

Policy Committee - 21 March 2018 Attachments

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Minutes of a meeting of the Policy Committee held in the Cargill Room, Scenic Circle Southern Cross Hotel, Dunedin on Wednesday 31 January 2018, commencing at 2:53 pm.

Membership

Cr Gretchen Robertson	<i>(Chairperson)</i>
Cr Michael Laws	<i>(Deputy Chairperson)</i>
Cr Graeme Bell	
Cr Doug Brown	
Cr Michael Deaker	
Cr Carmen Hope	
Cr Trevor Kempton	
Cr Ella Lawton	<i>Attending via teleconference link</i>
Cr Sam Neill	
Cr Andrew Noone	
Cr Bryan Scott	
Cr Stephen Woodhead	

1. APOLOGIES

Resolution

That the apologies for Cr Brown be accepted.

Moved: Cr Robertson
Seconded: Cr Scott
CARRIED

2. LEAVE OF ABSENCE

No Leave of Absence noted.

3. ATTENDANCE

Sarah Gardner	(Chief Executive)
Nick Donnelly	(Director Corporate Services)
Tanya Winter	(Director Policy, Planning & Resource Management)
Sian Sutton	(Director Stakeholder Engagement)
Gavin Palmer	(Director Engineering, Hazards & Science)
Scott MacLean	(Director Environmental Monitoring & Operations)
Sally Giddens	(Director People & Capabilities)
Ian McCabe	(Executive Officer)
Lauren McDonald	(Committee Secretary)

4. CONFIRMATION OF AGENDA

The agenda was confirmed as tabled.

5. CONFLICT OF INTEREST

No conflicts of interest were advised.

6. PUBLIC FORUM

No public forum was held.

7. PRESENTATIONS

No presentations were held.

8. CONFIRMATION OF MINUTES

Resolution

That the minutes of the meeting held on 29 November 2017 be received and confirmed as a true and accurate record.

Moved: Cr Kempton
Seconded: Cr Bell
CARRIED

9. ACTIONS (Status report on the resolutions of the Policy Committee)

No current items for action.

10. MATTERS FOR COUNCIL DECISION

10.1. Wilding Conifers – Amendment to the Pest Management Strategy

The report outlined the amendment of the area mapped in the Pest Management Plan for Otago for control of wilding conifers in Central Otago by Council.

Resolution

Amend Map 6.1 Central Otago Management Units, Pest Management Plan for Otago, to show the Lammermoor Management Unit, as identified in Attachment 1.

Moved: Cr Woodhead
Seconded: Cr Noone
CARRIED

11. MATTERS FOR NOTING

11.1. Director's Report on Progress

The report provided an overview of significant activities undertaken by the Policy directorate for the period 11 November 2017 to 12 January 2018, including: policy responses; ORC policy, plans and strategies; regional land transport planning; regional partnerships and new opportunities.

Ms Winter provided an update on the proposed plan changes detailed in sections 3.9, 3.11, 3.12, 3.13 and 3.14 of the report.

A request was made for a one page visual document on the plan changes for the Regional Plan: Water, how they link and the timelines for each plan change.

Resolution

That this report be noted.

Moved: Cr Hope

Seconded: Cr Scott

CARRIED

Cr Brown returned to the meeting at 03:03 pm.

12. NOTICES OF MOTION

No notices of motion were tabled.

13. CLOSURE

The meeting was declared closed at 03:09 pm.

Chairperson

for Freshwater Management 2014

*Updated August 2017 to incorporate amendments from the
National Policy Statement for Freshwater Amendment Order 2017*

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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 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), 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 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. Te Mana o te Wai is 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 ensures that the implications of proposed freshwater objectives are clear for councils and communities.

The national policy statement recognises iwi/hapū and community interests in fresh water,

including their environmental, social, economic, and cultural 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.

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.

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 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 fresh water 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, as long as the overall freshwater quality is maintained within a 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 freshwater objectives need only be undertaken at representative sites within a 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, over-allocation 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 2020. The Minister shall then consider the need to review, change or revoke this national policy statement.

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” 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.

“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 percentage and magnitude of *E. coli* exceedences 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, as affected by 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 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 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 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 fresh water 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. *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.

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:

- 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 and 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); and
- 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
 - iii. 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;

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, water bodies 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.

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 that information gathered in accordance with Policy CB1 is available to the public regularly and in a suitable form.

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. Tangata whenua roles and interests

Objective D1

To provide for the involvement of iwi and hapū, and to ensure that tangata 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 tangata whenua values and interests in fresh water and freshwater ecosystems in the region; and
- c) reflect tangata 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 or under E1(c) of the National Policy Statement for Freshwater Management 2014 by a regional council is to be reviewed, revised if necessary, and 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

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.

