcomes and long-term visions.

(3) Environmental flows and levels must be expressed in terms of the water level and flow rate, and may include variability of flow (as appropriate to the water body) at which:

(a) for flows and levels in rivers: any taking, damming, diversion, or discharge of water meets the environmental outcomes for the river, any connected water body, and receiving environments

(b) for levels of lakes: any taking, damming, diversion or discharge of water meets the environmental outcomes for the lake, any connected water body, and receiving environments

(c) for levels of groundwater: any taking, damming, or diversion of water meets the environmental outcomes for the groundwater, any connected water body, and receiving environments.

(4) When setting environmental flows and levels, every regional council must:

(a) have regard to the foreseeable impacts of climate change; and

(b) take into account results or information from freshwater accounting systems.

3.17 Identifying take limits

(1) In order to meet environmental flows and levels, every regional council:

(a) must identify take limits for each FMU; and

(b) must include the take limits as rules in its regional plan; and

(c) must state in its regional plan whether (and if so, when and which) existing water permits will be reviewed to comply with environmental flows and levels; and

(d) may impose conditions on resource consents.

(2) Take limits must be expressed as a total volume, a total rate, or both a total volume and a total rate, at which water may be:

(a) taken or diverted from an FMU or part of an FMU; or

(b) dammed in an FMU or part of an FMU.

(3) Where a regional plan or any resource consent allows the taking, damming, diversion or discharge of water, the plan or resource consent must identify the flows and levels at which:

(a) the allowed taking, damming, or diversion will be restricted or no longer allowed; or

(b) a discharge will be required.

(4) Take limits must be identified that:

(a) provide for flow or level variability that meets the needs of the relevant water body and connected water bodies, and their associated ecosystems; and

(b) safeguard ecosystem health from the effects of the take limit on the frequency and duration of lowered flows or levels; and

(c) provide for the life cycle needs of aquatic life; and

(d) take into account the environmental outcomes applying to relevant water bodies and any connected water bodies (such as aquifers and downstream surface water bodies), whether in the same or another region.

3.18 Monitoring

(1) Every regional council must establish methods for monitoring progress towards achieving target attributes states and environmental outcomes.

(2) The methods must include measures of:

(a) mātauranga Māori; and

(b) the health of indigenous flora and fauna.

(3) Monitoring methods must recognise the importance of long-term trends, and the relationship between results and their contribution to evaluating progress towards achieving long-term visions and environmental outcomes for FMUs and parts of FMUs.

3.19 Assessing trends

(1) In order to assess trends in attribute states (that is, whether improving or deteriorating), every regional council must:

(a) determine the appropriate period for assessment (which must be the period specified in the relevant attribute table in Appendix 2A or 2B, if given); and

(b) determine the minimum sampling frequency and distribution of sampling dates (which must be the frequency and distribution specified in the relevant attribute table in Appendix 2A or 2B, if given); and

(c) specify the likelihood of any trend.

(2) If a deteriorating trend is more likely than not, the regional council must:

(a) investigate the cause of the trend; and

(b) consider the likelihood of the deteriorating trend, the magnitude of the trend, and the risk of adverse effects on the environment.

(3) If a deteriorating trend that is the result of something other than a naturally occurring process is detected, any part of an FMU to which the attribute applies is degrading and clause 3.20 applies.

(4) If a trend assessment cannot identify a trend because of insufficient monitoring, the regional council must make any practicable changes to the monitoring regime that will or are likely to help detect trends in that attribute state.

3.20 Responding to degradation

(1) If a regional council detects that an FMU or part of an FMU is degraded or degrading, it must, as soon as practicable, take action to halt or reverse the degradation (for example, by making or changing a regional plan, or preparing an action plan).

(2) Any action taken in response to a deteriorating trend must be proportionate to the likelihood and magnitude of the trend, the risk of adverse effects on the environment, and the risk of not achieving target attribute states.

(3) Every action plan prepared under this clause must include actions to identify the causes of the deterioration, methods to address those causes, and an evaluation of the effectiveness of the methods.

Subpart 3 Specific requirements

3.21 Definitions relating to wetlands and rivers

(1) In clauses 3.21 to 3.24, and 3.34:

biosecurity means activities to eliminate or manage pests and unwanted organisms (as those terms are defined in the Biosecurity Act 1993)

effects management hierarchy, in relation to natural inland wetlands and rivers, means an approach to managing the adverse effects of an activity on the extent or values of a wetland or river (including cumulative effects and loss of potential value) that requires that:

(a) adverse effects are avoided where practicable; then

(b) where adverse effects cannot be avoided, they are minimised where practicable; then

(c) where adverse effects cannot be minimised, they are remedied where practicable; then

(d) where more than minor residual adverse effects cannot be avoided, minimised, or remedied, aquatic offsetting is provided where possible; then

(e) if aquatic offsetting of more than minor residual adverse effects is not possible, aquatic compensation is provided; then

(f) if aquatic compensation is not appropriate, the activity itself is avoided

functional need means the need for a proposal or activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment

loss of value, in relation to a natural inland wetland or river, means the wetland or river is less able to provide for the following existing or potential values:

(a) any value identified for it under the NOF process

(b) any of the following values, whether or not they are identified under the NOF process:

(i) ecosystem health

(ii) indigenous biodiversity

(iii) hydrological functioning

(iv) Māori freshwater values

(v) amenity values

natural inland wetland means a wetland (as defined in the Act) that is not:

(a) in the coastal marine area; or

(b) a deliberately constructed wetland, other than a wetland constructed to offset impacts on, or to restore, an existing or former natural inland wetland; or

(c) a wetland that has developed in or around a deliberately constructed water body, since the construction of the water body; or

(d) a geothermal wetland; or

(e) a wetland that:

(i) is within an area of pasture used for grazing; and

(ii) has vegetation cover comprising more than 50% exotic pasture species (as identified in the *National List of Exotic Pasture Species* using the *Pasture Exclusion Assessment Methodology* (*see* clause 1.8)); unless

(iii) the wetland is a location of a habitat of a threatened species identified under clause 3.8 of this National Policy Statement, in which case the exclusion in (e) does not apply

restoration, in relation to a natural inland wetland, means active intervention and management, appropriate to the type and location of the wetland, aimed at restoring its ecosystem health, indigenous biodiversity, or hydrological functioning

ski area infrastructure means infrastructure necessary for the operation of a ski area and includes: transport mechanisms (such as aerial and surface lifts, roads, and tracks); facilities for the loading or unloading of passengers or goods; facilities or systems for water, sewerage, electricity, and gas; communications networks; and snowmaking and snow safety systems

specified infrastructure means any of the following:

(a) infrastructure that delivers a service operated by a lifeline utility (as defined in the Civil Defence Emergency Management Act 2002)

(b) regionally significant infrastructure identified as such in a regional policy statement or regional plan

(c) any water storage infrastructure

(d) any public flood control, flood protection, or drainage works carried out:

(i) by or on behalf of a local authority, including works carried out for the purposes set out in section 133 of the Soil Conservation and Rivers Control Act 1941; or

(ii) for the purpose of drainage by drainage districts under the Land Drainage Act 1908

(e) defence facilities operated by the New Zealand Defence Force to meet its obligations under the Defence Act 1990

(f) ski area infrastructure

wetland maintenance means activities (such as weed control) which prevent the deterioration, or preserve the existing state, of a wetland's ecosystem health, indigenous biodiversity or hydrological functioning

(2) For the purpose of the definition of **effects management hierarchy**:

aquatic compensation means a conservation outcome resulting from actions that are intended to compensate for any more than minor residual adverse effects on a wetland or river after all appropriate avoidance, minimisation, remediation, and aquatic offset measures have been sequentially applied

aquatic offset means a measurable conservation outcome resulting from actions that are intended to:

(a) redress any more than minor residual adverse effects on a wetland or river after all appropriate avoidance, minimisation, and remediation, measures have been sequentially applied; and

(b) achieve no net loss, and preferably a net gain, in the extent and values of the wetland or river, where:

(i) **no net loss** means that the measurable positive effects of actions match any loss of extent or values over space and time, taking into account the type and location of the wetland or river; and

(ii) **net gain** means that the measurable positive effects of actions exceed the point of no net loss.

3.22 Natural inland wetlands

(1) Every regional council must include the following policy (or words to the same effect) in its regional plan:

"The loss of extent of natural inland wetlands is avoided, their values are protected, and their restoration is promoted, except where:

(a) the loss of extent or values arises from any of the following:

(i) the customary harvest of food or resources undertaken in accordance with tikanga Māori

(ii) wetland maintenance, restoration, or biosecurity (as defined in the National Policy Statement for Freshwater Management)

(iii) scientific research

(iv) the sustainable harvest of sphagnum moss

(v) the construction or maintenance of wetland utility structures (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020)

(vi) the maintenance or operation of specified infrastructure, or other infrastructure (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020

(vii) natural hazard works (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020); or

(b) the regional council is satisfied that:

(i) the activity is necessary for the purpose of the construction or upgrade of specified infrastructure; and

(ii) the specified infrastructure will provide significant national or regional benefits; and

(iii) there is a functional need for the specified infrastructure in that location; and

(iv) the effects of the activity are managed through applying the effects management hierarchy; or

(c) the regional council is satisfied that:

(i) the activity is necessary for the purpose of urban development that contributes to a well-functioning urban environment (as defined in the National Policy Statement on Urban Development); and

(ii) the urban development will provide significant national, regional or district benefits; and

(iii) the activity occurs on land identified for urban development in operative provisions of a regional or district plan; and

(iv) the activity does not occur on land that is zoned in a district plan as general rural, rural production, or rural lifestyle; and

(v) there is either no practicable alternative location for the activity within the area of the development, or every other practicable location in the area of the development would have equal or greater adverse effects on a natural inland wetland; and

(vi) the effects of the activity will be managed through applying the effects management hierarchy; or

(d) the regional council is satisfied that:

(i) the activity is necessary for the purpose of quarrying activities; and

(ii) the extraction of the aggregate will provide significant national or regional benefits; and

(iii) there is a functional need for the activity to be done in that location; and

(iv) the effects of the activity will be managed through applying the effects management hierarchy; or

(e) the regional council is satisfied that:

(i) the activity is necessary for the purpose of the extraction of minerals and ancillary activities; and

(ii) the extraction of the mineral will provide significant national or regional benefits; and

(iii) there is a functional need for the activity to be done in that location; and

(iv) the effects of the activity will be managed through applying the effects management hierarchy; or

(f) the regional council is satisfied that:

(i) the activity is necessary for the purpose of constructing or operating a new or existing landfill or cleanfill area; and

(ii) the landfill or cleanfill area:

(A) will provide significant national or regional benefits; or

(B) is required to support urban development as referred to in paragraph (c); or

(C) is required to support the extraction of aggregates as referred to in paragraph (d); or

(D) is required to support the extraction of minerals as referred to in paragraph (e); and

(iii) there is either no practicable alternative location in the region, or every other practicable alternative location in the region would have equal or greater adverse effects on a natural inland wetland; and

(iv) the effects of the activity will be managed through applying the effects management hierarchy."

