

Changes made to the National Policy Statement for Freshwater Management 2014 in the 2017 Amendment

[FOR INFORMATION ONLY – CHANGES TO THE 2014 NPS SHOWN IN UNDERLINE]

New Zealand Government

Preamble

Fresh water is essential to New Zealand’s economic, environmental, cultural and social well-being. Fresh water gives our primary production, tourism, and energy generation sectors their competitive advantage in the global economy. Fresh water is highly valued for its recreational aspects and it underpins important parts of New Zealand’s biodiversity and natural heritage. Fresh water has deep cultural meaning to all New Zealanders. Many of New Zealand’s lakes, rivers and wetlands are iconic and well known globally for their natural beauty and intrinsic values.

The Treaty of Waitangi (~~Te Tiriti o Waitangi~~) is the underlying foundation of the Crown–iwi/hapū relationship with regard to freshwater resources. Addressing tangata whenua values and interests across all of the well-beings, and including the involvement of iwi and hapū in the overall management of fresh water, are key to ~~meeting obligations under~~giving effect to the Treaty of Waitangi.

All New Zealanders have a common interest in ensuring the country’s freshwater lakes, rivers, aquifers and wetlands are managed wisely.

New Zealand faces challenges in managing our fresh water to provide for all of the values that are important to New Zealanders. The quality, health, availability and economic value of our fresh waters are under threat. These challenges are likely to increase over time due to the impacts of climate change.

To respond effectively to these challenges and issues, we need to have a good understanding of our freshwater resources, the threats to them and provide a management framework that enables water to contribute both to New Zealand’s economic growth and environmental integrity and provides for the values that are important to New Zealanders.

Given the vital importance of freshwater resources to New Zealand and New Zealanders, and in order to achieve the purpose of the Resource Management Act 1991 (the Act), ~~the Crown recognises~~ there is a particular need for clear central government policy to set a national direction, though the management of the resource needs to reflect the catchment-level variation ~~between freshwater bodies~~ and different demands on the resource across regions. This includes managing land use and development activities that affect fresh water so that growth is achieved with a lower environmental footprint.

This national policy statement recognises Te Mana o te Wai and sets out objectives and policies that direct local government to manage water in an integrated and sustainable way, while providing for economic growth within set water quantity and quality limits. The national policy statement is a first step to improve freshwater management at a national level.

As demand for fresh water increases, it is vital to account for all freshwater takes and sources of relevant contaminants. The freshwater accounting requirements of this national policy statement will provide information for councils to use in establishing freshwater objectives and limits and in targeting their management of fresh water.

This national policy statement provides a National Objectives Framework to assist regional councils and communities to more consistently and transparently plan for freshwater objectives. ~~The national policy statement~~Te Mana o te Wai is intended to underpin an integral part of the framework that forms the platform for community discussions about the desired state of fresh water relative to

the current state. New Zealanders generally aspire to high standards for our waterways and outcomes that are better than those achieved under the status quo. Freshwater planning will require an iterative approach that tests a range of possible objectives, limits and methods for their achievement, including different timeframes for achieving objectives. This ~~is intended to ensure~~ensures that the implications of proposed freshwater objectives are clear for councils and communities.

The national policy statement ~~sets national bottom lines for two compulsory values—ecosystem health and human health for recreation—and minimum acceptable states for other national values. The national policy statement acknowledges~~recognises iwi and community values by ~~recognising the range of iwi/hapū~~ and community interests in fresh water, including their environmental, social, economic, and cultural values.

~~Freshwater objectives for a range of tāngata whenua values~~There are two compulsory values that must be managed for – ecosystem health and human health.

National bottom lines in the national policy statement are not standards to aim for. Where freshwater management units are below national bottom lines they must be improved to at least the national bottom line, or better, over time. It is up to communities and iwi/hapū, through councils, to determine the pathway and timeframe for ensuring freshwater management units meet the national bottom lines. Where changes in the way communities use fresh water are required, the pace of those changes should take into account impacts on economic well-being. Improvements in freshwater quality may take generations depending on the characteristics of each freshwater management unit.

~~intended to recognise Te Mana o te Wai.~~ Iwi and hapū have a kinship relationship with the natural environment, including fresh water, through shared whakapapa. Iwi and hapū recognise the importance of fresh water in supporting a healthy ecosystem, including human health, and have a reciprocal obligation as kaitiaki to protect freshwater quality.

~~Overall~~New Zealand's rivers and lakes should be safe for primary contact as often as possible. The Government has set a national target of 90% of specified rivers and lakes to be safe for primary contact by 2040. The expectation is that more of these rivers and lakes will be safe for primary contact more of the time. The risks to human health from contact with fresh water must be reduced. There is an interim target of 80% of these rivers and lakes to be safe for primary contact by 2030. By the end of 2018, councils need to set regional targets to improve water quality for primary contact, so that it is clear how each region will contribute to achieving the national target.

The national policy statement requires freshwater quality within a ~~region~~ freshwater management unit to be maintained at its current level (where community values are currently supported) or improved— (where community values are not currently supported). For the human health value, water quality in freshwater management units must be improved unless regional targets have been achieved or naturally occurring processes mean further improvement is not possible. This national policy statement allows some variability in terms of freshwater quality, ~~including between freshwater management units,~~ as long as the overall freshwater quality is maintained within a ~~region~~freshwater management unit.

~~National bottom lines in the national policy statement are not standards that must be achieved immediately. Where freshwater management units are below national bottom lines, they will need to be improved to at least the national bottom lines over time. It is up to communities and iwi to determine the pathway and timeframe for ensuring freshwater management units meet the~~

~~national bottom lines. Where changes in community behaviours are required, adjustment timeframes should be decided based on the economic effects that result from the speed of change. Improvements in freshwater quality may take generations depending on the characteristics of each freshwater management unit.~~

Monitoring plans are intended to be practical and affordable. It is not possible for regional councils to monitor every drop of fresh water-, nor every possible indicator of freshwater health. Monitoring ~~against~~ freshwater objectives need only be undertaken at representative sites within a ~~region~~freshwater management unit as identified by regional councils-, and must use the Macroinvertebrate Community Index, as well as measures of indigenous flora and fauna and Mātauranga Māori. Monitoring plans are also intended to recognise the importance of long term trends in data.

Setting enforceable quality and quantity limits is a key purpose of this national policy statement. This is a fundamental step to achieving environmental outcomes and creating the necessary incentives to use fresh water efficiently, while providing certainty for investment. Water quality and quantity limits must reflect local and national values. The process for setting limits should be informed by the best available information and scientific and socio-economic knowledge.

Once limits are set, freshwater resources need to be allocated to users, while providing the ability to transfer entitlements between users so that we maximise the value we get from water. Where water resources are over-allocated (in terms of quality and quantity) to the point that national and local values are not met, ~~we also need to ensure that~~ over-allocation is must be reduced over agreed timeframes.

The New Zealand Coastal Policy Statement 2010 addresses issues with water quality in the coastal environment. The management of coastal water and fresh water requires an integrated and consistent approach.