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.

OTHER NATIONAL VALUES

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 – 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 water.

For this value, kai would be safe to harvest and eat. Transfer of knowledge would occur about the preparation, storage and cooking of kai. In freshwater management units 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).

For this value, freshwater resources would be available and able to be used for customary use. In freshwater management units that are 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.

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 – 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. 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.

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.

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.

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/or plant growth arising from nutrient 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 nutrient levels that are elevated well above natural reference conditions. Reduced water clarity is likely to affect habitat available for native macrophytes.
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 (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.
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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 nutrient 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 nutrient 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, (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.

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 nutrient 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 nutrient 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 (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.

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 Class)¹	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.
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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.

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.

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

* Based on pH 8 and temperature of 20°C.

Compliance with the numeric attribute states should be undertaken after pH adjustment.

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.
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1. The mean value of 7 consecutive daily minimum values.
2. The lowest daily minimum across the whole summer period.

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

E (Red)	>30%	>50%	>260	>1200	<p>For more than 30% of the time the estimated risk is ≥ 50 in 1000 (>5% risk)</p> <p>The predicted average infection risk is >7%*</p>
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* 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.

Value	Human health for recreation	
Freshwater Body Type	Lakes and lake fed rivers	
Attribute	<i>Cyanobacteria – Planktonic</i>	
Attribute Unit	<i>Biovolume - mm³/L (cubic millimetres per litre)</i>	
Attribute State	Numeric Attribute State	Narrative Attribute State
	80th percentile*	
A (Blue)	≤0.5 mm ³ /L biovolume equivalent for the combined total of all cyanobacteria	Risk exposure from cyanobacteria is no different to that in natural conditions (from any contact with fresh water).
B (Green)	>0.5 and ≤1.0 mm ³ /L biovolume equivalent for the combined total of all cyanobacteria	Low risk of health effects from exposure to cyanobacteria (from any contact with fresh water).
C (Yellow)	>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	Moderate risk of health effects from exposure to cyanobacteria (from any contact with fresh water).
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)	>1.8 mm ³ /L biovolume equivalent of potentially toxic cyanobacteria OR >10 mm ³ /L total biovolume of all cyanobacteria	High health risks (eg. respiratory, irritation and allergy symptoms) exist from exposure to cyanobacteria (from any contact with fresh water).

* 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.]

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

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

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

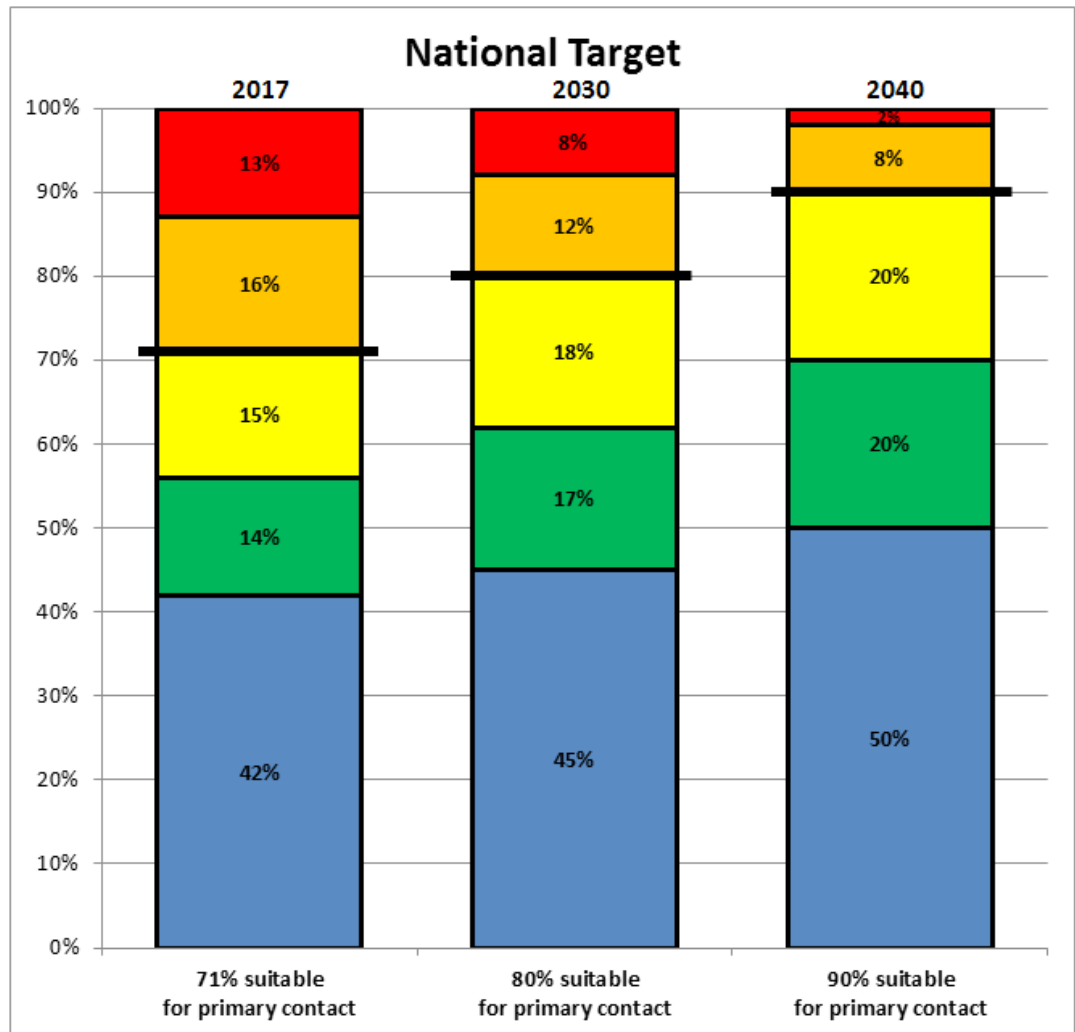
Surveillance monitoring requirements for *E. coli*