(2) Subclause (3) applies to an application for a consent for an activity that:

(a) is for a purpose referred to in subclause (1)(a) to (f), other than the purpose referred to in paragraph (1)(a)(i); and

(b) would result (directly or indirectly) in the loss of extent or values of a natural inland wetland.

(3) Every regional council must make or change its regional plan to ensure that an application referred to in subclause (2) is not granted unless:

(a) the council is satisfied that:

(i) the applicant has demonstrated how each step of the effects management hierarchy will be applied to any loss of extent or values of the wetland (including cumulative effects and loss of potential value), particularly (without limitation) in relation to the values of: ecosystem health, indigenous biodiversity, hydrological functioning, Māori freshwater values, and amenity values; and

(ii) if aquatic offsetting or aquatic compensation is applied, the applicant has complied with principles 1 to 6 in Appendix 6 and 7, and has had regard to the remaining principles in Appendix 6 and 7, as appropriate, and

(iii) there are methods or measures that will ensure that the offsetting or compensation will be maintained and managed over time to achieve the conservation outcomes; and

(b) any consent granted is subject to:

(i) conditions that apply the effects management hierarchy; and

(ii) a condition requiring monitoring of the wetland at a scale commensurate with the risk of the loss of extent or values of the wetland; and

(iii) conditions that specify how the requirements in (a)(iii) will be achieved.

(4) Every regional council must make or change its regional plan to include objectives, policies, and methods that provide for and promote the restoration of natural inland wetlands in its region, with a particular focus on restoring the values of ecosystem health, indigenous biodiversity, hydrological functioning, Māori freshwater values, and amenity values.

3.23 Mapping and monitoring natural inland wetlands

(1) Every regional council must identify and map every natural inland wetland in its region that is:

(a) 0.05 hectares or greater in extent; or

(b) of a type that is naturally less than 0.05 hectares in extent (such as an ephemeral wetland) and known to contain threatened species.

(2) However, a regional council need not identify and map natural inland wetlands located in public conservation lands or waters (as that term is defined in the Conservation General Policy 2005 issued under the Conservation Act 1987).

(3) In case of uncertainty or dispute about the existence or extent of a natural inland wetland, a regional council must have regard to the *Wetland Delineation Protocols* (*see* clause 1.8).

(4) The mapping of natural inland wetlands must be completed within 10 years of the commencement date, and the regional council must prioritise its mapping, for example by:

(a) first, mapping any wetland at risk of loss of extent or values; then

(b) mapping any wetland identified in a farm environment plan, or that may be affected by an application for, or review of, a resource consent; then

(c) mapping all other natural inland wetlands of the kind described in subclause (1).

(5) Every regional council must establish and maintain an inventory of all natural inland wetlands mapped under this clause, and the inventory:

(a) must include, at a minimum, the following information about each wetland:

(i) identifier and location

(ii) area and GIS polygon

(iii) classification of wetland type

(iv) any existing monitoring information; and

(b) may include any other information (such as an assessment of the values applying to the wetland and any new information obtained from monitoring).

(6) Every regional council must:

(a) develop and undertake a monitoring plan that:

(i) monitors the condition of its natural inland wetlands (including, if the council chooses, wetlands referred to in subclause (2)); and

(ii) contains sufficient information to enable the council to assess whether its policies, rules, and methods are ensuring no loss of extent or values of those wetlands; and

(b) have methods to respond if loss of extent or values is detected.

3.24 Rivers

(1) Every regional council must include the following policy (or words to the same effect) in its regional plan:

"The loss of river extent and values is avoided, unless the council is satisfied that:

(a) there is a functional need for the activity in that location; and

(b) the effects of the activity are managed by applying the effects management hierarchy."

(2) Subclause (3) applies to an application for a consent for an activity:

(a) that falls within the exception to the policy described in subclause (1); and

(b) would result (directly or indirectly) in the loss of extent or values of a river.

(3) Every regional council must make or change its regional plan to ensure that an application referred to in subclause (2) is not granted unless:

(a) the council is satisfied that:

(i) the applicant has demonstrated how each step in the effects management hierarchy will be applied to any loss of extent or values of the river (including cumulative effects and loss of potential value), particularly (without limitation) in relation to the values of: ecosystem health, indigenous biodiversity, hydrological functioning, Māori freshwater values, and amenity; and

(ii) if aquatic offsetting or aquatic compensation is applied, the applicant has complied with principles 1 to 6 in Appendix 6 and 7, and has had regard to the remaining principles in Appendix 6 and 7, as appropriate; and

(iii) there are methods or measures that will ensure that the offsetting or compensation will be maintained and managed over time to achieve the conservation outcomes; and

(b) any consent granted is subject to:

(i) conditions that apply the effects management hierarchy; and

(ii) conditions that specify how the requirements in (a)(iii) will be achieved.

(4) Every regional council must:

(a) develop and undertake a monitoring plan:

(i) to monitor the condition of its rivers; and

(ii) that contains sufficient information to enable the council to assess whether its policies, rules, and methods are ensuring no loss of extent or values of the rivers; and

(b) have methods to respond if loss of extent or values is detected.

3.25 Deposited sediment in rivers

(1) If a site to which a target attribute state for deposited fine sediment applies (*see* Table 16 in Appendix 2B) is soft-bottomed, the regional council must determine whether the site is naturally soft-bottomed or is naturally hard-bottomed.

(2) If a regional council determines that a site that is currently soft-bottomed is naturally hard-bottomed, the council must:

(a) monitor deposited sediment at the site using the SAM2 method at least once a year (instead of at the frequency required by Table 16 in Appendix 2B); and

(b) monitor freshwater habitat in a manner suitable to the current state of the site (that is, as soft-bottomed); and

(c) determine whether, having regard to the relevant long-term vision, it is appropriate to return the site to a hard-bottomed state; and

(d) if it is appropriate to return the site to a hard-bottomed state, prepare an action plan for how to do that.

(3) In this clause:

soft-bottomed means a site where the bed has a greater than 50% coverage of deposited fine sediment (grain size less than 2 mm in diameter) as determined using the SAM2 method

hard-bottomed means a site that is not soft-bottomed

naturally, in relation to a site, means its state before the arrival of humans in New Zealand

SAM2 method means the method described at p 17 – 20 of Clapcott JE, Young RG, Harding JS, Matthaei CD, Quinn JM, and Death RG. 2011. *Sediment Assessment Methods: Protocols and guidelines for assessing the effects of deposited fine sediment on in-stream values*. Cawthron Institute: Nelson, New Zealand (*see* clause 1.8).

3.26 Fish passage

(1) Every regional council must include the following fish passage objective (or words to the same effect) in its regional plan:

> "The passage of fish is maintained, or is improved, by instream structures, except where it is desirable to prevent the passage of some fish species in order to protect desired fish species, their life stages, or their habitats."

(2) Every regional council must make or change its regional plan to include policies that:

(a) identify the desired fish species, and their relevant life stages, for which instream structures must provide passage; and

(b) identify the undesirable fish species whose passage can or should be prevented; and

(c) identify rivers and receiving environments where desired fish species have been identified; and

(d) identify rivers and receiving environments where fish passage for undesirable fish species is to be impeded in order to manage their adverse effects on fish populations upstream or downstream of any barrier.

(3) When developing the policies required by subclause (2) a regional council must:

(a) take into account any Freshwater Fisheries Management Plans and Sports Fish and Game Management Plans approved by the Minister of Conservation under the Conservation Act 1987; and

(b) seek advice from the Department of Conservation and statutory fisheries managers regarding fish habitat and population management.

(4) Every regional council must make or change its regional plan to require that regard is had to at least the following when considering an application for a consent relating to an instream structure:

(a) the extent to which it provides, and will continue to provide for the foreseeable life of the structure, for the fish passage objective in subclause (1)

(b) the extent to which it does not cause a greater impediment to fish movements than occurs in adjoining river reaches and receiving environments

(c) the extent to which it provides efficient and safe passage for fish, other than undesirable fish species, at all their life stages

(d) the extent to which it provides the physical and hydraulic conditions necessary for the passage of fish

(e) any proposed monitoring and maintenance plan for ensuring that the structure meets the fish passage objective in subclause (1) now and in the future.

(5) Every regional council must make or change its regional plan to promote the remediation of existing structures and the provision of fish passage (other than for undesirable fish species) where practicable.

(6) Every regional council must prepare an action plan to support the achievement of the fish passage objective in subclause (1), and the action plan must, at a minimum:

(a) set out a work programme to improve the extent to which existing instream structures achieve the fish passage objective; and

(b) set targets for remediation of existing instream structures; and

(c) achieve any environmental outcomes and target attribute states relating to the abundance and diversity of fish.

(7) The work programme in an action plan must, at a minimum:

(a) identify instream structures in the region by recording, for each structure:

(i) all the information in Part 1 of Appendix 4; and

(ii) any other information about the structure, such as the information in Part 2 of Appendix 4; and

(b) evaluate the risks that instream structures present as an undesirable barrier to fish passage; and

(c) prioritise structures for remediation, applying the ecological criteria described in table 5.1, of the *New Zealand Fish Passage Guidelines* (*see* clause 1.8); and

(d) document the structures or locations that have been prioritised, the remediation that is required to achieve the desired outcome, and how and when this will be achieved; and

(e) identify the structures that have been remediated since the commencement date; and

(f) specify how the ongoing performance of remediated structures will be monitored and evaluated, including the effects of the structure on the abundance and diversity of desired fish species.

(8) An action plan for fish passage may be part of, or separate from, an action plan prepared for any purpose under this Part, but clause 3.15, about preparing action plans, applies in either case.