This preamble may assist the interpretation of the national policy statement.

Review

The Minister for the Environment intends to seek an independent review of the implementation and effectiveness of this national policy statement in achieving all its objectives and policies and in achieving the purpose of the Act, no later than 1 July 20162020. The Minister shall then consider the need to review, change or revoke this national policy statement. Collection of monitoring data to inform this review will begin at least two years prior to the review.

This preamble may assist the interpretation of the national policy statement.

NOT OFFICIAL VERSION

~~National significance of fresh water and Te Mana o te Wai~~

~~This national policy statement is about recognising the national significance of fresh water for all New Zealanders and Te Mana o te Wai.~~

~~A range of community and tāngata whenua values, including those identified as appropriate from Appendix 1, may collectively recognise the national significance of fresh water and Te Mana o te Wai as a whole. The aggregation of community and tāngata whenua values and the ability of fresh water to provide for them over time recognises the national significance of fresh water and Te Mana o te Wai.~~

Title

This national policy statement is the National Policy Statement for Freshwater Management 2014.

Commencement

This national policy statement will take effect 28 days after the date of its issue by notice in the New Zealand Gazette.

National significance of fresh water and Te Mana o te Wai

The matter of national significance to which this national policy statement applies is the management of fresh water through a framework that considers and recognises Te Mana o te Wai as an integral part of freshwater management.

The health and well-being of our freshwater bodies is vital for the health and well-being of our land, our resources (including fisheries, flora and fauna) and our communities.

Te Mana o te Wai is the integrated and holistic well-being of a freshwater body.

Upholding Te Mana o te Wai acknowledges and protects the mauri of the water. This requires that in using water you must also provide for Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody) and Te Hauora o te Tangata (the health of the people).

Te Mana o te Wai incorporates the values of tangata whenua and the wider community in relation to each water body.

The engagement promoted by Te Mana o te Wai will help the community, including tangata whenua, and regional councils develop tailored responses to freshwater management that work within their region.

By recognising Te Mana o te Wai as an integral part of the freshwater management framework it is intended that the health and well-being of freshwater bodies is at the forefront of all discussions and decisions about fresh water, including the identification of freshwater values and objectives, setting limits and the development of policies and rules. This is intended to ensure that water is available for the use and enjoyment of all New Zealanders, including tangata whenua, now and for future generations.

Interpretation

In this national policy statement:

“Attribute” is a measurable characteristic of fresh water, including physical, chemical and biological properties, which supports particular values.

“Attribute state” is the level to which an attribute is to be managed for those attributes specified in Appendix 2.

“Compulsory values” mean the national values relating to ecosystem health and to human health for recreation included in Appendix 1 and for which a non-exhaustive list of attributes is provided in Appendix 2.

“Efficient allocation” includes economic, technical and dynamic efficiency.

“Environmental flows and/or levels” are a type of limit which describes the amount of water in a freshwater management unit (except ponds and naturally ephemeral water bodies) which is required to meet freshwater objectives. Environmental flows for rivers and streams must include an allocation limit and a minimum flow (or other flow/s). Environmental levels for other freshwater management units must include an allocation limit and a minimum water level (or other level/s).

“Existing freshwater quality” means the quality of the fresh water at the time the regional council commences the process of setting or reviewing freshwater objectives and limits in accordance with Policy A1, Policy B1, and Policies CA1-CA4.

“Freshwater management unit” is the water body, multiple water bodies or any part of a water body determined by the regional council as the appropriate spatial scale for setting freshwater objectives and limits and for freshwater accounting and management purposes.

“Freshwater objective” describes an intended environmental outcome in a freshwater management unit.

“Freshwater quality accounting system” means a system that, for each freshwater management unit, records, aggregates and keeps regularly updated, information on the measured, modelled or estimated:

- a) loads and/or concentrations of relevant contaminants;
- b) sources of relevant contaminants;
- c) amount of each contaminant attributable to each source; and
- d) where limits have been set, proportion of the limit that is being used.

“Freshwater quantity accounting system” means a system that, for each freshwater management unit, records, aggregates and keeps regularly updated, information on the measured, modelled or estimated:

- a) total freshwater take;
- b) proportion of freshwater taken by each major category of use; and
- c) where limits have been set, proportion of the limit that has been taken.

“Freshwater take” is a take of ground or surface fresh water whether authorised or not.

“Limit” is the maximum amount of resource use available, which allows a freshwater objective to be met.

“Minimum acceptable state” ~~is the minimum level~~ means, where specified in Appendix 2, the minimum level at which a freshwater objective may be set in a regional plan in order to provide for the associated national value.

“National bottom line” means, where specified, the minimum acceptable state for the compulsory values as specified in Appendix 2.

“National Target” means the national target for water quality improvement in Appendix 6.

“National value” means any value described in Appendix 1.

“Naturally occurring processes” means processes that could have occurred in New Zealand prior to the arrival of humans.

“Outstanding freshwater bodies” are those water bodies identified in a regional policy statement or regional plan as having outstanding values, including ecological, landscape, recreational and spiritual values.

“Over-allocation” is the situation where the resource:

- a) has been allocated to users beyond a limit; or
- b) is being used to a point where a freshwater objective is no longer being met.

This applies to both water quantity and quality.

“Pest” means a pest as defined in the Biosecurity Act 1993.

“Primary contact” means people’s contact with fresh water that involves immersion in water, including swimming.

“Primary contact site” means:

- a) any part of a specified river or lake that a regional council considers is used, or would be used but for existing freshwater quality, for primary contact; and
- b) any other site in any other river or lake that a regional council has determined should be managed for primary contact.

“Regional Target” means a regional target established under Policy A6.

~~**“Secondary contact”** means people’s contact with fresh water that involves only occasional immersion and includes wading or boating (except boating where there is high likelihood of immersion).~~

“Specified rivers and lakes” means:

- a) rivers that are fourth order or above using the methods outlined in the River Environment Classification system, National Institute of Water and Atmospheric Research, Version 1; and
- b) lakes with a perimeter of 1.5 kilometres or more.

“Suitable for primary contact more often” means reducing the frequency and magnitude of *E. coli* exceedances for rivers and lakes, and cyanobacteria – planktonic biovolume for lakes, according to the attribute tables in Appendix 2.

“Target” is a limit which must be met at a defined time in the future. This meaning only applies in the context of over-allocation.

“Unwanted organism” means an unwanted organism as defined in the Biosecurity Act 1993.

“Value” means:

- a) any national value; and
- b) includes any value in relation to fresh water, that is not a national value, which a regional council identifies as appropriate for regional or local circumstances (including any use value).

Terms given meaning in the Act have the meanings so given.

AA. Te Mana o te Wai

Objective AA1

To consider and recognise Te Mana o te Wai in the management of fresh water.