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 100 mL, 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 100 mL 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 cyanobacteria – planktonic, using an 80th percentile; and
- b. **red** means the lake has more than 3.0 mm³/L biovolume of cyanobacteria – planktonic, using an 80th percentile.

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

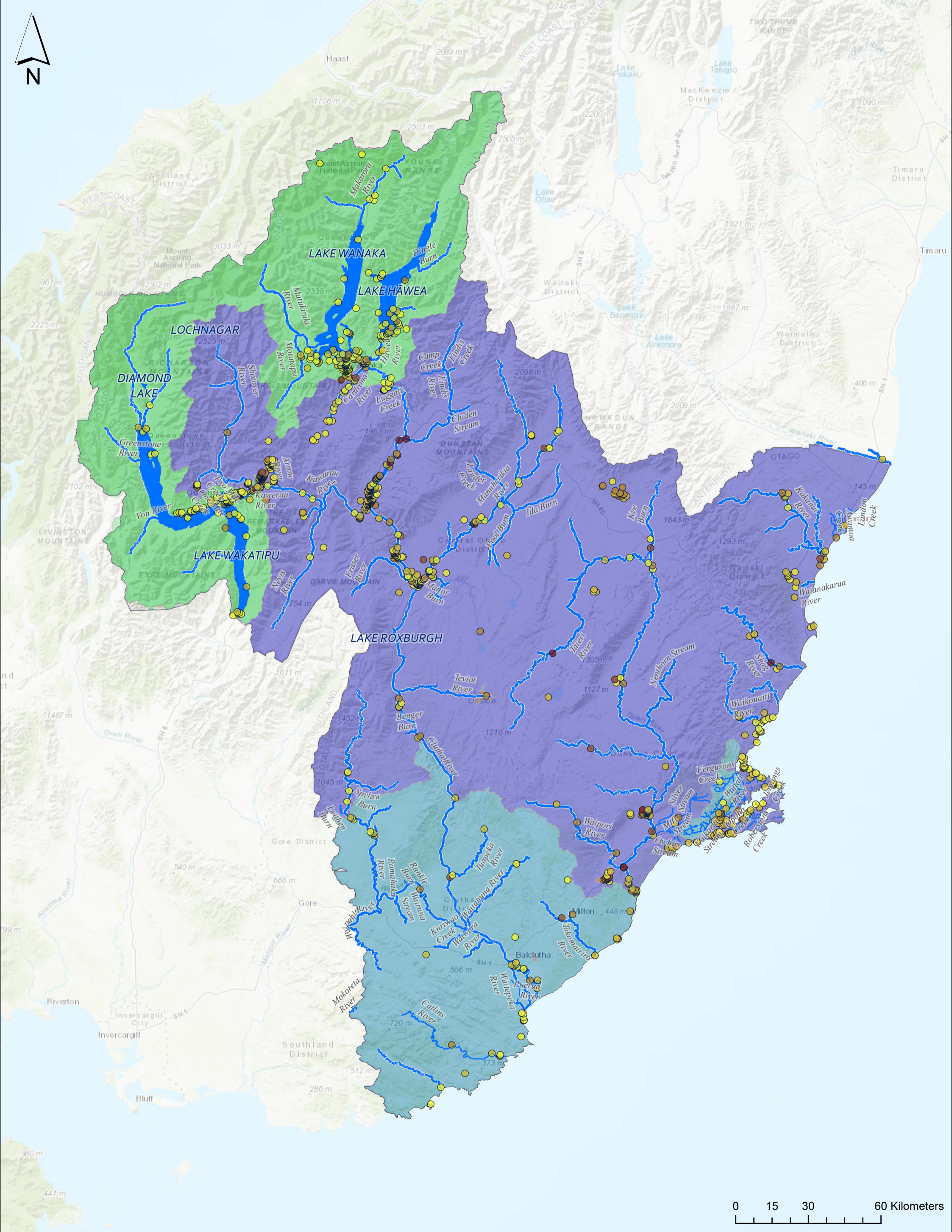
Reprint notes

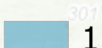


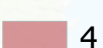
1 General

This is a reprint of the National Policy Statement for Freshwater Management 2014 that incorporates all the amendments to the National Policy Statement as at the date of the last amendment to it.

2 Amendments incorporated in this reprint

National Policy Statement for Freshwater Management Amendment Order 2017, as published in the *New Zealand Gazette*, 10 August 2017, Edition 81, page 1.



Water Plan Receiving Water Groups	
	1
	2
	3
	4

Swim Site Rating	
	Exellent
	Very Good
	OK
	Poor

Policy Committee - 21 March 2018 Attachments

Swimming Survey

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**Attachment 3:
Comparison of Water Plan limits for *E. coli* with NPSFM *E. coli* attributes**