3.27 Primary contact sites

(1) Every regional council must monitor primary contact sites for:

(a) their risk to human health; and

(b) their suitability for the activities that take place in them (for example, by monitoring whether there is slippery or unpleasant weed growth, and the visual clarity of the water).

(2) For every primary contact site in an FMU, the regional council must identify one or more monitoring sites representative of the primary contact site or a number of primary contact sites.

(3) Every regional council must identify, for each primary contact site in its region, a time period (a **bathing season**) during the year when the regional council considers that the site is regularly used, or would be regularly used but for existing freshwater quality, for recreational activities.

(4) During the bathing season for primary contact sites, every regional council must undertake weekly sampling for *E. coli* at each relevant monitoring site.

(5) However, if a single sample taken during the bathing season from a monitoring site is greater than 260 *E. coli* per 100 mL, the regional council must (unless the council is satisfied that the elevated result is temporary or the cause is being addressed):

(a) increase sampling frequency to daily, where practicable; and

(b) take all practicable steps to identify potential causes of microbial contamination.

(6) If a single sample from a monitoring site is greater than 540 *E. coli* per 100 mL, the regional council must, as soon as practicable, take all practicable steps to notify the public and keep the public informed that the site is unsuitable for primary contact, until further sampling shows a result of 540 *E. coli* per 100 mL or less.

(7) A regional council may comply with subclause (6) by, for example, erecting signs and publicising the situation, or liaising with an environmental health officer or other relevant body or person to co-ordinate how to inform the public about the situation.

3.28 Water allocation

(1) Every regional council must make or change its regional plan to include criteria for:

(a) deciding applications to approve transfers of water take permits; and

(b) deciding how to improve and maximise the efficient allocation of water (which includes economic, technical, and dynamic efficiency).

(2) Every regional council must include methods in its regional plan to encourage the efficient use of water.

3.29 Freshwater accounting systems

(1) Every regional council must operate and maintain, for every FMU:

(a) a freshwater quality accounting system; and

(b) a freshwater quantity accounting system.

(2) The purpose of the accounting systems is to provide the baseline information required:

(a) for setting target attribute states, environmental flows and levels, and limits; and

(b) to assess whether an FMU is, or is expected to be, over-allocated; and

(c) to track over time the cumulative effects of activities (such as increases in discharges and changes in land use).

(3) The accounting systems must be maintained at a level of detail commensurate with the significance of the water quality or quantity issues applicable to each FMU or part of an FMU.

(4) Every regional council must publish information from those systems regularly and in a suitable form.

(5) The freshwater quality accounting system must (where practicable) record, aggregate, and regularly update, for each FMU, information on the measured, modelled, or estimated:

(a) loads and concentrations of relevant contaminants; and

(b) where a contaminant load has been set as part of a limit on resource use, or identified as necessary to achieve a target attribute state, the proportion of the contaminant load that has been allocated; and

(c) sources of relevant contaminants; and

(d) the amount of each contaminant attributable to each source.

(6) The freshwater quantity accounting system must record, aggregate, and regularly update, for each FMU, information on the measured, modelled, or estimated:

(a) amount of freshwater take; and

(b) the proportion of freshwater taken by each major category of use; and

(c) where a take limit has been set, the proportion of the take limit that has been allocated.

(7) In this clause, **freshwater take** refers to all takes and forms of water consumption, whether metered or not, whether subject to a consent or not, and whether authorised or not.

3.30 Assessing and reporting

(1) Every regional council must publish the following annually:

(a) actual data, or a link to those data, about each component of the value ecosystem health and the value human contact, as obtained from monitoring sites for the relevant attributes; and if no data has been collected in relation to any attribute, this must be identified

(b) actual data, or a link to those data, from any other monitoring done for the purpose of freshwater management

(c) a description of any uncertainties associated with the data.

(2) As part of each review required by section 35(2A) of the Act (which is required at least every 5 years), every regional council must prepare and publish the following:

(a) an assessment of the extent to which, in the region:

(i) the long-term visions, as identified under clause 3.3, are being achieved; and

(ii) this National Policy Statement is being given effect to

(b) a comparison of the current state of attributes as compared with target attribute states

(c) an assessment of whether the target attribute states and environmental outcomes for each FMU or part of an FMU in the region are being achieved and, if not, whether and when they are likely to be

(d) if monitoring shows that an FMU or part of an FMU is degraded or degrading, information on the known or likely causes

(e) a description of the environmental pressures on each FMU (such as water takes, sources of contaminants, or water body modification) as indicated by information from the freshwater accounting systems referred to in clause 3.29

(f) an assessment of the cumulative effect of changes across multiple sites within an FMU and multiple attributes during the period covered by the assessment

(g) predictions of changes, including the foreseeable effects of climate change, that are likely to affect water bodies and freshwater ecosystems in the region

(h) an assessment of the actions taken over the past 5 years in the region, whether regulatory or non-regulatory and whether by local authorities or others, that contribute to the implementation of this National Policy Statement.

(3) At the same time that a regional council publishes the review required by section 35(2A) of the Act, the regional council must publish an ecosystem health scorecard that:

(a) reports on and gives a score for the state of each component of the value ecosystem health (as described in Appendix 1A) in each FMU in the region; and

(b) identifies where any data or information is missing; and

(c) provides a single overall score for ecosystem health for each FMU in the region.

(4) The ecosystem health scorecard must:

(a) be written and presented in a way that members of the public are likely to understand easily; and

(b) include specific data, or a link to where those data may be viewed.

3.31 Large hydro-electric generation schemes

(1) This clause applies to the following 5 hydro-electricity generation schemes (referred to as **Schemes**):

(a) Waikato Scheme

(b) Tongariro Scheme

(c) Waitaki Scheme

(d) Manapouri Scheme

(e) Clutha Scheme.

(2) When implementing any part of this National Policy Statement as it applies to an FMU or part of an FMU affected by a Scheme, a regional council must have regard to the importance of the Scheme's:

(a) contribution to meeting New Zealand's greenhouse gas emission targets; and

(b) contribution to maintaining the security of New Zealand's electricity supply; and

(c) generation capacity, storage, and operational flexibility.

(3) Subclause (4) applies if:

(a) an FMU or part of an FMU is adversely affected by an existing structure that forms part of a Scheme; and

(b) the baseline state of an attribute in the FMU or part of the FMU is below the national bottom line for the attribute; and

(c) achieving the national bottom line for the attribute would have a significant adverse effect on the Scheme, having regard to the matters in subclause (2).

(4) When this subclause applies, the regional council:

(a) may set a target attribute state that is below the national bottom line for the attribute, despite clause 3.11(4); but

(b) must still, as required by clause 3.11(2) and (3), set the target attribute state to achieve an improved attribute state to the extent practicable without having a significant adverse effect on the Scheme, having regard to the matters in subclause (2).

(5) In this clause, **existing structure** means a structure that was operational on or before 1 August 2019, and includes any structure that replaces it, provided the effects of the replacement are the same or similar in character, intensity and scale, or have a lesser impact.

3.32 Naturally occurring processes

(1) If all or part of a water body is affected by naturally occurring processes that mean that the current state is below the national bottom line, and a target attribute state at or above the national bottom line cannot be achieved, the regional council:

(a) may set a target attribute state that is below the national bottom line for the attribute, despite clause 3.11(4); but

(b) must still, as required by clause 3.11(2) and (3), set the target attribute state to achieve an improved attribute state, to the extent practicable given the naturally occurring processes.

(2) In any dispute about whether this exception should apply, the onus is on the relevant regional council to demonstrate that it is naturally occurring processes that prevent the national bottom line being achieved.

3.33 Specified vegetable growing areas [Quashed]

3.34 Urban development in the Bay of Plenty

(1) When including the policy described in clause 3.22(1) (about natural inland wetlands) in its regional plan, the Bay of Plenty Regional Council must include the following instead of the content of paragraph (c) under clause 3.22(1):

(c) the regional council is satisfied that:

(i) the activity is necessary for the purpose of urban development that contributes to a well-functioning urban environment (as defined in the National Policy Statement on Urban Development); and

(ii) the urban development will provide significant national, regional or district benefits; and

(iii) either:

(A) the activity occurs on land identified for urban development in operative provisions of a regional or district plan; and

(B) the activity does not occur on land that is zoned in a district plan as general rural, rural production, or rural lifestyle;

or

(C) for 5 years from 8 December 2022, the activity is necessary for the purpose of urban development in areas specifically identified as planned urban growth areas in the SmartGrowth Urban Form and Transport Initiative Connected Centres Programme (*see* clause 1.8); and

(iv) there is either no practicable alternative location for the activity within the area of the development, or every other practicable location in the area of the development would have equal or greater adverse effects on a natural inland wetland; and

(v) the effects of the activity will be managed through applying the effects management hierarchy; or

Part 4: Timing and transitionals

4.1 Timing

(1) Every local authority must give effect to this National Policy Statement as soon as reasonably practicable.

(2) Local authorities must publicly notify any changes to their regional policy statements, regional plans, and district plans that are necessary to give effect to this National Policy Statement as required under the Act.

4.2 Keeping policy statements and plans up to date

(1) Once a local authority has made the changes required by clause 4.1, it must continue to make whatever changes to its regional policy statement, regional plan, or district plan are necessary to respond to changes over time in the state of water bodies and freshwater ecosystems in its region or district.

4.3 Existing policy statements and plans

(1) To the extent that regional policy statements and regional and district plans already (at the commencement date) give effect to this National Policy Statement, local authorities are not obliged to make changes to wording or terminology merely for consistency with it.

(2) In case of dispute, the onus is on the local authority to show that, despite the different wording or terminology used, their policy statement or plan does implement this National Policy Statement.

(3) However, if a local authority chooses to amend an operative policy statement or plan by merely changing wording or terminology for consistency with this National Policy Statement, the amendment is to be treated as the correction of a minor error (and therefore, under clause 20A of Schedule 1 of the Act, the amendment can be made without using a process in that Schedule).

Appendices

Appendix 1A – Compulsory values

1 Ecosystem health

This refers to the extent to which an FMU or part of an FMU supports an ecosystem appropriate to the type of water body (for example, river, lake, wetland, or aquifer).