Policy AA1

By every regional council making or changing regional policy statements and plans to consider and recognise Te Mana o te Wai, noting that:

- a) te Mana o te Wai recognises the connection between water and the broader environment – Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody) and Te Hauora o te Tangata (the health of the people); and
- b) values identified through engagement and discussion with the community, including tangata whenua, must inform the setting of freshwater objectives and limits.

A. Water quality

Objective A1

To safeguard:

- a) the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, of fresh water; and
- b) the health of people and communities, at least as affected by secondary contact with fresh water;

in sustainably managing the use and development of land, and of discharges of contaminants.

Objective A2

The overall quality of fresh water within a region-freshwater management unit is maintained or improved while:

- a) protecting the significant values of outstanding freshwater bodies;
- b) protecting the significant values of wetlands; and
- c) improving the quality of fresh water in water bodies that have been degraded by human activities to the point of being over-allocated.

Objective A3

The quality of fresh water within a freshwater management unit is improved so it is suitable for primary contact more often, unless:

- a) regional targets established under Policy A6(b) have been achieved; or
- b) naturally occurring processes mean further improvement is not possible.

Objective A4

To enable communities to provide for their economic well-being, including productive economic opportunities, in sustainably managing freshwater quality, within limits.

Policy A1

By every regional council making or changing regional plans to the extent needed to ensure the plans:

- a) establish freshwater objectives in accordance with Policies CA1-CA4 and set freshwater quality limits for all freshwater management units in their regions to give effect to the objectives in this national policy statement, having regard to at least the following:
 - i. the reasonably foreseeable impacts of climate change;
 - ii. the connection between water bodies; and
 - iii. the connections between freshwater bodies and coastal water; and
- b) establish methods (including rules) to avoid over-allocation.

Policy A2

Where freshwater management units do not meet the freshwater objectives made pursuant to Policy A1, every regional council is to specify targets and implement methods (either or both regulatory and non-regulatory), in a way that considers the sources of relevant contaminants recorded under Policy CC1, to assist the improvement of water quality in the freshwater management units, to meet those targets, and within a defined timeframe.

Policy A3

By regional councils:

- a) imposing conditions on discharge permits to ensure the limits and targets specified pursuant to Policy A1 and Policy A2 can be met; and
- b) where permissible, making rules requiring the adoption of the best practicable option to prevent or minimise any actual or likely adverse effect on the environment of any discharge of a contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.

Policy A4 and direction (under section 55) to regional councils

By every regional council amending regional plans (without using the process in Schedule 1) to the extent needed to ensure the plans include the following policy to apply until any changes under Schedule 1 to give effect to Policy A1 and Policy A2 (freshwater quality limits and targets) have become operative:

“1. When considering any application for a discharge the consent authority must have regard to the following matters:

- a. *the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water and*
- b. *the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.*

2. When considering any application for a discharge the consent authority must have regard to the following matters:

- a. *the extent to which the discharge would avoid contamination that will have an adverse effect on the health of people and communities as affected by their secondary contact with fresh water; and*
- b. *the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their secondary contact with fresh water resulting from the discharge would be avoided.*

3. This policy applies to the following discharges (including a diffuse discharge by any person or animal):

- a. *a new discharge or*
- b. *a change or increase in any discharge –*

of any contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.

4. Paragraph 1 of this policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.

5. Paragraph 2 of this policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2014 takes effect.”

Policy A5

By every regional council making or changing regional plans to the extent needed to ensure the plans:

- a) identify specified rivers and lakes, and primary contact sites; and
- b) state what improvements will be made, and over what timeframes, to specified rivers and lakes, and primary contact sites, so they are suitable for primary contact more often; or
- c) state how specified rivers and lakes, and primary contact sites, will be maintained if regional targets established under Policy A6(b) have been achieved.

Improvements to specified rivers and lakes in (b) must make a contribution to achieving regional targets established under Policy A6(b).

Policy A6

By every regional council developing regional targets to improve the quality of fresh water in specified rivers and lakes and contribute to achieving the national target in Appendix 6, and ensuring:

- a) draft regional targets are available to the public by 31 March 2018; and
- b) final regional targets are available to the public by 31 December 2018.

Policy A7

By every regional council considering, when giving effect to this national policy statement, how to enable communities to provide for their economic well-being, including productive economic opportunities, while managing within limits.

B. Water quantity

Objective B1

To safeguard the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of fresh water, in sustainably managing the taking, using, damming, or diverting of fresh water.

Objective B2

To avoid any further over-allocation of fresh water and phase out existing over-allocation.

Objective B3

To improve and maximise the efficient allocation and efficient use of water.

Objective B4

To protect significant values of wetlands and of outstanding freshwater bodies.

Objective B5

To enable communities to provide for their economic well-being, including productive economic opportunities, in sustainably managing freshwater quantity, within limits.

Policy B1

By every regional council making or changing regional plans to the extent needed to ensure the plans establish freshwater objectives in accordance with Policies CA1-CA4 and set environmental flows and/or levels for all freshwater management units in its region (except ponds and naturally ephemeral water bodies) to give effect to the objectives in this national policy statement, having regard to at least the following:

- a) the reasonably foreseeable impacts of climate change;
- b) the connection between water bodies; and
- c) the connections between freshwater bodies and coastal water.

Policy B2

By every regional council making or changing regional plans to the extent needed to provide for the efficient allocation of fresh water to activities, within the limits set to give effect to Policy B1.

Policy B3

By every regional council making or changing regional plans to the extent needed to ensure the plans state criteria by which applications for approval of transfers of water take permits are to be decided, including to improve and maximise the efficient allocation of water.

Policy B4

By every regional council identifying methods in regional plans to encourage the efficient use of water.

Policy B5

By every regional council ensuring that no decision will likely result in future over-allocation – including managing fresh water so that the aggregate of all amounts of fresh water in a freshwater management unit that are authorised to be taken, used, dammed or diverted does not over-allocate the water in the freshwater management unit.

Policy B6

By every regional council setting a defined timeframe and methods in regional plans by which over-allocation must be phased out, including by reviewing water permits and consents to help ensure the total amount of water allocated in the freshwater management unit is reduced to the level set to give effect to Policy B1.

Policy B7 and direction (under section 55) to regional councils

By every regional council amending regional plans (without using the process in Schedule 1) to the extent needed to ensure the plans include the following policy to apply until any changes under Schedule 1 to give effect to Policy B1 (allocation limits), Policy B2 (allocation), and Policy B6 (over-allocation) have become operative:

“1. When considering any application the consent authority must have regard to the following matters:

- a. the extent to which the change would adversely affect safeguarding the life-supporting capacity of fresh water and of any associated ecosystem and*
- b. the extent to which it is feasible and dependable that any adverse effect on the life-supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided.*

2. This policy applies to:

- a. any new activity and*
- b. any change in the character, intensity or scale of any established activity – that involves any taking, using, damming or diverting of fresh water or draining of any wetland which is likely to result in any more than minor adverse change in the natural variability of flows or level of any fresh water, compared to that which immediately preceded the commencement of the new activity or the change in the established activity (or in the case of a change in an intermittent or seasonal activity, compared to that on the last occasion on which the activity was carried out).*

3. This policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.”

Policy B8

By every regional council considering, when giving effect to this national policy statement, how to enable communities to provide for their economic well-being, including productive economic opportunities, while managing within limits.