The table below compares Water Plan (Schedule 15) limits for *E. coli* with the four *E. coli* statistics in the NPSFM based on data from each Receiving Water Group. The units in the table are E.coli/100mL (number of E.coli per 100 mL).

Predicted states for NPSFM *E. coli* attributes compared to Water Plan limits for *E. coli*¹

Water Plan Receiving Water Group	Water Plan Sch. 15 limit 80th percentile < median flow	Estimated median all flows	Estimated 95th percentile all flows	Estimated % exceedances > 260 all flows	Estimated % exceedances > 540 all flows	Current NPSFM grading
1	260	131 (B)	2,218 (E)	(B) 28%	(C) 16%	E
2	260	(A) 75	(B) 912	(A) 15%	(B) 7%	B
3	50	(A) 10	(A) 261	(A) 6%	(A) 2%	A
4	126	(A) 39	(B) 566	(A) 10%	(A/B) 5%	B
5	10	(A) 1	(A) 101	(A) 3%	(A) 0%	A

¹ Otago Regional Council (2017). *State of the Environment: Surface Water Quality in Otago 2006 to 2017- Draft report. Appendix G.*

DRAFT

Our Living Treasure | Nga Taoka

Otago Regional Council's Biodiversity Strategy 2018



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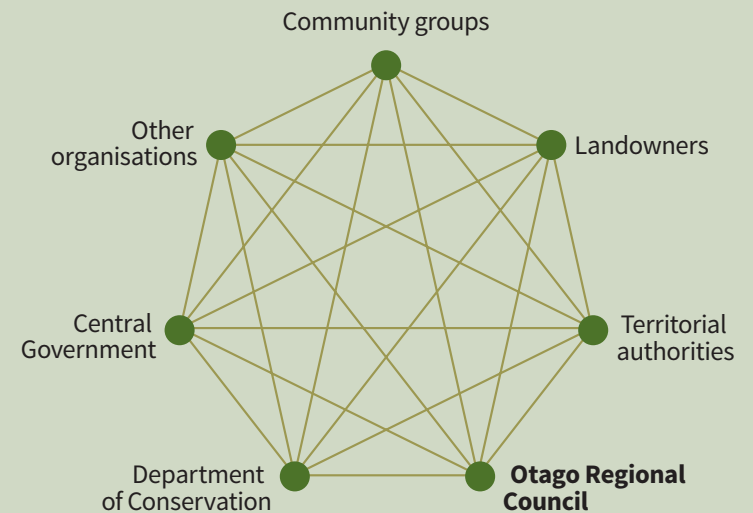
There are over 70 organisations working in biodiversity management in Otago. We've developed this strategy to identify how ORC can add value to the good work that communities are doing.