There are 5 biophysical components that contribute to freshwater ecosystem health, and it is necessary that all of them are managed. They are:

Water quality – the physical and chemical measures of the water, such as temperature, dissolved oxygen, pH, suspended sediment, nutrients and toxicants

Water quantity – the extent and variability in the level or flow of water

Habitat – the physical form, structure, and extent of the water body, its bed, banks and margins; its riparian vegetation; and its connections to the floodplain and to groundwater

Aquatic life – the abundance and diversity of biota including microbes, invertebrates, plants, fish and birds

Ecological processes – the interactions among biota and their physical and chemical environment such as primary production, decomposition, nutrient cycling and trophic connectivity.

In a healthy freshwater ecosystem, all 5 biophysical components are suitable to sustain the indigenous aquatic life expected in the absence of human disturbance or alteration (before providing for other values).

2 Human contact

This refers to the extent to which an FMU or part of an FMU supports people being able to connect with the water through a range of activities such as swimming, waka, boating, fishing, mahinga kai, and water skiing, in a range of different flows or levels.

Matters to take into account include pathogens, water clarity, deposited sediment, plant growth (from macrophytes to periphyton to phytoplankton), cyanobacteria, other toxicants, and litter.

3 Threatened species

This refers to the extent to which an FMU or part of an FMU that supports a population of threatened species has the critical habitats and conditions necessary to support the presence, abundance, survival, and recovery of the threatened species. All the components of ecosystem health must be managed, as well as (if appropriate) specialised habitat or conditions needed for only part of the life cycle of the threatened species.

4 Mahinga kai

Mahinga kai – kai is safe to harvest and eat.

Mahinga kai generally refers to freshwater species that have traditionally been used as food, tools, or other resources. It also refers to the places those species are found and to the act of catching or harvesting them. Mahinga kai provide food for the people of the rohe and these sites give an indication of the overall health of the water. For this value, kai would be safe to harvest and eat. Transfer of knowledge is able to occur about the preparation, storage and cooking of kai. In FMUs or parts of FMUs that are used for providing mahinga kai, the desired species are plentiful enough for long-term harvest and the range of desired species is present across all life stages.

Mahinga kai – Kei te ora te mauri (the mauri of the place is intact).

In FMUs or parts of FMUs that are valued for providing mahinga kai, customary resources are available for use, customary practices are able to be exercised to the extent desired, and tikanga and preferred methods are able to be practised.

Appendix 1B – Other values that must be considered

1 Natural form and character

The FMU or part of the FMU has particular natural qualities that people value. Natural qualities may include exceptional, natural, or iconic aesthetic features.

Matters contributing to the natural form and character of an FMU are its biological, visual and physical characteristics that are valued by the community, including:

a) its biophysical, ecological, geological, geomorphological and morphological aspects

b) the natural movement of water and sediment including hydrological and fluvial processes

c) the natural location of a water body and course of a river

d) the relative dominance of indigenous flora and fauna

e) the presence of culturally significant species

f) the colour of the water

g) the clarity of the water.

2 Drinking water supply

The FMU or part of the FMU can meet people's drinking water needs. Water quality and quantity is sufficient for water to be taken and used for drinking water supply.

Matters affecting the suitability of water for drinking include:

a) physical, chemical, and microbiological contamination (for example, bacteria and cyanotoxins, viruses, protozoa and other pathogens)

b) any other contaminants identified in drinking water standards issued under the Health Act 1956 or any other legislation

c) the effects of contamination on drinking water treatment processes and the safety of drinking water, and its aesthetic value (that is, appearance, taste, and smell).

3 Wai tapu

Wai tapu represent the places in an FMU or part of an FMU where rituals and ceremonies are performed, or where there is special significance to tangata whenua.

Rituals and ceremonies include, but are not limited to, tohi (baptism), karakia (prayer), waerea (protective incantation), whakatapu (placing of rāhui), whakanoa (removal of rāhui), and tuku iho (gifting of knowledge and resources to future generations).

In providing for this value, the wai tapu are free from human and animal waste, contaminants and excess sediment, with valued features and unique properties of the wai protected. Other matters that may be important are that there is no artificial mixing of the wai tapu and identified taonga in the wai are protected.

4 Transport and tauranga waka

The FMU or part of the FMU is navigable for identified means of transport.

Transport and tauranga waka generally refers to places to launch waka and water craft, and appropriate places for waka to land (tauranga waka).

5 Fishing

The FMU or part of the FMU supports fisheries of species allowed to be caught and eaten.

For FMUs or parts of FMUs valued for fishing, the numbers of fish are sufficient and suitable for human consumption. In some areas, fish abundance and diversity provide a range in species and size of fish, and algal growth, water clarity and safety are satisfactory for fishers. Attributes will need to be specific to fish species such as salmon, trout, tuna, lamprey, or whitebait.

6 Hydro-electric power generation

The FMU or part of the FMU is suitable for hydro-electric power generation.

Water quality and quantity and the physical qualities of the FMU or part of the FMU, including hydraulic gradient and flow rate, can provide for hydro-electric power generation.

7 Animal drinking water

The FMU or part of the FMU meets the needs of farmed animals.

Water quality and quantity meets the needs of farmed animals, including whether it is palatable and safe.

8 Irrigation, cultivation, and production of food and beverages

The FMU or part of the FMU meets irrigation needs for any purpose.

Water quality and quantity is suitable for irrigation needs, including supporting the cultivation of food crops, the production of food from farmed animals, non-food crops such as fibre and timber, pasture, sports fields and recreational areas. Attributes will need to be specific to irrigation and food production requirements.

9 Commercial and industrial use

The FMU or part of the FMU provides economic opportunities for people, businesses and industries.

Water quality and quantity can provide for commercial and industrial activities. Attributes will need to be specific to commercial or industrial requirements.

Appendix 2A – Attributes requiring limits on resource use

Table 1 – Phytoplankton (trophic state)

Value (and component)	Ecosystem health (Aquatic Life)	
Freshwater body type	Lakes	
Attribute unit	mg chl-*a*/ m^3 (milligrams chlorophyll-*a* per cubic metre)	
Attribute band and description	**Numeric attribute state**	
	Annual median	**Annual maximum**
A Lake ecological communities are healthy and resilient, similar to natural reference conditions.	≤2	≤10
B Lake ecological communities are slightly impacted by additional algal and/or plant growth arising from nutrient levels that are elevated above natural reference conditions.	>2 and ≤5	>10 and ≤25
C Lake ecological communities are moderately impacted by additional algal and plant growth arising from nutrient levels that are elevated well above natural reference conditions. Reduced water clarity is likely to affect habitat available for native macrophytes.	>5 and ≤12	>25 and ≤60
National bottom line	**12**	**60**
D Lake ecological communities have undergone or are at high risk of a regime shift to a persistent, degraded state (without native macrophyte/seagrass cover), due to impacts of elevated nutrients leading to excessive algal and/or plant growth, as well as from losing oxygen in bottom waters of deep lakes.	>12	>60
For lakes and lagoons that are intermittently open to the sea, monitoring data should be analysed separately for closed periods and open periods.		

Table 2 – Periphyton (trophic state)

Value (and component)	Ecosystem health (Aquatic Life)	
Freshwater body type	Rivers	
Attribute unit	mg chl-*a*/m^2 (milligrams chlorophyll-*a* per square metre)	
Attribute band and description	**Numeric attribute state (default class)**	**Numeric attribute state (productive class)**
	Exceeded no more than 8% of samples	Exceeded no more than 17% of samples
A Rare blooms reflecting negligible nutrient enrichment and/or alteration of the natural flow regime or habitat.	≤50	≤50
B Occasional blooms reflecting low nutrient enrichment and/or alteration of the natural flow regime or habitat.	>50 and ≤120	>50 and ≤120
C Periodic short-duration nuisance blooms reflecting moderate nutrient enrichment and/or moderate alteration of the natural flow regime or habitat.	>120 and ≤200	>120 and ≤200
National bottom line	**200**	**200**
D Regular and/or extended-duration nuisance blooms reflecting high nutrient enrichment and/or significant alteration of the natural flow regime or habitat.	>200	>200

At low risk sites monitoring may be conducted using visual estimates of periphyton cover. Should monitoring based on visual cover estimates indicate that a site is approaching the relevant periphyton abundance threshold, monitoring should then be upgraded to include measurement of chlorophyll-*a*.

Classes are streams and rivers defined according to types in the River Environment Classification (REC). The Productive periphyton class is defined by the combination of REC "Dry" Climate categories (that is, Warm-Dry (WD) and Cool-Dry (CD)) and REC Geology categories that have naturally high levels of nutrient enrichment due to their catchment geology (that is, Soft-Sedimentary (SS), Volcanic Acidic (VA) and Volcanic Basic (VB)). Therefore the productive category is defined by the following REC defined types: WD/SS, WD/VB, WD/VA, CD/SS, CD/VB, CD/VA. The Default class includes all REC types not in the Productive class.

Based on a monthly monitoring regime. The minimum record length for grading a site based on periphyton (chlorophyll-*a*) is 3 years.

Table 3 – Total nitrogen (trophic state)

Value (and component)	Ecosystem health (Water quality)	
Freshwater body type	Lakes	
Attribute unit	mg/m^3 (milligrams per cubic metre)	
Attribute band and description	**Numeric attribute state**	
	Annual median	**Annual median**
	Seasonally stratified and brackish	Polymictic
A Lake ecological communities are healthy and resilient, similar to natural reference conditions.	≤160	≤300
B Lake ecological communities are slightly impacted by additional algal and/or plant growth arising from nutrient levels that are elevated above natural reference conditions.	>160 and ≤350	>300 and ≤500
C Lake ecological communities are moderately impacted by additional algal and plant growth arising from nutrient levels that are elevated well above natural reference conditions.	>350 and ≤750	>500 and ≤800
National bottom line	**750**	**800**
D Lake ecological communities have undergone or are at high risk of a regime shift to a persistent, degraded state (without native macrophyte/seagrass cover), due to impacts of elevated nutrients leading to excessive algal and/or plant growth, as well as from losing oxygen in bottom waters of deep lakes.	>750	>800
For lakes and lagoons that are intermittently open to the sea, monitoring data should be analysed separately for closed periods and open periods.		