NOT OFFICIAL VERSION

C. Integrated management

Objective C1

To improve integrated management of fresh water and the use and development of land in whole catchments, including the interactions between fresh water, land, associated ecosystems and the coastal environment.

Policy C1

~~By every regional council managing fresh water and land use and development in catchments in an integrated and sustainable way, so as to avoid, remedy or mitigate adverse effects, including cumulative effects.~~

By every regional council:

- a) recognising the interactions, ki uta ki tai (from the mountains to the sea) between fresh water, land, associated ecosystems and the coastal environment; and
- b) managing fresh water, land use, and development in catchments in an integrated and sustainable way to avoid, remedy or mitigate adverse effects, including cumulative effects.

Policy C2

By every regional council making or changing regional policy statements to the extent needed to provide for the integrated management of the effects of the use and development of:

- a) land on fresh water, including encouraging the co-ordination and sequencing of regional and/or urban growth, land use and development and the provision of infrastructure; and
- b) land and fresh water on coastal water.

CA. National Objectives Framework

Objective CA1

To provide an approach to establish freshwater objectives for national values, and any other values, that:

- a) is nationally consistent; and
- b) recognises regional and local circumstances.

Policy CA1

By every regional council identifying freshwater management units that include all freshwater bodies within its region.

Policy CA2

By every regional council, through discussion with communities, including tangata whenua, applying the following processes in developing freshwater objectives for all freshwater management units:

- a) considering all national values and how they apply to local and regional circumstances;
- b) identifying the values for each freshwater management unit, which
 - i. must include the compulsory values; and
 - ii. may include any other national values or other values that the regional council considers appropriate (in either case having regard to local and regional circumstances);
- c) identifying:
 - i. for the compulsory values or any other national value for which relevant attributes are provided **in Appendix 2**:
 - A. the attributes listed in Appendix 2 that are applicable to each value identified under Policy CA2(b) for the freshwater body type; and
 - B. any other attributes that the regional council considers appropriate for each value identified under Policy CA2(b) for the freshwater body type; and
 - ii. for any national value for which relevant attributes are not provided in Appendix 2 or any other value, the attributes that the regional council considers appropriate for each value identified under Policy CA2(b) for the freshwater body type;
- d) for those attributes specified in Appendix 2, assigning an attribute state at or above the minimum acceptable state for that attribute;
- e) formulating freshwater objectives:
 - i. in those cases where an applicable numeric attribute state is specified in Appendix 2, in numeric terms by reference to that specified numeric attribute state; or
 - ii. in those cases where the attribute is not listed in Appendix 2, in numeric terms where practicable, otherwise in narrative terms; and
 - iii. in those cases where a freshwater objective seeks to maintain overall water quality in accordance with Objective A2, by every regional council ensuring:

- A. where an attribute is listed in Appendix 2, that freshwater objectives are set at least within the same attribute state as existing freshwater quality; and
 - B. where an attribute is not listed in Appendix 2, that freshwater objectives are set so that values identified under Policy CA2(b) will not be worse off when compared to existing freshwater quality; and
 - iii. on the basis that, where an attribute applies to more than one value, the most stringent freshwater objective for that attribute is adopted; and
- f) considering the following matters at all relevant points in the process described in Policy CA2(a)-(e):
 - iaa. how to improve the quality of fresh water so it is suitable for primary contact more often, unless regional targets established under Policy A6(b) have been achieved or naturally occurring processes mean further improvement is not possible;
 - iab. how to enable communities to provide for their economic well-being, including productive economic opportunities, while managing within limits;
 - i. the current state of the freshwater management unit, and its anticipated future state on the basis of past and current resource use, including community understandings of the health and well-being of the freshwater management unit;
 - ii. the spatial scale at which freshwater management units are defined;
 - iii. the limits that would be required to achieve the freshwater objectives;
 - iv. any choices between the values that the formulation of freshwater objectives and associated limits would require;
 - v. any implications for resource users, people and communities arising from the freshwater objectives and associated limits including implications for actions, investments, ongoing management changes and any social, cultural or economic implications;
 - vi. the timeframes required for achieving the freshwater objectives, including the ability of regional councils to set long timeframes for achieving targets; and
 - vii. such other matters relevant and reasonably necessary to give effect to the objectives and policies in this national policy statement, in particular Objective AA1 and Objective A2.

Policy CA3

By every regional council ensuring that freshwater objectives for the compulsory values are set at or above the national bottom lines for all freshwater management units, unless the existing freshwater quality of the freshwater management unit is already below the national bottom line for an attribute or attributes and the regional council considers it appropriate to set the freshwater objective below the national bottom line for an attribute or attributes because:

- a) the existing freshwater quality is caused by naturally occurring processes; or
- b) any of the existing significant infrastructure (that was operational on 1 August 2014) listed in Appendix 3 contributes to the existing freshwater quality; and
 - i. it is necessary to realise the benefits provided by the listed infrastructure; and
 - ii. it applies only to the waterbody, waterbodies or any part of a waterbody, where the listed infrastructure contributes to the existing water quality.

Policy CA4

A regional council may set a freshwater objective below a national bottom line on a transitional basis for the freshwater management units and for the periods of time specified in Appendix 4.

NOT OFFICIAL VERSION

CB. Monitoring plans

Objective CB1

To provide for an approach to the monitoring of progress towards, and the achievement of, freshwater objectives and the values identified under Policy CA2(b).

Policy CB1

By every regional council developing a monitoring plan that:

- a) establishes methods for monitoring progress towards, and the achievement of, freshwater objectives established under Policies CA1-CA4;
- aa) establishes methods for monitoring the extent to which the values identified under Policy CA2(b) are being provided for in a freshwater management unit. These methods must at least include:
 - i. surveillance monitoring of microbial health risks to people at primary contact sites in accordance with Appendix 5;
 - ii. the monitoring of macroinvertebrate communities;
 - iii. measures of the health of indigenous flora and fauna;
 - iv. information obtained under Policy CB1(a) and Policy CC1; and
 - v. Mātauranga Māori;
- b) identifies a site or sites at which monitoring will be undertaken that are representative for each freshwater management unit; and
- c) recognises the importance of long-term trends in monitoring results and the relationship between results and the overall state of fresh water in a freshwater management unit.

Policy CB2

By every regional council establishing methods, for example action plans, for responding to monitoring that indicates freshwater objectives will not be met and/or values will not be provided for in a freshwater management unit.

Policy CB3

By every regional council:

- a) using the Macroinvertebrate Community Index;
- b) establishing methods under Policy CB2 to respond to a Macroinvertebrate Community Index score below 80, or a declining trend; and
- c) ensuring that methods:
 - i. investigate the causes of declining trends or the Macroinvertebrate Community Index score below 80;
 - ii. seek to halt declining trends; and

- iii. seek to improve on a Macroinvertebrate Community Index score if it is below 80, unless this is caused by naturally occurring processes, pest or unwanted organism, or by infrastructure listed in Appendix 3.