GUIDING PRINCIPLES





-  **Part of everyday life**
-  **Co-led by communities**
-  **Focus on ecosystems**
-  **Coordinated & collaborative**

DESIRED OUTCOMES

- 1.** All indigenous species and ecosystems are maintained
- 2.** Threatened indigenous species and ecosystems are enhanced
- 3.** People are aware and proud of Otago's biodiversity
- 4.** Kāi Tahu's role as kaitiaki is acknowledged and supported
- 5.** Otago's biodiversity adds value to the regional economy



TO ACHIEVE THESE OUTCOMES, ORC WILL:

 <p>Collaborate</p> <ul style="list-style-type: none"> • Hold a regional biodiversity forum • Partner with city and district councils, Kāi Tahu, DOC, and other organisations • Administer the Environment Enhancement Fund 	 <p>Educate and share information</p> <ul style="list-style-type: none"> • Provide information on biodiversity • Support education programmes • Develop an online portal for sharing information 	 <p>Monitor and research</p> <ul style="list-style-type: none"> • Undertake research on biodiversity • Map biodiversity values, protected areas, and planned initiatives • Undertake surveys on biodiversity outcomes, perceptions and practices 	 <p>Regulate</p> <ul style="list-style-type: none"> • Administer the Regional Pest Management Plan • Ensure regional and district plans provide good biodiversity outcomes • Assess and report on the effectiveness of ORC's actions
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OTAGO'S BIODIVERSITY

We want Otago to be the proud home of thriving ecosystems and rich biodiversity

Biodiversity (short for biological diversity) describes the variety of all living things. It includes the range of species, their genetics, and the ecosystems where they live. Biodiversity is essential for the functioning of ecosystems; it helps to sustain all life forms, including human.

Otago is one of the most diverse regions in New Zealand. We are known for our wildlife: from the Orokonui Ecosanctuary in Dunedin, to the albatrosses and yellow-eyed penguins on the Otago Peninsula, to the endangered skinks of Central Otago and cheeky kea of the Southern Alps. Not to mention lizards, birds, galaxiids, plants, and marine species. This diverse ecology contributes to our health, our economy, and our social wellbeing. Otago's indigenous species are also a taoka to Kāi Tahu, and form a strong part of their cultural identity.

Refer to the appendix for a list of the key ecosystems within Otago, the species that live in them, and the threats to them.

CASE STUDY PEST MANAGEMENT

Pest management is crucial for protecting Otago's biodiversity. The Otago Pest Management Plan provides a framework for how listed pest plants and animals are managed, and includes objectives, means of achieving and monitoring objectives, and rules that are specific to each plant and animal.

The plan is only part of ORC's response to pest management, which also includes surveillance, community assistance, public education, and funding research both nationally and internationally.



Tomahawk Lagoon, Dunedin

ABOUT THIS STRATEGY

Biodiversity permeates our surroundings, from protected reserves through to our backyards and neighbourhoods. We all benefit from it, and we can all play a part in protecting it.

This strategy outlines Otago Regional Council's (ORC) role in protecting the biodiversity that we have inherited, and leaving it in a better state for future generations. It was developed with input from stakeholders and the Otago community.

There are already over 70 organisations and community groups, as well as private landowners and individuals, enhancing our biodiversity and providing opportunities to get involved. A cornerstone of this strategy is to support these groups and foster collaboration and coordination at the regional level. As ORC implements this strategy, we will work closely with Kāi Tahu, the Department of Conservation (DOC), city and district councils, and community groups throughout Otago.

The strategy sets out the biodiversity outcomes ORC wants to achieve, and the actions we will take to reach them.

This strategy is a stepping stone. It will be a living document and evolve as new knowledge is developed, stakeholder collaboration increases, and national legislation is reviewed.

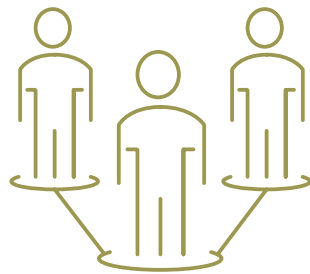
CASE STUDY TOMAHAWK LAGOON

Tomahawk Lagoon in Dunedin has significant biodiversity and recreational value, however until recently little information existed on its ecological health. ORC has partnered with the University of Otago, Healthy Harbour Watchers, DOC, and a number of local schools to survey the water quality of the upper lagoon to clarify the existing state of the lagoon and establish a strong framework for long-term monitoring.

This project is a good example of one that could be supported through the implementation of this strategy.

GUIDING PRINCIPLES

Several principles underpin ORC's biodiversity strategy. These will guide decision making as the strategy is implemented, and will help to ensure it is successful.