Table 4 – Total phosphorus (trophic state)

Value (and component)	Ecosystem health (Water quality)
Freshwater body type	Lakes
Attribute unit	mg/m^3 (milligrams per cubic metre)
Attribute band and description	**Numeric attribute state**
	Annual median
A Lake ecological communities are healthy and resilient, similar to natural reference conditions.	≤10
B Lake ecological communities are slightly impacted by additional algal and plant growth arising from nutrient levels that are elevated above natural reference conditions.	>10 and ≤20
C Lake ecological communities are moderately impacted by additional algal and plant growth arising from nutrient levels that are elevated well above natural reference conditions.	>20 and ≤50
National bottom line	**50**
D Lake ecological communities have undergone or are at high risk of a regime shift to a persistent, degraded state (without native macrophyte/seagrass cover), due to impacts of elevated nutrients leading to excessive algal and/or plant growth, as well as from losing oxygen in bottom waters of deep lakes.	>50
For lakes and lagoons that are intermittently open to the sea, monitoring data should be analysed separately for closed periods and open periods.	

Table 5 – Ammonia (toxicity)

Value (and component)	Ecosystem health (Water quality)	
Freshwater body type	Rivers and lakes	
Attribute unit	mg NH_4-N/L (milligrams ammoniacal-nitrogen per litre)	
Attribute band and description	**Numeric attribute state**	
	Annual median	Annual 95th percentile
A 99% species protection level: No observed effect on any species tested.	≤0.03	≤0.05
B 95% species protection level: Starts impacting occasionally on the 5% most sensitive species.	>0.03 and ≤0.24	>0.05 and ≤0.40
National bottom line	**0.24**	**0.40**
C 80% species protection level: Starts impacting regularly on the 20% most sensitive species (reduced survival of most sensitive species).	>0.24 and ≤1.30	>0.40 and ≤2.20
D Starts approaching acute impact level (that is, risk of death) for sensitive species.	>1.30	>2.20
Numeric attribute state is based on pH 8 and temperature of 20°C. Compliance with the numeric attribute states should be undertaken after pH adjustment.		

Table 6 – Nitrate (toxicity)

Value (and component)	Ecosystem health (Water quality)	
Freshwater body type	Rivers	
Attribute unit	mg NO_3 – N/L (milligrams nitrate-nitrogen per litre)	
Attribute band and description	**Numeric attribute state**	
	Annual median	Annual 95th percentile
A High conservation value system. Unlikely to be effects even on sensitive species.	≤1.0	≤1.5
B Some growth effect on up to 5% of species.	>1.0 and ≤2.4	>1.5 and ≤3.5
National bottom line	**2.4**	**3.5**
C Growth effects on up to 20% of species (mainly sensitive species such as fish). No acute effects.	>2.4 and ≤6.9	>3.5 and ≤9.8
D Impacts on growth of multiple species, and starts approaching acute impact level (that is, risk of death) for sensitive species at higher concentrations (>20 mg/L).	>6.9	>9.8
This attribute measures the toxic effects of nitrate, not the trophic state. Where other attributes measure trophic state, for example periphyton, freshwater objectives, limits and/or methods for those attributes may be more stringent.		

Table 7 – Dissolved oxygen

Value (and component)	Ecosystem health (Water quality)	
Freshwater body type	Rivers (below point sources only)	
Attribute unit	mg/L (milligrams per litre)	
Attribute band and description	**Numeric attribute state**	
	7-day mean minimum	1-day minimum
A No stress caused by low dissolved oxygen on any aquatic organisms that are present at matched reference (near-pristine) sites.	≥8.0	≥7.5
B Occasional minor stress on sensitive organisms caused by short periods (a few hours each day) of lower dissolved oxygen. Risk of reduced abundance of sensitive fish and macroinvertebrate species.	≥7.0 and <8.0	≥5.0 and <7.5
C Moderate stress on a number of aquatic organisms caused by dissolved oxygen levels exceeding preference levels for periods of several hours each day. Risk of sensitive fish and macroinvertebrate species being lost.	≥5.0 and <7.0	≥4.0 and <5.0
National bottom line	**5.0**	**4.0**
D Significant, persistent stress on a range of aquatic organisms caused by dissolved oxygen exceeding tolerance levels. Likelihood of local extinctions of keystone species and loss of ecological integrity.	<5.0	<4.0

The 7-day mean minimum is the mean value of seven consecutive daily minimum values.

The 1-day minimum is the lowest daily minimum across the whole summer period (1 November to 30 April).

Table 8 – Suspended fine sediment

Value (and component)	Ecosystem health (Water quality)			
Freshwater body type	Rivers			
Attribute unit	Visual clarity (metres)			
Attribute band and description	**Numeric attribute state by suspended sediment class**			
	Median			
	1	2	3	4
A Minimal impact of suspended sediment on instream biota. Ecological communities are similar to those observed in natural reference conditions.	≥1.78	≥0.93	≥2.95	≥1.38
B Low to moderate impact of suspended sediment on instream biota. Abundance of sensitive fish species may be reduced.	<1.78 and ≥1.55	<0.93 and ≥0.76	<2.95 and ≥2.57	<1.38 and ≥1.17
C Moderate to high impact of suspended sediment on instream biota. Sensitive fish species may be lost.	<1.55 and >1.34	<0.76 and >0.61	<2.57 and >2.22	<1.17 and >0.98
National bottom line	**1.34**	**0.61**	**2.22**	**0.98**
D High impact of suspended sediment on instream biota. Ecological communities are significantly altered and sensitive fish and macroinvertebrate species are lost or at high risk of being lost.	<1.34	<0.61	<2.22	<0.98

Based on a monthly monitoring regime where sites are visited on a regular basis regardless of weather and flow conditions. Record length for grading a site based on 5 years.

Councils may monitor turbidity and convert the measures to visual clarity.

See Appendix 2C Tables 23 and 26 for the definition of suspended sediment classes and their composition.

The following are examples of **naturally occurring processes** relevant for suspended sediment:

- naturally highly coloured brown-water streams
- glacial flour affected streams and rivers
- selected lake-fed REC classes (particularly warm climate classes) where low visual clarity may reflect autochthonous phytoplankton production.

Table 9 – *Escherichia coli* (*E. coli*)

Value	Human contact			
Freshwater body type	Lakes and rivers			
Attribute unit	*E. coli*/100 mL (number of *E. coli* per hundred millilitres)			
Attribute band and description	**Numeric attribute state**			
Description of risk of *Campylobacter* infection (based on *E. coli* indicator)	% exceedances over 540/100 mL	% exceedances over 260/100 mL	Median concentration /100 mL	95th percentile of *E. coli*/100 mL
A (Blue) For at least half the time, the estimated risk is <1 in 1,000 (0.1% risk). The predicted average infection risk is 1%.	<5%	<20%	≤130	≤540
B (Green) For at least half the time, the estimated risk is <1 in 1,000 (0.1% risk). The predicted average infection risk is 2%.	5-10%	20-30%	≤130	≤1000
C (Yellow) For at least half the time, the estimated risk is <1 in 1,000 (0.1% risk). The predicted average infection risk is 3%.	10-20%	20-34%	≤130	≤1200
D (Orange) 20-30% of the time the estimated risk is ≥50 in 1,000 (>5% risk). The predicted average infection risk is >3%.	20-30%	>34%	>130	>1200
E (Red) For more than 30% of the time the estimated risk is ≥50 in 1,000 (>5% risk). The predicted average infection risk is >7%.	>30%	>50%	>260	>1200

Based on a monthly monitoring regime where sites are visited on a regular basis regardless of weather and flow conditions. Record length for grading a site based on 5 years.

Attribute band must be determined by satisfying all four numeric attribute states (ie, all four columns in any one row) or, if that is not possible, according to the worst numeric attribute state.

The predicted average infection risk is the overall average infection to swimmers based on a random exposure on a random day, ignoring any possibility of not swimming during high flows or when a surveillance advisory is in place (assuming that the *E. coli* concentration follows a lognormal distribution). Actual risk will generally be less if a person does not swim during high flows.

Table 10 – Cyanobacteria (planktonic)

Value	Human contact
Freshwater body type	Lakes and lake fed rivers
Attribute unit	Biovolume mm^3/L (cubic millimetres per litre)
Attribute band and description	**Numeric attribute state**
	80th percentile
A (Blue) Risk exposure from cyanobacteria is no different to that in natural conditions (from any contact with freshwater).	≤0.5 mm^3/L biovolume equivalent for the combined total of all cyanobacteria
B (Green) Low risk of health effects from exposure to cyanobacteria (from any contact with freshwater).	>0.5 and ≤1.0 mm^3/L biovolume equivalent for the combined total of all cyanobacteria
C (Yellow) Moderate risk of health effects from exposure to cyanobacteria (from any contact with freshwater).	>1.0 and ≤1.8 mm^3/L biovolume equivalent of potentially toxic cyanobacteria OR >1.0 and ≤10 mm^3/L total biovolume of all cyanobacteria
National bottom line	**1.8 mm^3/L biovolume equivalent of potentially toxic cyanobacteria** **OR** **10 mm^3/L total biovolume of all cyanobacteria**
D (Orange/Red) High health risks (for example, respiratory, irritation and allergy symptoms) exist from exposure to cyanobacteria (from any contact with freshwater).	>1.8 mm^3/L biovolume equivalent of potentially toxic cyanobacteria OR >10 mm^3/L total biovolume of all cyanobacteria
The 80th percentile must be determined using a minimum of 12 samples collected over 3 years. Thirty samples collected over 3 years is recommended.	

Appendix 2B – Attributes requiring action plans

Table 11 – Submerged plants (natives)

Value (and component)	Ecosystem health (Aquatic life)
Freshwater body type	Lakes
Attribute unit	Lake Submerged Plant (Native Condition Index)
Attribute band and description	**Numeric attribute state**
	(% of maximum potential score)
A Excellent ecological condition. Native submerged plant communities are almost completely intact.	>75%
B High ecological condition. Native submerged plant communities are largely intact.	>50 and ≤75%
C Moderate ecological condition. Native submerged plant communities are moderately impacted.	≥20 and ≤50%
National bottom line	**20%**
D Poor ecological condition. Native submerged plant communities are largely degraded or absent.	<20%
Monitoring to be conducted, and numeric attribute state to be determined, following the method described in Clayton J, and Edwards T. 2006. *LakeSPI: A method for monitoring ecological condition in New Zealand lakes. User Manual Version 2*. National Institute of Water & Atmospheric Research: Hamilton, New Zealand. (*see* clause 1.8) Lakes in a devegetated state receive scores of 0.	