Policy CB4

By every regional council taking reasonable steps to ensure information gathered in accordance with Policy CB1 is available to the public regularly and in a suitable form.

NOT OFFICIAL VERSION

CC. Accounting for freshwater takes and contaminants

Objective CC1

To improve information on freshwater takes and sources of freshwater contaminants, in order to:

- a) ensure the necessary information is available for freshwater objective and limit setting and freshwater management under this national policy statement; and
- b) ensure information on resource availability is available for current and potential resource users.

Policy CC1

By every regional council:

- a) establishing and operating a freshwater quality accounting system and a freshwater quantity accounting system for those freshwater management units where they are setting or reviewing freshwater objectives and limits in accordance with Policy A1, Policy B1, and Policies CA1-CA4; and
- b) maintaining a freshwater quality accounting system and a freshwater quantity accounting system at levels of detail that are commensurate with the significance of the freshwater quality and freshwater quantity issues, respectively, in each freshwater management unit.

Policy CC2

By every regional council taking reasonable steps to ensure that information gathered in accordance with Policy CC1 is available to the public, regularly and in a suitable form, for the freshwater management units where they are setting or reviewing, and where they have set or reviewed, freshwater objectives and limits in accordance with Policy A1, Policy B1, and Policies CA1-CA4.

Objective CC1 and Policies CC1 and CC2 will take effect 24 months from the date of entry into effect of the National Policy Statement for Freshwater Management 2014.

D. Tāngata whenua roles and interests

Objective D1

To provide for the involvement of iwi and hapū, and to ensure that tāngata whenua values and interests are identified and reflected in the management of fresh water including associated ecosystems, and decision-making regarding freshwater planning, including on how all other objectives of this national policy statement are given effect to.

Policy D1

Local authorities shall take reasonable steps to:

- a) involve iwi and hapū in the management of fresh water and freshwater ecosystems in the region;
- b) work with iwi and hapū to identify tāngata whenua values and interests in fresh water and freshwater ecosystems in the region; and
- c) reflect tāngata whenua values and interests in the management of, and decision-making regarding, fresh water and freshwater ecosystems in the region.

E. Progressive implementation programme

Policy E1

- a) This policy applies to the implementation by a regional council of a policy of this national policy statement.
- b) Every regional council is to implement the policy as promptly as is reasonable in the circumstances, and so it is fully completed by no later than 31 December 2025.
- ba) A regional council may extend the date in Policy E1(b) to 31 December 2030 if it considers that:
 - i. meeting that date would result in lower quality planning; or
 - ii. it would be impracticable for it to complete implementation of a policy by that date.
- c) Where a regional council is satisfied that it is impracticable for it to complete implementation of a policy fully by 31 December 2015, the council may implement it by a programme of defined time-limited stages by which it is to be fully implemented by 31 December 2025 or 31 December 2030 if Policy E1(ba) applies.
- d) Any programme of time-limited stages is to be formally adopted by the council by 31 December 2015 and publicly notified.
- e) Where a regional council has adopted a programme of staged implementation, it is to publicly report, in every year, on the extent to which the programme has been implemented.
- f) Any programme adopted under Policy E1 c) of the National Policy Statement for Freshwater Management 2011 by a regional council is to be reviewed, revised if necessary, and formally adopted by the regional council by 31 December 2015, and publically notified. Any programme adopted under Policy E1(c) of the National Policy Statement for Freshwater Management 2011 or under Policy E1(c) of the National Policy Statement for Freshwater Management 2014 by a regional council is to be reviewed, revised if necessary, formally adopted by the regional council by 31 December 2018, and publicly notified.
- g) Every regional council must, at intervals of not more than five years, compile and make available to the public a review of the improvements to specified rivers and lakes, and primary contact sites, made in giving effect to Policy A5.

APPENDIX 1: National values and uses for fresh water

COMPULSORY NATIONAL VALUES

~~Te Hauora o te Wai / the health and mauri of water~~

Ecosystem health – The freshwater management unit supports a healthy ecosystem appropriate to that freshwater body type (river, lake, wetland, or aquifer).

In a healthy freshwater ecosystem ecological processes are maintained, there is a range and diversity of indigenous flora and fauna, and there is resilience to change.

Matters to take into account for a healthy freshwater ecosystem include the management of adverse effects on flora and fauna of contaminants, changes in freshwater chemistry, excessive nutrients, algal blooms, high sediment levels, high temperatures, low oxygen, invasive species, and changes in flow regime. Other matters to take into account include the essential habitat needs of flora and fauna and the connections between water bodies. The health of flora and fauna may be indicated by measures of macroinvertebrates.

~~Te Hauora o te Tangata / the health and mauri of the people~~

~~**Human health for recreation** – As a minimum, the freshwater management unit will present no more than a moderate risk of infection to people when they are wading or boating or involved in similar activities that involve only occasional immersion in the water. Other contaminants or toxins, such as toxic algae, would not be present in such quantities that they would harm people’s health.~~

~~In freshwater management units where a community values more frequent immersion in the water such as swimming, white water rafting, or water skiing, the risk of infection will be no more than moderate. In some freshwater management units, the risk of infection to people undertaking any activity would be no greater than what would exist there under natural conditions.~~

Human health for recreation – In a healthy waterbody, people are 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.

Matters to take into account for a healthy waterbody for human use include pathogens, clarity, deposited sediment, plant growth (from macrophytes to periphyton to phytoplankton), cyanobacteria and other toxicants.

ADDITIONAL OTHER NATIONAL VALUES

~~Te Hauora o te Taiao / the health and mauri of the environment~~

~~Natural form and character – Where people value particular natural qualities of the freshwater management unit.~~

~~Matters contributing to the natural form and character of a freshwater management unit are its visual and physical characteristics that are valued by the community, including its flow regime, colour, clarity, morphology or location. They may be freshwater management units with exceptional, natural, and iconic aesthetic features.~~

Natural form and character – Where people value particular natural qualities of the freshwater management unit.

Matters contributing to the natural form and character of a freshwater management unit are its biological, visual and physical characteristics that are valued by the community, including:

- i. its biophysical, ecological, geological, geomorphological and morphological aspects;
- ii. the natural movement of water and sediment including hydrological and fluvial processes;
- iii. the location of the water body relative to its natural course;
- iv. the relative dominance of indigenous flora and fauna;
- v. the presence of culturally significant species;
- vi. the colour of the water; and
- vii. the clarity of the water.

They may be freshwater management units with exceptional, natural, and iconic aesthetic features.

~~Mahinga kai / food gathering, places of food~~

Mahinga kai – Kai are safe to harvest and eat.

Mahinga kai generally refers to indigenous 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 them. Mahinga kai provide food for the people of the rohe and these sites give an indication of the overall health of the watercatchment.