CO-LED BY COMMUNITIES

Biodiversity projects are led or co-led by local communities with support from councils and organisations



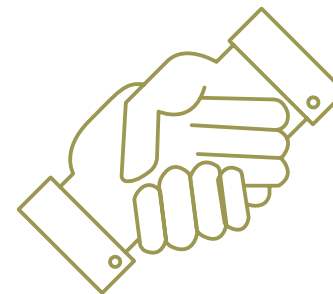
FOCUS ON ECOSYSTEMS

A holistic ecosystems-based approach is taken to effectively manage biodiversity



PART OF EVERYDAY LIFE

People are conscious of and enjoy biodiversity in their everyday lives



COORDINATED & COLLABORATIVE

Key stakeholders take a coordinated and collaborative approach

KEY ISSUES

Where we are	Where we want to be
The sustainability of indigenous species is at risk from predators and pests.	The impact of pests on indigenous species is reduced.
Some unique habitats of flora and fauna have been lost, reduced in size, or degraded through human activities.	The extent and life-supporting capacity of habitat is maintained or enhanced.
There is a risk of gaps and overlaps due to the large number of agencies working in biodiversity throughout Otago. This can result in inefficiencies if not well coordinated.	Biodiversity efforts of stakeholders and communities are coordinated.
Limited funding constrains the viability and effectiveness of projects.	Biodiversity initiatives are prioritised and key projects are adequately resourced.
Ecosystem services* are not well understood, which can lead to inadequate protection and neglect.	People are aware of ecosystem services and understand how to look after them.
There are information gaps about ecosystems and indigenous biodiversity in Otago. This leads to people doing things without knowing the impact it may have. It can also impact on the effectiveness of biodiversity projects.	Organisations and communities have good information and understanding about Otago's biodiversity.
Climate change is likely to impact on the health and distribution of species. Pests will spread to new areas, habitats will change, and indigenous species may need to migrate.	Potential impacts from climate change are understood and prepared for.

* Ecosystem services are the benefits we get from healthy ecosystems such as clean air and water, and productive soils

VISION AND OUTCOMES FOR BIODIVERSITY



VISION

Otago is the proud home of thriving ecosystems and rich biodiversity

INDIGENOUS SPECIES AND ECOSYSTEMS ARE RESILIENT AND SUSTAINABLE

Outcome 1
All indigenous species and ecosystems are maintained

Outcome 2
Threatened indigenous species and ecosystems are enhanced

OTAGO'S BIODIVERSITY SUPPORTS COMMUNITY WELLBEING

Outcome 3
People are aware and proud of Otago's biodiversity

Outcome 4
Kāi Tahu's role as kaitiaki is acknowledged and supported

Outcome 5
Otago's biodiversity adds value to the regional economy

More detail on each of the five outcomes is outlined on the following pages.

Outcome 1

All indigenous species and ecosystems are maintained.

We want to ensure that the health and diversity of all indigenous species and ecosystems is at least maintained.

Indigenous species are not at significant risk from pests

ORC will set regulation, undertake monitoring, provide pest management information, and support community-led initiatives.

ORC may also lead initiatives to control particular pests, such as supporting the introduction of the K5 virus.

Potential impacts from climate change are understood and prepared for

ORC will work alongside other organisations to research likely local impacts of climate change.

ORC will promote proactive responses to these impacts.

The extent and life-supporting capacity of habitat is maintained

ORC will provide biodiversity information so people can make informed decisions about their activities.

Plans, rules, and consents will aim to avoid habitat loss or degradation, both from individual activities and cumulatively.

Habitat fragmentation is minimised and ecological corridors are maintained or enhanced

Plans, rules and consents will take the importance of habitat connectivity into account.

ORC will promote the use of ecological corridors (such as riparian margins) to achieve biodiversity, recreational, and amenity benefits.

A tui at Macandrew Bay, Dunedin

Outcome 2

Threatened indigenous species and ecosystems are enhanced.

For species listed as threatened under DOC's New Zealand Threat Classification System, we want to actively work to increase their abundance and overall wellbeing.

Biodiversity efforts of stakeholders and communities are coordinated and synergistic

ORC will bring regional stakeholders together to maintain a shared overview of biodiversity projects and issues.

ORC will encourage and support cross-group coordination where there are opportunities for collaboration.

ORC will hold regional biodiversity forums.

ORC will raise awareness of biodiversity initiatives, including through awards.

Opportunities to get involved in biodiversity management exist and are known about

ORC will support and promote community initiatives that provide opportunities for people to get involved.

ORC will encourage new community initiatives where there are significant opportunities or issues.

ORC will provide information on what landowners can do to help maintain or enhance biodiversity on their properties.



A seal at Aramoana

Outcome 3

People are aware and proud of Otago's biodiversity.