Table 12 – Submerged plants (invasive species)

Value (and component)	Ecosystem health (Aquatic life)
Freshwater body type	Lakes
Attribute unit	Lake Submerged Plant (Invasive Impact Index)
Attribute band and description	**Numeric attribute state**
	(% of maximum potential score)
A No invasive plants present in the lake. Native plant communities remain intact.	0%
B Invasive plants having only a minor impact on native vegetation. Invasive plants will be patchy in nature co-existing with native vegetation. Often major weed species not present or in early stages of invasion.	>1 and ≤25%
C Invasive plants having a moderate to high impact on native vegetation. Native plant communities likely displaced by invasive weed beds particularly in the 2 – 8 m depth range.	>25 and ≤90%
National bottom line	**90%**
D Tall dense weed beds exclude native vegetation and dominate entire depth range of plant growth. The species concerned are likely hornwort and Egeria.	>90%
Monitoring to be conducted, and numeric attribute state to be determined, following the method described in Clayton J, and Edwards T. 2006. *LakeSPI: A method for monitoring ecological condition in New Zealand lakes. User Manual Version 2*. National Institute of Water & Atmospheric Research: Hamilton, New Zealand. (*see* clause 1.8)	

Table 13 – Fish (rivers)

Value (and component)	Ecosystem health (Aquatic life)
Freshwater body type	Wadeable rivers
Attribute unit	Fish Index of Biotic Integrity (F-IBI)
Attribute band and description	**Numeric attribute state (average)**
A High integrity of fish community. Habitat and migratory access have minimal degradation.	≥34
B Moderate integrity of fish community. Habitat and/or migratory access are reduced and show some signs of stress.	<34 and ≥28
C Low integrity of fish community. Habitat and/or migratory access is considerably impairing and stressing the community.	<28 and ≥18
D Severe loss of fish community integrity. There is substantial loss of habitat and/or migratory access, causing a high level of stress on the community.	<18
Sampling is to occur at least annually between December and April (inclusive) following the protocols for at least one of the backpack electrofishing method, spotlighting method, or trapping method in Joy M, David B, and Lake M. 2013. *New Zealand Freshwater Fish Sampling Protocols (Part 1): Wadeable rivers and streams*. Massey University: Palmerston North, New Zealand. (*see* clause 1.8) The F-IBI score is to be calculated using the general method defined by Joy, MK, and Death RG. 2004. Application of the Index of Biotic Integrity Methodology to New Zealand Freshwater Fish Communities. *Environmental Management*, 34(3), 415-428. (*see* clause 1.8)	

Table 14 – Macroinvertebrates (1 of 2)

Value (and component)	Ecosystem health (Aquatic life)	
Freshwater body type	Wadeable rivers	
Attribute unit	Macroinvertebrate Community Index (MCI) score; Quantitative Macroinvertebrate Community Index (QMCI) score	
Attribute band and description	**Numeric attribute states**	
	QMCI	MCI
A Macroinvertebrate community, indicative of pristine conditions with almost no organic pollution or nutrient enrichment.	≥6.5	≥130
B Macroinvertebrate community indicative of mild organic pollution or nutrient enrichment. Largely composed of taxa sensitive to organic pollution/nutrient enrichment.	≥5.5 and <6.5	≥110 and <130
C Macroinvertebrate community indicative of moderate organic pollution or nutrient enrichment. There is a mix of taxa sensitive and insensitive to organic pollution/nutrient enrichment.	≥4.5 and <5.5	≥90 and <110
National bottom line	**4.5**	**90**
D Macroinvertebrate community indicative of severe organic pollution or nutrient enrichment. Communities are largely composed of taxa insensitive to inorganic pollution/nutrient enrichment.	<4.5	<90

MCI and QMCI scores to be determined using annual samples taken between 1 November and 30 April with either fixed counts with at least 200 individuals, or full counts, and with current state calculated as the five-year median score. All sites for which the deposited sediment attribute does not apply, whether because they are in river environment classes shown in Table 25 in Appendix 2C or because they require alternate habitat monitoring under clause 3.25 are to use soft sediment sensitivity scores and taxonomic resolution as defined in table A1.1 in Clapcott et al. 2017 *Macroinvertebrate metrics for the National Policy Statement for Freshwater Management*. Cawthron Institute: Nelson, New Zealand. (*see* clause 1.8)

MCI and QMCI to be assessed using the method defined in Stark JD, and Maxted, JR. 2007 *A user guide for the Macroinvertebrate Community Index*. Cawthron Institute: Nelson, New Zealand (*See* Clause 1.8), except for sites for which the deposited sediment attribute does not apply, which require use of the soft-sediment sensitivity scores and taxonomic resolution defined in table A1.1 in Clapcott et al. 2017 *Macroinvertebrate metrics for the National Policy Statement for Freshwater Management*. Cawthron Institute: Nelson, New Zealand. (*see* clause 1.8)

Table 15 – Macroinvertebrates (2 of 2)

Value (and component)	Ecosystem health (Aquatic life)
Freshwater body type	Wadeable rivers
Attribute unit	Macroinvertebrate Average Score Per Metric (ASPM)
Attribute band and description	**Numeric attribute states ASPM score**
A Macroinvertebrate communities have high ecological integrity, similar to that expected in reference conditions.	≥0.6
B Macroinvertebrate communities have mild-to-moderate loss of ecological integrity.	<0.6 and ≥0.4
C Macroinvertebrate communities have moderate-to-severe loss of ecological integrity.	<0.4 and ≥0.3
National bottom line	**0.3**
D Macroinvertebrate communities have severe loss of ecological integrity.	<0.3

ASPM scores to be determined using annual samples taken between 1 November and 30 April with either fixed counts with at least 200 individuals, or full counts, and with current state calculated as the five-year median score. All sites for which the deposited sediment attribute does not apply, whether because they are in river environment classes shown in Table 25 in Appendix 2C or because they require alternate habitat monitoring under clause 3.25, are to use soft-sediment sensitivity scores and taxonomic resolution as defined in table A1.1 in Clapcott et al. 2017. *Macroinvertebrate metrics for the National Policy Statement for Freshwater Management*. Cawthron Institute: Nelson, New Zealand. (*see* clause 1.8)

When normalising scores for the ASPM, use the following minimums and maximums: %EPT-abundance (0-100), EPT-richness (0-29), MCI (0-200) using the method of Kevin J Collier (2008). Average score per metric: An alternative metric aggregation method for assessing wadeable stream health. *New Zealand Journal of Marine and Freshwater Research*, 42:4, 367-378, DOI: 10.1080/00288330809509965. (*see* clause 1.8)

Table 16 – Deposited fine sediment

Value (and component)	Ecosystem health (Physical habitat)			
Freshwater body type	Wadeable rivers			
Attribute unit	% fine sediment cover			
Attribute band and description	**Numeric attribute state by deposited sediment class**			
	Median			
	1	2	3	4
A Minimal impact of deposited fine sediment on instream biota. Ecological communities are similar to those observed in natural reference conditions.	≤7	≤10	≤9	≤13
B Low to moderate impact of deposited fine sediment on instream biota. Abundance of sensitive macroinvertebrate species may be reduced.	>7 and ≤14	>10 and ≤19	>9 and ≤18	>13 and ≤19
C Moderate to high impact of deposited fine sediment on instream biota. Sensitive macroinvertebrate species may be lost.	>14 and <21	>19 and <29	>18 and <27	>19 and <27
National bottom line	**21**	**29**	**27**	**27**
D High impact of deposited fine sediment on instream biota. Ecological communities are significantly altered and sensitive fish and macroinvertebrate species are lost or at high risk of being lost.	>21	>29	>27	>27

The indicator score is percentage cover of the streambed in a run habitat determined by the instream visual method, SAM2 as defined in p. 17-20 of Clapcott JE, Young RG, Harding JS., Matthaei CD, Quinn JM. and Death RG. 2011. *Sediment Assessment Methods: Protocols and guidelines for assessing the effects of deposited fine sediment on in-stream values*. Cawthron Institute: Nelson, New Zealand. (*see* clause 1.8)

Based on a monthly monitoring regime where sites are visited on a regular basis regardless of weather and flow conditions. Record length for grading a site based on 5 years.

See Tables 24 and 26 in Appendix 2C for deposited sediment classes and their composition.

This attribute does not apply in river environment classes shown in Table 25 in Appendix 2C, or where clause 3.25 requires freshwater habitat monitoring.

Table 17 – Dissolved oxygen

Value (and component)	Ecosystem health (Water quality)	
Freshwater body type	Rivers	
Attribute unit	mg/L (milligrams per litre)	
Attribute description band and description	**Numeric attribute state**	
	7-day mean minimum	**1-day minimum**
A No stress caused by low dissolved oxygen on any aquatic organisms that are present at matched reference (near-pristine) sites.	≥8.0	≥7.5
B Occasional minor stress on sensitive organisms caused by short periods (a few hours each day) of lower dissolved oxygen. Risk of reduced abundance of sensitive fish and macroinvertebrate species.	≥7.0 and <8.0	≥5.0 and <7.5
C Moderate stress on a number of aquatic organisms caused by dissolved oxygen levels exceeding preference levels for periods of several hours each day. Risk of sensitive fish and macroinvertebrate species being lost.	≥5.0 and <7.0	≥4.0 and <5.0
National bottom line	**5.0**	**4.0**
D Significant, persistent stress on a range of aquatic organisms caused by dissolved oxygen exceeding tolerance levels. Likelihood of local extinctions of keystone species and loss of ecological integrity.	<5.0	<4.0
The 7-day mean minimum is the mean value of 7 consecutive daily minimum values. The 1-day minimum is the lowest daily minimum across the summer period (1 November to 30 April).		

Table 18 – Lake-bottom dissolved oxygen

Value (and component)	Ecosystem health (Water quality)
Freshwater body type	Lakes
Attribute unit	mg/L (milligrams per litre)
Attribute description band and description	**Numeric attribute state**
	Measured or estimated annual minimum
A No risk from lake-bottom dissolved oxygen of biogeochemical conditions causing nutrient release from sediments.	≥7.5
B Minimal risk from lake-bottom dissolved oxygen of biogeochemical conditions causing nutrient release from sediments.	≥2.0 and < 7.5
C Risk from lake-bottom dissolved oxygen of biogeochemical conditions causing nutrient release from sediments.	≥0.5 and < 2.0
National bottom line	**0.5**
D Likelihood from lake-bottom dissolved oxygen of biogeochemical conditions resulting in nutrient release from sediments.	<0.5
To be measured less than 1 metre above sediment surface at the deepest part of the lake using either continuous monitoring sensors or discrete dissolved oxygen profiles.	