For this value, kai would be safe to harvest and eat. Transfer of knowledge would occur about the preparation, storage and cooking of kai and knowledge transfer is present (intergenerational harvest). In freshwater management units that are highly valued 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).

For this value, freshwater resources would be available and able to be used for customary use at some places (but not everywhere). In freshwater management units that are highly

valued for providing mahinga kai, resources would be available for use, customary practices able to be exercised to the extent desired, and tikanga and preferred methods are able to be practised.

Fishing – The freshwater management unit supports fisheries of species allowed to be caught and eaten.

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

Mahi māra / cultivation

Irrigation, cultivation and food production – The freshwater management unit meets irrigation needs for any purpose.

Water quality and quantity would be suitable for irrigation needs, including supporting the cultivation of food crops, the production of food from domesticated 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.

Animal drinking water – The freshwater management unit meets the needs of stock.

Water quality and quantity would meet the needs of stock, including whether it is palatable and safe.

Wai Tapu / Sacred Waters

Wai tapu – Wai tapu represent the places where rituals and ceremonies are performed, or where there is special significance to iwi/hapū.

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

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

Wai Māori / municipal and domestic water supply

Water supply – The freshwater management unit can meet people’s potable water needs.

Water quality and quantity would enable domestic water supply to be safe for drinking with, or in some areas without, treatment.

Āu Putea / economic or commercial development

Commercial and industrial use – The freshwater management unit provides economic opportunities to 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.

Hydro-electric power generation – The freshwater management unit is suitable for hydro electric power generation.

Water quality and quantity and the physical qualities of the freshwater management unit, including hydraulic gradient and flow rate, can provide for hydro-electric power generation.

He ara haere / navigation

Transport and tauranga waka – The freshwater management unit 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).

Water quality and quantity in the freshwater management unit would provide for navigation. The freshwater management unit may also connect places and people including for traditional trails and rites of passage, and allow the use of various craft.

APPENDIX 2: Attribute tables

Value	Ecosystem health		
Freshwater Body Type	Lakes		
Attribute	Phytoplankton (Trophic state)		
Attribute Unit	mg/m ³ (milligrams chlorophyll-a per cubic metre)		
Attribute State	Numeric Attribute State		Narrative Attribute State
	Annual Median	Annual Maximum	
A	≤2	≤10	Lake ecological communities are healthy and resilient, similar to natural reference conditions.
B	>2 and ≤5	>10 and ≤25	Lake ecological communities are slightly impacted by additional algal and <u>or</u> plant growth arising from nutrients levels that are elevated above natural reference conditions.
C	>5 and ≤12	>25 and ≤60	Lake ecological communities are moderately impacted by additional algal and plant growth arising from nutrients levels that are elevated well above natural reference conditions. <u>Reduced water clarity is likely to affect habitat available for native macrophytes.</u>
National Bottom Line	12	60	
D	>12	>60	Lake ecological communities have undergone or are at high risk of a regime shift to a persistent, degraded state <u>(without native macrophyte/seagrass cover)</u> , 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.

Note: For lakes and lagoons that are intermittently open to the sea, monitoring data should be analysed separately for closed periods and open periods.

Value	Ecosystem health		
Freshwater Body Type	Lakes		
Attribute	Total Nitrogen (Trophic state)		
Attribute Unit	mg/m ³ (milligrams per cubic metre)		
Attribute State	Numeric Attribute State		Narrative Attribute State
	Annual Median	Annual Median	
	Seasonally Stratified and Brackish*	Polymictic	
A	≤160	≤300	Lake ecological communities are healthy and resilient, similar to natural reference conditions.
B	>160 and ≤350	>300 and ≤500	Lake ecological communities are slightly impacted by additional algal and/or plant growth arising from nutrients levels that are elevated above natural reference conditions.
C	>350 and ≤750	>500 and ≤800	Lake ecological communities are moderately impacted by additional algal and plant growth arising from nutrients levels that are elevated well above natural reference conditions
National Bottom Line	750	800	
D	>750	>800	Lake ecological communities have undergone or are at high risk of a regime shift to a persistent, degraded state (<u>without native macrophyte/seagrass cover</u>), 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.

* Intermittently closing and opening lagoons (ICOLs) are not included in brackish lakes.

Note: For lakes and lagoons that are intermittently open to the sea, monitoring data should be analysed separately for closed periods and open periods.

Value	Ecosystem health	
Freshwater Body Type	Lakes	
Attribute	Total Phosphorus (Trophic state)	
Attribute Unit	mg/m ₃ (milligrams per cubic metre)	
Attribute State	Numeric Attribute State	Narrative Attribute State
	Annual Median	
A	≤10	Lake ecological communities are healthy and resilient, similar to natural reference conditions.
B	>10 and ≤20	Lake ecological communities are slightly impacted by additional algal and plant growth arising from nutrients levels that are elevated above natural reference conditions.
C	>20 and ≤50	Lake ecological communities are moderately impacted by additional algal and plant growth arising from nutrients levels that are elevated well above natural reference conditions.
National Bottom Line	50	
D	>50	Lake ecological communities have undergone or are at high risk of a regime shift to a persistent, degraded state (<u>without native macrophyte/seagrass cover</u>), 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.

Note: For lakes and lagoons that are intermittently open to the sea, monitoring data should be analysed separately for closed periods and open periods.

Value	Ecosystem health		
Freshwater Body Type	Rivers		
Attribute	Periphyton (Trophic state)		
Attribute Unit	mg chl-a/m ² (milligrams chlorophyll-a per square metre)		
Attribute State	Numeric Attribute State (Default Class)	Numeric Attribute State (Productive Class₁)	Narrative Attribute State
	Exceeded no more than 8% of samples₂	Exceeded no more than 17% of samples₂	
A	≤50	≤50	Rare blooms reflecting negligible nutrient enrichment and/or alteration of the natural flow regime or habitat.
B	>50 and ≤120	>50 and ≤120	Occasional blooms reflecting low nutrient enrichment and/or alteration of the natural flow regime or habitat.
C	>120 and ≤200	>120 and ≤200	Periodic short-duration nuisance blooms reflecting moderate nutrient enrichment and/or alteration of the natural flow regime or habitat.
National Bottom Line	200	200	
D	>200	>200	Regular and/or extended-duration nuisance blooms reflecting high nutrient enrichment and/or significant alteration of the natural flow regime or habitat.

1. 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 (i.e. Warm-Dry (WD) and Cool-Dry (CD)) and REC Geology categories that have naturally high levels of nutrient enrichment due to their catchment geology (i.e. 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.

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

Note: To achieve a freshwater objective for periphyton within a freshwater management unit, regional councils must at least set appropriate instream concentrations and exceedance criteria for dissolved inorganic nitrogen (DIN) and dissolved reactive phosphorus (DRP). Where there are nutrient sensitive downstream receiving environments, criteria for nitrogen and phosphorus will also need to be set to achieve the outcomes sought for those environments.