We want people to be aware of and enthusiastic about the biodiversity in their neighbourhoods and regions, and for it to contribute to their sense of place.



Organisations and communities have good information and understanding of Otago's biodiversity.

ORC will facilitate the sharing of information, data, and understanding between organisations and communities.

Biodiversity contributes to Otago's reputation and sense of place

ORC will promote and assist with school programmes, including Enviroschools.

ORC will promote opportunities to interact with local biodiversity, such as native bushwalks or community gardens.

Whareakeake beach

Outcome 4

Kāi Tahu's role as kaitiaki is acknowledged and supported

We want everyone to understand the values of indigenous species to Kāi Tahu and support their role as kaitiaki.

Kāi Tahu are ORC's Treaty partner in biodiversity management

ORC will work with Kāi Tahu as our Treaty partner in regional initiatives and incorporate tikaka (traditional Māori practices) into biodiversity management.

The importance of mahika kai and taoka species to Kāi Tahu is widely understood

ORC will promote the importance of these species, including by assisting relevant school programmes, e.g. Enviroschools.

Mahika kai and taoka species are enhanced

ORC will include a focus on enhancing mahika kai and taoka species in biodiversity management.
ORC will incorporate the importance of mahika kai and taoka species into regulatory processes, as well as monitoring and research.



New Zealand Longfin Eel

Outcome 5

Otago's biodiversity adds value to the regional economy.

Biodiversity can help Otago's economy by attracting tourists and residents, making our products stand out and be seen as unique, and enhancing ecosystem services.



Otago's biodiversity is used to market our products

ORC will share stories about businesses successfully using biodiversity as a differentiating factor in their marketing.

Ecosystem services are maintained or enhanced

ORC will communicate the benefits of ecosystem services, and encourage their protection and enhancement.

Biodiversity contributes to Otago's reputation and sense of place

ORC will support tourism and marketing companies to use biodiversity in promoting Otago to potential residents and tourists.

Little blue penguins, Oamaru | PHOTO: PAUL SORRELL



Sinclair Wetlands

WHAT DOES ORC PROPOSE TO DO?

This is a high-level plan and will be expanded on and added to as the strategy is implemented.



Leadership and Collaboration

	TASKS	TIME
	Hold a regional biodiversity forum to discuss activities and opportunities and celebrate success	Every two years
	Partner with city and district councils, Kāi Tahu, DOC, and other organisations on key projects	Project basis
	Establish regional biodiversity liaison group and Technical Working Party to align and co-ordinate biodiversity projects	Within two years
	Administer the Environmental Enhancement Fund - an ORC fund that supports groups working to achieve good environmental outcomes	Ongoing
	Support community groups by promoting their work and providing expert advice and connections	Ongoing
	Employ a biodiversity coordinator to act as a central point of contact and drive strategy implementation	Within one year



Education and Information Sharing

TASKS TIME

Provide information on biodiversity management, including good management practices for indigenous biodiversity and the importance of ecosystem services.	Ongoing
Support region-wide education programmes, including Enviroschools	Ongoing
Develop and maintain an online portal to: <ul style="list-style-type: none"> · Share information and resources on biodiversity · Provide a forum for discussions within and between communities 	Ongoing



Monitoring and Research

TASKS TIME

Undertake research on key biodiversity matters, including: <ul style="list-style-type: none"> · Issues with a high biodiversity risk and insufficient information · Regional pest management opportunities · Potential climate change effects and responses 	Project basis
Develop a spatial plan showing biodiversity outcomes sought, values, protected areas, and planned initiatives	Within three years
Undertake residents' surveys on biodiversity outcomes, perceptions and practices	Every five years



Regulatory

TASKS TIME

Administer and review the Regional Pest Management Plan	Ongoing
Ensure regional and district plans give effect to the biodiversity outcomes sought in the Regional Policy Statement for Otago	Ongoing
Manage effects of activities on coastal and freshwater biodiversity through resource consent processes	Ongoing
Develop indicators to assess the effectiveness of ORC's actions relating to biodiversity and report on these on a regular basis	Every five years



Mount Watkin

APPENDIX: BIODIVERSITY IN OTAGO

ECOSYSTEM	KEY SPECIES	THREATS
Tussock grassland and shrubland	Plants, lizards, birds, invertebrates	Agricultural intensification, mining, predators, burning, wilding conifers
Indigenous forest	<p>Fauna: yellowhead/mohua, bats, kea, rock wren, kakariki, tomtit, brown creeper, rifleman, bellbird, tui</p> <p>Forest types: Beech, kanuka, rimu-miro, rātā-kamahī, matai/totara, cloud forest, volcanic boulder field</p>	Predators, stock browse, habitat loss
Limestone ecosystems	Rare plant species	Exotic weeds, stock browse
Inland outwash plains (upper Clutha)	Rare plant species, migratory wading birds (e.g. dotterels)	Agricultural intensification, residential development
Inland saline habitats (salt pans, Lake Sutton)	Indigenous halophytic plant species (inc. salt pan cress), indigenous turf vegetation (Lake Sutton), moths (inc. <i>Paranotoreas fulva</i>)	Agricultural intensification, exotic weeds