Table 19 – Mid-hypolimnetic dissolved oxygen

Value (and component)	Ecosystem health (Water quality)
Freshwater body type	Seasonally stratifying lakes
Attribute unit	mg/L (milligrams per litre)
Attribute description band and description	**Numeric attribute state**
	Measured or estimated annual minimum
A No stress caused to any fish species by low dissolved oxygen.	≥7.5
B Minor stress on sensitive fish seeking thermal refuge in the hypolimnion. Minor risk of reduced abundance of sensitive fish and macro-invertebrate species.	≥ 5.0 and <7.5
C Moderate stress on sensitive fish seeking thermal refuge in the hypolimnion. Risk of sensitive fish species being lost.	≥ 4.0 and <5 .0
National bottom line	**4.0**
D Significant stress on a range of fish species seeking thermal refuge in the hypolimnion. Likelihood of local extinctions of fish species and loss of ecological integrity.	< 4.0
To be measured using either continuous monitoring sensors or discrete dissolved oxygen profiles.	

Table 20 – Dissolved reactive phosphorus

Value (and component)	Ecosystem health (Water quality)	
Freshwater body type	Rivers	
Attribute unit	DRP mg/L (milligrams per litre)	
Attribute band and description	**Numeric attribute state**	
	Median	95th percentile
A Ecological communities and ecosystem processes are similar to those of natural reference conditions. No adverse effects attributable to dissolved reactive phosphorus (DRP) enrichment are expected.	≤ 0.006	≤ 0.021
B Ecological communities are slightly impacted by minor DRP elevation above natural reference conditions. If other conditions also favour eutrophication, sensitive ecosystems may experience additional algal and plant growth, loss of sensitive macroinvertebrate taxa, and higher respiration and decay rates.	> 0.006 and ≤0.010	> 0.021 and ≤0.030
C Ecological communities are impacted by moderate DRP elevation above natural reference conditions. If other conditions also favour eutrophication, DRP enrichment may cause increased algal and plant growth, loss of sensitive macro-invertebrate and fish taxa, and high rates of respiration and decay.	> 0.010 and ≤ 0.018	> 0.030 and ≤ 0.054
D Ecological communities impacted by substantial DRP elevation above natural reference conditions. In combination with other conditions favouring eutrophication, DRP enrichment drives excessive primary production and significant changes in macroinvertebrate and fish communities, as taxa sensitive to hypoxia are lost.	>0.018	>0.054
Based on a monthly monitoring regime where sites are visited on a regular basis regardless of weather and flow conditions. Record length for grading a site based on 5 years.		

Table 21 – Ecosystem metabolism (both gross primary production and ecosystem respiration)

Value (and component)	Ecosystem health (Ecosystem processes)
Freshwater body type	Rivers
Attribute unit	g O_2 m^{-2} d^{-1} (grams of dissolved oxygen per square metre per day)
Derived from at least 7 days of continuous dissolved oxygen monitoring to be collected at least once during the summer period (1 November to 30 April), using the method of Young RG, Clapcott JE, Simon K. 2016. Ecosystem functions and stream health. *Advances in New Zealand Freshwater Science*. NZ Freshwater Sciences Society, NZ Hydrological Society. (*see* clause 1.8)	

Table 22 – *Escherichia coli* (*E. coli*) (primary contact sites)

Value	Human contact
Freshwater body Type	Primary contact sites in lakes and rivers (during the bathing season)
Attribute unit	95th percentile of *E. coli*/100 mL (number of *E. coli* per hundred millilitres)
Attribute band and description	**Numeric attribute state**
Excellent Estimated risk of *Campylobacter* infection has a < 0.1% occurrence, 95% of the time.	≤ 130
Good Estimated risk of *Campylobacter* infection has a 0.1 – 1.0% occurrence, 95% of the time.	> 130 and ≤ 260
Fair Estimated risk of *Campylobacter* infection has a 1 – 5% occurrence, 95% of the time.	> 260 and ≤ 540
National bottom line	**540**
Poor Estimated risk of *Campylobacter* infection has a > 5% occurrence, at least 5% of the time.	> 540
The narrative attribute state description assumes "% of time" equals "% of samples".	

Appendix 2C – Sediment classification tables

In this Appendix, **REC groups** refers to the classes and categories described in the New Zealand River Environment Classification User Guide (*see* clause 1.8), except where those REC groups are further clustered according to table 26.

Table 23 Suspended sediment class composition

Suspended sediment class	Suspended sediment clustered River Environment Classification groups
1	CD_Low_HS; WW_Low_VA; WW_Hill_VA; CD_Low_Al; CW_Hill_SS; CW_Mount_SS; CW_Hill_VA; CD_Hill_SS; CD_Hill_VA; CD_Low_VA; CW_Low_VA; CW_Mount_VA; CW_Mount_HS; CD_Mount_Al; CW_Hill_Al; CW_Mount_Al; WD_Low_Al
2	CD_Low_SS; WW_Low_HS; WW_Low_SS; WW_Hill_HS; WW_Hill_SS; WW_Low_Al; WD_Low_SS; WD_Lake_Any; WD_Low_HS; WD_Low_VA
3	CW_Hill_HS; CW_Lake_Any; CD_Lake_Any; WW_Lake_Any; CW_Low_HS; CW_Low_Al; CD_Hill_HS; CD_Hill_Al; CD_Mount_HS; CD_Mount_SS; CD_Mount_VA
4	CW_Low_SS

Table 24 – Deposited sediment class composition

Deposited sediment class	Deposited sediment clustered River Environment Classification groups
1	WD_Low_HS; WW_Lake_Any
2	CD_Hill_Al; CD_Low_HS; CD_Low_VA; WW_Low_HS; WW_Low_VA; CD_Hill_SS; CD_Lake_Any; CW_Lake_Any; CW_Low_Al; CD_Hill_HS; CW_Hill_VA; CW_Low_SS; CW_Low_VA
3	CD_Low_Al; CD_Low_SS; WW_Hill_SS; WW_Low_SS
4	CD_Hill_VA; CW_Mount_VA; WW_Hill_HS; CW_Mount_SS; CD_Mount_Al; CD_Mount_HS; CD_Mount_SS; CD_Mount_VA; CW_Hill_Al; CW_Hill_HS; CW_Hill_SS; CW_Low_HS; CW_Mount_Al; CW_Mount_HS; WW_Hill_VA

Table 25 – Clustered River Environment Classification groups that are naturally soft-bottomed

WD_Low_Al; WD_Low_VA; WD_Lake_Any; WD_Low_SS; WW_Low_Al

Table 26 – Further clustering of River Environment Classification groups specific to this appendix

REC variable	REC groups	Clustered REC groups
Climate	Warm-Wet	Warm-Wet (WW)
	Warm-Extremely Wet	
	Warm-Dry	Warm-Dry (WD)
	Cold-Wet	Cold-Wet (CW)
	Cold-Extremely Wet	
	Cold-Dry	Cold-Dry (CD)
Topography (Source of flow)	Lowland	Lowland (Low)
	Lakefed	Lakefed (Lake)
	Hill	Hill (Hill)
	Mountain	Mountain (Mount)
	Glacial Mountain	
Geology	Soft Sedimentary	Soft Sedimentary (SS)
	Plutonic Volcanic	
	Miscellaneous	
	Hard Sedimentary	Hard Sedimentary (HS)
	Alluvium	Alluvium (Al)
	Volcanic Basic	Volcanic (VA)
	Volcanic Acidic	

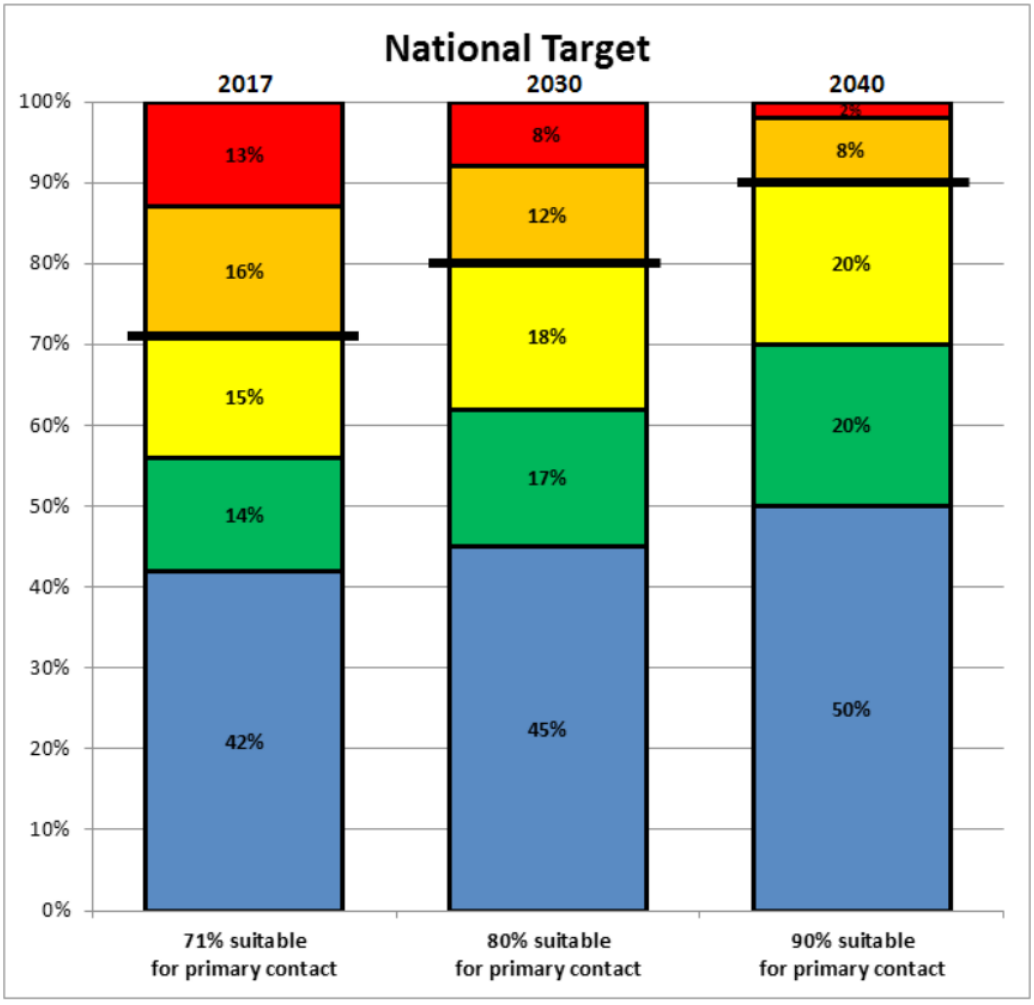
Appendix 3 – National target for primary contact

The national target is to increase proportions of specified rivers and lakes that are suitable for primary contact (that is, that are in the blue, green and yellow categories) to at least 80% by 2030, and 90% no later than 2040, but also to improve water quality across all categories.