Regional councils must use the following process, in the following order, to determine instream nitrogen and phosphorus criteria in a freshwater management unit:

a. either –

- i. if the freshwater management unit supports, or could support, conspicuous periphyton, derive instream concentrations and exceedance criteria for DIN and DRP to achieve a periphyton objective for the freshwater management unit; or
- ii. if the freshwater management unit does not support, and could not support, conspicuous periphyton, consider the nitrogen and phosphorus criteria (instream concentrations or

instream loads) needed to achieve any other freshwater objectives:

- b. if there are nutrient sensitive downstream environments, for example, a lake and/or estuary, derive relevant nitrogen and phosphorus criteria (instream concentrations or instream loads) needed to achieve the outcomes sought for those sensitive downstream environments:
- c. compare all nitrogen and phosphorus criteria derived in steps a) – b) and adopt those necessary to achieve the freshwater objectives for the freshwater management unit and outcomes sought for the nutrient sensitive downstream environments.

NOT OFFICIAL VERSION

Value	Ecosystem health		
Freshwater Body Type	Rivers		
Attribute	Nitrate (Toxicity)		
Attribute Unit	mg NO ₃ -N/L (milligrams nitrate-nitrogen per litre)		
Attribute State	Numeric Attribute State		Narrative Attribute State
	Annual Median	Annual 95th Percentile	
A	≤1.0	≤1.5	High conservation value system. Unlikely to be effects even on sensitive species
B	>1.0 and ≤2.4	>1.5 and ≤3.5	Some growth effect on up to 5% of species.
C	>2.4 and ≤6.9	>3.5 and ≤9.8	Growth effects on up to 20% of species (mainly sensitive species such as fish). No acute effects.
National Bottom Line	6.9	9.8	
D	>6.9	>9.8	Impacts on growth of multiple species, and starts approaching acute impact level (ie risk of death) for sensitive species at higher concentrations (>20 mg/L)

[Note:](#) 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 will be more stringent.

FOR INFORMATION ONLY – CHANGES TO THE 2014 NPS SHOWN IN UNDERLINE

Value	Ecosystem health		
Freshwater Body Type	Lakes and rivers		
Attribute	Ammonia (Toxicity)		
Attribute Unit	mg NH ₄ -N/L (milligrams ammoniacal-nitrogen per litre)		
Attribute State	Numeric Attribute State		Narrative Attribute State
	Annual Median*	Annual Maximum*	
A	≤0.03	≤0.05	99% species protection level: No observed effect on any species tested
B	>0.03 and ≤0.24	>0.05 and ≤0.40	95% species protection level: Starts impacting occasionally on the 5% most sensitive species
C	>0.24 and ≤1.30	>0.40 and ≤2.20	80% species protection level: Starts impacting regularly on the 20% most sensitive species (reduced survival of most sensitive species)
National Bottom Line	1.30	2.20	
D	>1.30	>2.20	Starts approaching acute impact level (ie risk of death) for sensitive species
<p>* Based on pH 8 and temperature of 20°C.</p> <p>Compliance with the numeric attribute states should be undertaken after pH adjustment.</p>			

FOR INFORMATION ONLY – CHANGES TO THE 2014 NPS SHOWN IN UNDERLINE>

Value	Ecosystem health		
Freshwater Body Type	Rivers (below point sources)		
Attribute	Dissolved Oxygen		
Attribute Unit	mg/L (milligrams per litre)		
Attribute State	Numeric Attribute State		Narrative Attribute State
	7-day mean minimum ¹ (Summer Period: 1 November to 30th April)	1-day minimum ² (Summer Period: 1 November to 30th April)	
A	≥8.0	≥7.5	No stress caused by low dissolved oxygen on any aquatic organisms that are present at matched reference (near-pristine) sites.
B	≥7.0 and <8.0	≥5.0 and <7.5	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.
C	≥5.0 and <7.0	≥4.0 and <5.0	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.
National Bottom Line	5.0	4.0	
D	<5.0	<4.0	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.
<p>1. The mean value of 7 consecutive daily minimum values.</p> <p>2. The lowest daily minimum across the whole summer period.</p>			

Value	Human health for recreation		
Freshwater Body Type	Lakes and rivers		
Attribute	<u><i>E. coli</i></u> *		
Attribute Unit	<u><i>E. coli</i></u> /100 mL (number of <i>E. coli</i> per hundred millilitres)		
Attribute State	Numeric Attribute State	Sampling Statistic	Narrative Attribute State
A	≤260	Annual median	People are exposed to a very low risk of infection (less than 0.1% risk) from contact with water during activities with occasional immersion and some ingestion of water (such as wading and boating)
		95 th percentile	People are exposed to a low risk of infection (up to 1% risk) when undertaking activities likely to involve full immersion.
B	>260 and ≤540	Annual median	People are exposed to a low risk of infection (less than 1% risk) from contact with water during activities with occasional immersion and some ingestion of water (such as wading and boating).
		95 th percentile	People are exposed to a moderate risk of infection (less than 5% risk) when undertaking activities likely to involve full immersion. 540 / 100ml is the minimum acceptable state for activities likely to involve full immersion.
C	>540 and ≤1000	Annual median	People are exposed to a moderate risk of infection (less than 5% risk) from contact with water during activities with occasional immersion and some ingestion of water (such as wading and boating).
National Bottom Line	1000	Annual median	People are exposed to a high risk of infection (greater than 5% risk) from contact with water during activities likely to involve immersion.
D	>1000	Annual median	People are exposed to a high risk of infection (greater than 5% risk) from contact with water during activities with occasional immersion and some ingestion of water (such as wading and boating).
*Escherichia coli			

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

* 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.

¹ Attribute state should be determined by using a minimum of 60 samples over a maximum of 5 years, collected on a regular basis regardless of weather and flow conditions. However, where a sample has been missed due to adverse weather or error, attribute state may be determined using samples over a longer timeframe.

² Attribute state must be determined by satisfying all numeric attribute states.