ECOSYSTEM	KEY SPECIES	THREATS	
Wetlands	Plant species, wetland birds (inc. bittern, fernbird), fish (inc. galaxiids, long-finned eel, bullies)	Drainage, exotic weeds, predators, nutrient and sediment runoff	
Rivers and lakes	Aquatic plant species, fish (inc. galaxiids, long-finned eel, bullies), invertebrates	Predators (particularly trout), fish passage issues, exotic weeds	
Dunes	Dune forest, marine mammals (NZ sea lion, leopard seal), yellow-eyed penguin	Habitat loss, disturbance	
		SPECIFIC	GENERAL
Estuaries	Fish (flatfish, galaxiids, flounder), wading birds (godwits, herons), sea birds, diadromous fish	Infill and drainage, exotic plants, upstream land uses	Sedimentation
River mouths and receiving coastal water	Sea birds (inc. Otago shag, southern blue penguin), Hector's dolphin, squat lobster		Excessive nutrients
Intertidal/shallow subtidal area	Giant bladder kelp, bull kelp, Hector's dolphin, shellfish (rock lobster, cockle/tuaki, tuatua, horse mussel), worms and crustacea, small red seaweeds, sponges, bryozoans and solitary ascidians.		Wastewater discharges
Biogenic habitats	Invertebrates, seagrass, juvenile tarakihi, blue cod, and lobsters	Trawling and dredging	Dumping of dredge spoil
Deep sub-tidal habitats	Brittle stars, sea stars, gastropods, bivalves, shrimps, hermit crabs, bryozoans, sponges, quill worms, whales, fur seals, seabirds (inc. penguins, sooty shearwaters, albatrosses)		Rising sea temperatures
			Invasive species
			Harvesting of kelp
			Fishing (particularly trawling and dredging)

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Policy Plan Development Programme: 2017-18 year: March 2018														
Project	KEY										8. Make operative			
	0. Project Planning	1. S35 Audit	2. Background information	2A. Consult: values & issues	3. Develop options	3A. Consult: options	4. Develop preferred option	4A. Consult: Preferred option	4B. Consult: Pre-notify iwi	5. Notify, submissions		5A. Further submissions	6. Hearings	6A. Deliberation & decision release
Review of RPS														
RPS												Decision released 1 Oct 2016	Env Court hearing 19-23 Feb 2018	Mid 2018 NB right of appeal to High Court
RPS Indicators Implementation					Mid-late 2018									
Plan Review inputs														
Water: Stormwater						Community consultation Mid 2019		Community consultation Mid 2020		Notify Review of Water Plan Mid 2021				
Water: Waste water														
Plan Changes														
Coast: Discharges						Community consultation Mid 2019		Community consultation Mid 2020		Notify Plan change Coast Plan Mid 2021				
Water: NPSFM Alignment						Jun 2018	S32 Option Assessment Report (draft)		Aug 2018	Notify Plan change Water Plan Oct 2018				
Water: Amendment NES Plantation Forestry														Notify Amendment Water Plan May 2018
Water: Lower Waikaki Aquifer Quality			Science Aquifer quality study 2016-2018	LWIC meeting Jun 2017	LWIC meeting Mar 2018	Mar/May 2018			Jun 2018	Notify Plan change Water Plan Aug 2018				
Water: Kakanui Alluvial	Not commenced		Science Study in progress											

Appendix 2

WATER QUANTITY PLAN CHANGES - timing denotes month of completion of task.

Project	Scoping / Gathering Background Information	Consultation 1 Community values	Identifying surface/ground water values / Science Reports	Social / economic / cultural reports	Developing Options	Consultation 2 Options	Identifying preferred option / develop plan change	Consultation 3 Draft Plan Change	Refining plan change WRT community feedback	Public Notification	Submissions / Hearings	Deliberations / Decision	Appeals / Mediation
Arrow	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Current work						
Cardrona	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed							
Clutha Mata Au	Stage completed	Stage completed	Current work										
Lindis	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Jun/Jul 18
Manuherikia	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed							
Residual Flows	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Stage completed	Current work						

Stage completed
Current work