In this Appendix, **specified rivers and lakes** means:

a) rivers that are fourth order or greater, using the methods outlined in the River Environment Classification System, National Institute of Water and Atmospheric Research, Version 1 (*see* clause 1.8); and

b) lakes with a perimeter of 1.5 km or more.



The categories above represent combined improvements in all regions. For each region, this means reducing the length of specified rivers and lakes in the red and orange categories, and increasing the length of specified rivers and lakes in the yellow, green and blue categories.

The categories are based on water quality in terms of the 2 human contact attributes, *E. coli* and *cyanobacteria* (planktonic), in tables 9 and 10 in Appendix 2A.

For rivers and lakes, the target categories are same as the *E. coli* table attribute states. However, the categories do not include the 95th percentile of *E. coli*/100 mL numeric attribute state if there is insufficient monitoring data to establish the 95th percentile.

For lakes, the categories are also based on the cyanobacteria (planktonic) attribute states. However, to provide additional granularity for tracking improvements over time, the D band has been split into 2 categories (orange and red) as follows:

a) **orange** means the lake has between 1.8 and 3.0 mm^3/L biovolume of cyanobacteria (planktonic), using an 80th percentile

b) **red** means the lake has more than 3.0 mm^3/L biovolume of cyanobacteria (planktonic), using an 80th percentile.

For lakes, the lowest category for either *E. coli* or cyanobacteria (planktonic) applies.

Appendix 4 – Details for instream structures

Part 1: Required information

For all structures

a) geographical co-ordinates of the structure

b) date and time of survey

c) flow when survey was completed (no flow, low, normal, high, unknown)

d) whether the stream is tidal where structure is located (yes, no, unknown)

e) the width of the river at the water's surface and the width of the bed of the river

f) structure type

g) photos viewed upstream and downstream at both ends of the structure

For all culverts

a) number of culvert barrels

b) culvert shape, length, width and height or diameter

c) mean water velocity through the culvert

d) whether low velocity recirculation zones are present (yes, no, unknown)

e) culvert water depth

f) culvert substrate

g) whether wetted margins present in the culvert

h) structure outlet drop height

i) structure outlet undercut length (if applicable)

j) whether add-ons present and add-on type

For all weirs

a) weir type

b) weir crest shape

c) weir height

d) weir substrate

e) whether wetted margins present

f) weir slope (degrees)

g) whether add-ons present and add-on type

For all fords

a) ford drop height

b) ford substrate

c) whether add-ons present and add-on type

For all dams

a) dam height

b) whether spillway present

c) whether add-ons present and add-on type

For all aprons

a) apron drop height

b) apron water depth

c) apron substrate type

For all ramps

a) ramp surface

b) ramp length

c) ramp slope (degrees)

d) whether wetted margins present on the ramp

For all flap gates

a) gate type

b) number of flap gates on the structure

c) whether add-ons present and add-on type

Part 2: Additional optional information

For all structures

a) owner of the structure (NZTA, KiwiRail, Department of Conservation, regional council, territorial authority, private, other, or unknown)

b) asset ID (if known)

c) any fish passage observations (for example, does the structure protect desired species or their habitats)

d) effectiveness of fish passage remediation if fish passage improvement present (for example, rock ramp, artificial ramp, fish passage)

e) risk of structure to fish passage class (if known) (very low, low, medium, high risk, very high risk, not assessed)

For all culverts

a) structure slope

b) structure alignment with the stream

c) structure material

d) number of flap gates (if present)

e) flap gate type and material

For all weirs

a) weir width

b) backwater distance

c) weir material

For all fords

a) ford width

b) ford length

c) ford material

For all aprons

a) apron material

b) apron length

c) apron water velocity

For all flap gates

a) gate height and width

b) gate material

Appendix 5 – Specified vegetable growing areas [Quashed]

Appendix 6 – Principles for aquatic offsetting

These principles apply to the use of aquatic offsets for the loss of extent or values of natural inland wetlands and rivers ("extent or values" below).

1. **Adherence to effects management hierarchy:** An aquatic offset is a commitment to redress more than minor residual adverse effects, and should be contemplated only after steps to avoid, minimise, and remedy adverse effects are demonstrated to have been sequentially exhausted.

2. **When aquatic offsetting is not appropriate:** Aquatic offsets are not appropriate in situations where, in terms of conservation outcomes, the extent or values cannot be offset to achieve no net loss, and preferably a net gain, in the extent and values. Examples of an offset not being appropriate would include where:

   (a) residual adverse effects cannot be offset because of the irreplaceability or vulnerability of the extent or values affected:

   (b) effects on the extent or values are uncertain, unknown, or little understood, but potential effects are significantly adverse:

   (c) there are no technically feasible options by which to secure proposed no net loss and preferably a net gain outcome within an acceptable timeframe.

3. **No net loss and preferably a net gain:** This is demonstrated by a like-for-like quantitative loss/gain calculation, and is achieved when the extent or values gained at the offset site (measured by type, amount and condition) are equivalent to or exceed those being lost at the impact site.

4. **Additionality:** An aquatic offset achieves gains in extent or values above and beyond gains that would have occurred in the absence of the offset, such as gains that are additional to any minimisation and remediation undertaken in relation to the adverse effects of the activity.

5. **Leakage:** Aquatic offset design and implementation avoids displacing harm to other locations (including harm to existing biodiversity at the offset site).

6. **Long-term outcomes:** An aquatic offset is managed to secure outcomes of the activity that last at least as long as the impacts, and preferably in perpetuity. Consideration must be given to long-term issues around funding, location, management and monitoring.

7. **Landscape context:** An aquatic offset action is undertaken where this will result in the best ecological outcome, preferably close to the impact site or within the same ecological district. The action considers the landscape context of both the impact site and the offset site, taking into account interactions between species, habitats and ecosystems, spatial and hydrological connections, and ecosystem function.

8. **Time lags:** The delay between loss of extent or values at the impact site and the gain or maturity of extent or values at the offset site is minimised so that the calculated gains are achieved within the consent period or, as appropriate, a longer period (but not more than 35 years).

9. **Science and mātauranga Māori:** The design and implementation of an aquatic offset is a documented process informed by science where available, and mātauranga Māori at place.

10. **Tangata whenua or stakeholder participation:** Opportunity for the effective and early participation of tangata whenua or stakeholders is demonstrated when planning aquatic offsets, including their evaluation, selection, design, implementation, and monitoring.

11. **Transparency:** The design and implementation of an aquatic offset, and communication of its results to the public, is undertaken in a transparent and timely manner.

Appendix 7 – Principles for aquatic compensation

These principles apply to the use of aquatic compensation for the loss of extent or values of natural inland wetlands and rivers ("extent or values" below).

1. **Adherence to effects management hierarchy:** Aquatic compensation is a commitment to redress more than minor residual adverse effects, and should be contemplated only after steps to avoid, minimise, remedy, and offset adverse effects are demonstrated to have been sequentially exhausted.
2. **When aquatic compensation is not appropriate:** Aquatic compensation is not appropriate where, in terms of conservation outcomes, the extent or values are not able to be compensated for. Examples of aquatic compensation not being appropriate would include where:
    (a) the affected part of the natural inland wetland or river bed, or its values, including species, are irreplaceable or vulnerable:
    (b) effects on the extent or values are uncertain, unknown, or little understood, but potential effects are significantly adverse:
    (c) there are no technically feasible options by which to secure gains within an acceptable timeframe.
3. **Scale of aquatic compensation:** The extent or values to be lost through the activity to which the aquatic compensation applies are addressed by positive effects that outweigh the adverse effects.
4. **Additionality:** Aquatic compensation achieves gains in extent or values above and beyond gains that would have occurred in the absence of the compensation, such as gains that are additional to any minimisation and remediation or offsetting undertaken in relation to the adverse effects of the activity.
5. **Leakage:** Aquatic compensation design and implementation avoids displacing harm to other locations (including harm to existing biodiversity at the compensation site).
6. **Long-term outcomes:** Aquatic compensation is managed to secure outcomes of the activity that last as least as long as the impacts, and preferably in perpetuity. Consideration must be given to long-term issues around funding, location, management, and monitoring.
7. **Landscape context:** An aquatic compensation action is undertaken where this will result in the best ecological outcome, preferably close to the impact site or within the same ecological district. The action considers the landscape context of both the impact site and the compensation site, taking into account interactions between species, habitats and ecosystems, spatial and hydrological connections, and ecosystem function.
8. **Time lags:** The delay between loss of extent or values at the impact site and the gain or maturity of extent or values at the compensation site is minimised so that the calculated gains are achieved within the consent period or, as appropriate, a longer period (but not more than 35 years).
9. **Trading up:** When trading up forms part of aquatic compensation, the proposal demonstrates that the aquatic extent or values gained are demonstrably of greater or higher value than those lost. The proposal also shows the values lost are not to Threatened or At Risk/Declining species or to species considered vulnerable or irreplaceable.

10. **Financial contribution:** A financial contribution is only considered if it directly funds an intended aquatic gain or benefit that complies with the rest of these principles.
11. **Science and mātauranga Māori:** The design and implementation of aquatic compensation is a documented process informed by science where available, and mātauranga Māori at place.
12. **Tangata whenua or stakeholder participation:** Opportunity for the effective and early participation of tangata whenua or stakeholders is demonstrated when planning aquatic compensation, including its evaluation, selection, design, implementation, and monitoring.
13. **Transparency:** The design and implementation of aquatic compensation, and communication of its results to the public, is undertaken in a transparent and timely manner.