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Value	Human health for recreation	
Freshwater Body Type	Lakes and lake fed rivers	
Attribute	Cyanobacteria - Planktonic	
Attribute Unit	Biovolume - mm^3/L (cubic millimetres per litre) OR Cell Count – cells/mL (cells per millilitre)	
Attribute State	Numeric Attribute State	Narrative Attribute State
	80th percentile*	
A (Blue)	$\leq 0.5 \text{ mm}^3/\text{L}$ biovolume equivalent for the combined total of all cyanobacteria OR <u>$\leq 500 \text{ cells/mL}$ of total cyanobacteria</u>	Risk exposure from cyanobacteria is no different to that in natural conditions (from any contact with fresh water).
B (Green)	N/A <u>> 0.5 and $\leq 1.0 \text{ mm}^3/\text{L}$ biovolume equivalent for the combined total of all cyanobacteria</u>	<u>Low risk of health effects from exposure to cyanobacteria (from any contact with fresh water).</u>
C (Yellow)	> 0.5 <u>1.0</u> and $\leq 1.8 \text{ mm}^3/\text{L}$ biovolume equivalent of potentially toxic cyanobacteria OR > 0.5 <u>1.0</u> and $\leq 10 \text{ mm}^3/\text{L}$ total biovolume of all cyanobacteria	Low risk of health effects from exposure to cyanobacteria (from any contact with fresh water). <u>Moderate risk of health effects from exposure to cyanobacteria (from any contact with fresh water).</u>
National Bottom Line	$1.8 \text{ mm}^3/\text{L}$ Biovolume equivalent of potentially toxic cyanobacteria OR $10 \text{ mm}^3/\text{L}$ total biovolume of all cyanobacteria	
D (Orange/Red)	Biovolume equivalent of $> 1.8 \text{ mm}^3/\text{L}$ of potentially toxic cyanobacteria OR $> 10 \text{ mm}^3/\text{L}$ total biovolume of all cyanobacteria	<u>Potential health risks (eg, respiratory, irritation and allergy symptoms) exist from exposure to cyanobacteria (from any contact with fresh water).</u> <u>High health risks (eg, respiratory, irritation and allergy symptoms) exist from exposure to cyanobacteria (from any contact with fresh water).</u>
* The 80th percentile must be calculated using a minimum of 12 samples collected over 3 years. 30 samples collected over 3 years is recommended		

APPENDIX 3: Existing infrastructure for the purposes of Policy CA3(b) and Policy CB3(c)

[Editor's note: This appendix is currently empty.]

NOT OFFICIAL VERSION

APPENDIX 4: Freshwater management units and periods of time for transition under Policy CA4

[Editor's note: This appendix is currently empty.]

NOT OFFICIAL VERSION

APPENDIX 5: Surveillance monitoring of *E. coli* at primary contact sites

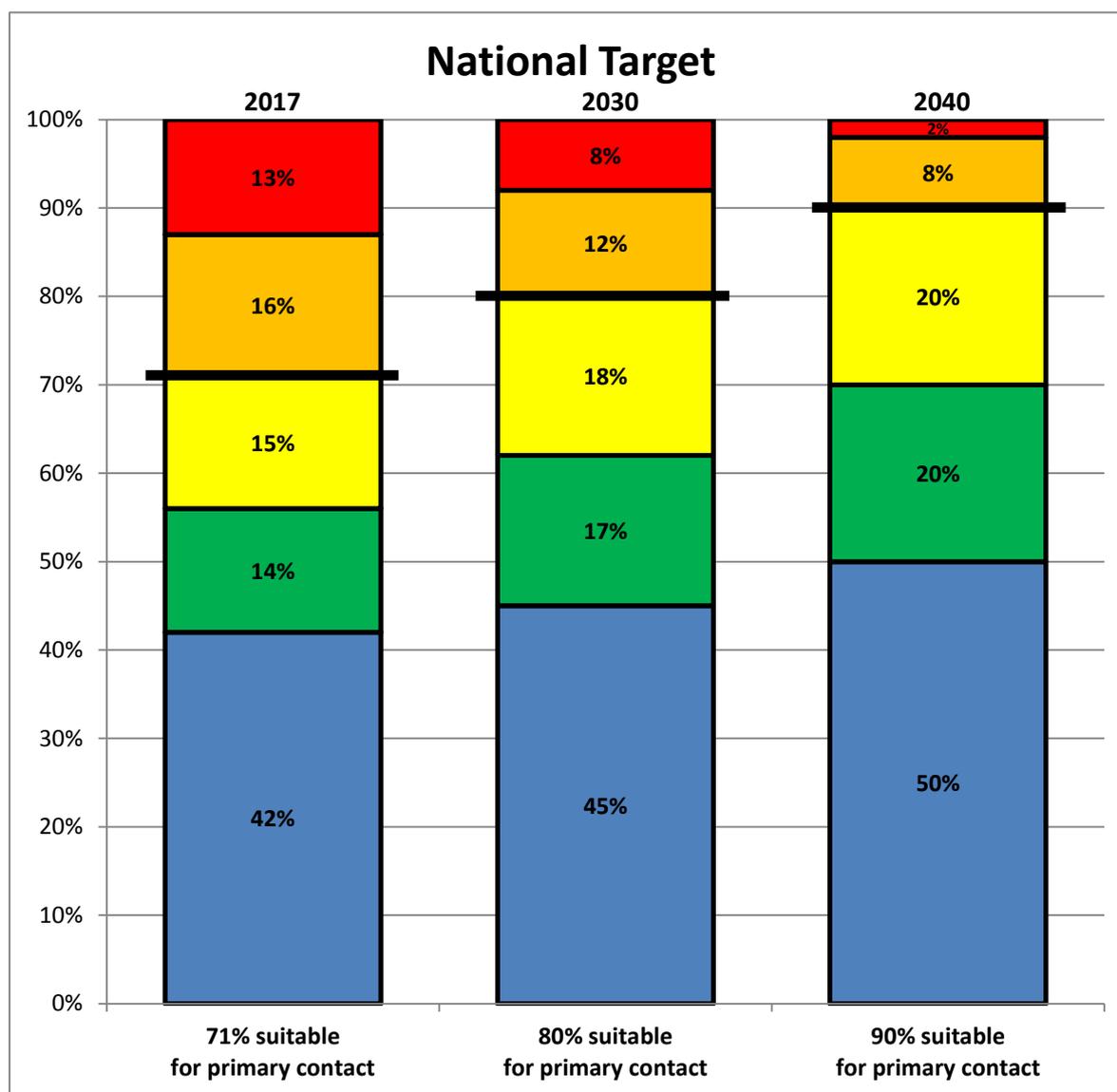
Surveillance monitoring requirements for *E. coli*

Where a regional plan has identified primary contact sites, the regional council will:

- a) For each identified primary contact site, identify the date range or date ranges and flow conditions within which it is or would be used for primary contact;
- b) Identify a sampling site (or sites) that is representative of the primary contact site (or primary contact sites); and
- c) For each sampling site, and within the date range or date ranges identified in (a) undertake weekly sampling for *E. coli*, unless;
 - i. a single sample from a sampling site is greater than 260 *E. coli* per 100ml, in which case, increase sampling frequency to daily where practicable, and take all reasonable steps to identify potential causes of microbiological contamination; and
 - ii. a single sample is greater than 540 *E. coli* per 100 ml, in which case take all reasonable steps to notify, and keep the public informed, that the site is unsuitable for recreation until further sampling shows a result of 540 *E. coli* per 100ml or less.

APPENDIX 6: National target for water quality improvement

The national target is to increase proportions of specified rivers and lakes that are suitable for primary contact (those 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.



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 two human health attributes, *E. coli* and cyanobacteria – planktonic in Appendix 2 of this national policy statement.

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 two categories (**orange** and **red**) as follows:

- a. **orange** means the lake has between 1.8 and 3.0 mm³/L biovolume of planktonic cyanobacteria, using a 80th percentile; and
- b. **red** means the lake has more than 3.0 mm³/L biovolume of planktonic cyanobacteria, using a 80th percentile.

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

NOT OFFICIAL VERSION