Draft Regulatory Impact Statement: Proposed amendments to the National Policy Statement for Freshwater Management 2014

Agency Disclosure Statement

This draft Regulatory Impact Statement has been prepared by the Water Directorate, a joint-directorate of the Ministry for the Environment and the Ministry for Primary Industries.

It provides an analysis of options to address issues that have arisen, or have the potential to arise, in the implementation of the National Policy Statement for Freshwater Management 2014, which was first introduced in 2011. It accompanies a discussion document on proposed changes to the Freshwater NPS and an evaluation report prepared under section 32 of the Resource Management Act 1991.

We recognise there are gaps in the analysis of this draft regulatory impact statement and in some instances we are working from incomplete information or are addressing risks that may not have yet borne out.

The analysis for this draft regulatory impact statement has been informed by public consultation on *Next steps for fresh water*, a consultation document released in February 2016 that canvassed many of the issues addressed below. In trying to achieve workable solutions, we have worked with groups of iwi/hapū, regional council officers and/or affected stakeholders to develop many of the proposals presented in this document. At the Government's request, the Land and Water Forum participated closely in the development of several of these proposals. The options relating to Te Mana o te Wai have been developed within the framework of the Government's agreement to work with the Iwi Leaders Forum to address iwi rights and interests in fresh water.

This regulatory impact statement remains in draft form and further analysis, including the evidence gathered in the upcoming round of public consultation, will inform a final regulatory impact statement before the Government makes any final decisions.

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Executive summary

1. The National Policy Statement for Freshwater Management (Freshwater NPS) is the primary regulatory vehicle that provides national direction on freshwater management. Issued under the Resource Management Act 1991 (RMA), it was introduced in 2011 and amended in 2014. Section 67 of the RMA requires regional councils[1] to give effect to the Freshwater NPS through the content of their regional plans. Regional plans, which are also prepared under the RMA framework, provide the regulatory framework for resource use.

2. The impacts of implementing the Freshwater NPS depend on the objectives, policies and rules councils adopt in their regional plans and the extent to which those measures require people to change their resource use practices and over what time. Regional councils must have fully implemented the Freshwater NPS by 2030 and implementation is expected to be complete across the country by 2028.

3. Major stakeholders in freshwater use and freshwater management, including the members of the Land and Water Forum (LAWF),[2] have expressed concern that regional councils are not giving effect to the Freshwater NPS as intended or are not properly reflecting community aspirations in freshwater management.

4. The areas prompting the greatest concern are:

    - How councils should 'maintain or improve' the overall quality of water.
    - When infrastructure might or should be listed in the Freshwater NPS making water bodies affected by the infrastructure eligible for an objective to be set below a national bottom line.
    - The limited direction on the management of nitrogen and phosphorus in terms of providing for the compulsory value of ecosystem health.
    - Whether the lake attributes and national bottom lines for ecosystem health apply to coastal lakes and lagoons.
    - Too many rivers and lakes are not suitable for swimming, and people feel that quality is not improving at all, or not improving fast enough.
    - How councils should provide for Te Mana o te Wai in freshwater management.
    - How councils should consider economic wellbeing when setting freshwater objectives.
    - How councils should monitor ecosystem health, in particular, whether they should use macroinvertebrates as a measure of ecosystem health.

[1] For the purposes of this document 'regional councils' includes unitary councils, which have the functions of both regional councils and city/district councils.

[2] The Land and Water Forum is a collaborative stakeholder group convened in 2009 to advise the Government on freshwater management reform. Its membership includes representatives of iwi/hapū, environmental interests, the primary sector, freshwater scientists, hydroelectricity generators and local government.

5. In March 2016 the Government sought public feedback on some proposals to address the five of these concerns[3] by amending the Freshwater NPS to make its requirements in relation to some of these matters less ambiguous. This draft regulatory impact statement accompanies a discussion document seeking further public comment on amendments proposed for the Freshwater NPS to address all identified concerns.

6. Because the proposed amendments largely clarify the existing intent of the Freshwater NPS, the impacts associated with their implementation are not expected to be vary significantly from those identified in the 2014 regulatory impact analysis that accompanied the most recent amendments to the Freshwater NPS.[4] The main exceptions to this may be the proposals to address concerns about the quality of water for swimming, providing for Te Mana o te Wai in freshwater management and ecosystem health monitoring.

7. The evidence supporting some options is limited, as many regional councils are still early in the process of implementing the Freshwater NPS in their region and changes in water quality as a result of changing resource use may take decades to become evident. The risks identified below are sufficient to consider options for early intervention. Further analysis of proposed amendments, including consideration of any public submissions made, will be used to inform a final regulatory impact statement that will accompany any amendments to the Freshwater NPS.

Status quo and problem definition

8. National direction on freshwater management is primarily provided through the Freshwater NPS, a national policy statement prepared under the RMA framework. The Freshwater NPS sets out objectives and policies that regional councils must give effect to through the content of their regional plans. The Freshwater NPS directs regional councils to manage water in an integrated and sustainable way, while providing for economic growth within water quality and quantity limits.

9. The Freshwater NPS first came into effect in 2011 and was amended in 2014. It requires regional councils to:

    i) Identify the values[5] the community holds for the region's freshwater bodies and establish freshwater objectives[6] and limits[7] to provide for those values.

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[3] Those relating to 'maintain or improve', infrastructure, coastal lakes and lagoons, Te Mana o te Wai and ecosystem health monitoring. See *Next steps for fresh water*: http://www.mfe.govt.nz/publications/fresh-water/next-steps-fresh-water-consultation-document

[4] The regulatory impact statement addressing the 2014 amendments can be found at: http://www.mfe.govt.nz/more/cabinet-papers-and-related-material-search/regulatory-impact-statements/national-policy

[5] Alongside the community's values, e.g. food gathering, regional councils must manage for two compulsory values – ecosystem health and human health for recreation – in all their region's freshwater bodies.

[6] Freshwater objectives are the desired state of the water body. Freshwater objectives are expressed using attributes, e.g. *E.coli*. Attributes for the two compulsory values are set out in Appendix 2 of the Freshwater NPS. A national bottom line is identified in respect of each attribute, below which councils are not permitted to set freshwater objectives, unless Policies CA3 or CA4 apply.

[7] Limits are the maximum amount of resource use available to meet freshwater objectives.

ii) Safeguard the life-supporting capacity, ecosystem processes and indigenous species of fresh water, including their associated ecosystems.

iii) Maintain or improve the overall quality of fresh water within their region.

iv) Avoid over-allocation[8] of freshwater resources, and phase out existing over-allocation. Where there is over-allocation, councils must set targets, including defined timeframes, to transition to sustainable allocation.

v) Establish systems to account for all freshwater takes and contaminants entering freshwater bodies in the region.

vi) Establish systems to monitor the progress towards achieving freshwater objectives.

vii) Manage fresh water, land and the coastal environment in an integrated manner.

viii) Reflect tāngata whenua values in freshwater management and take reasonable steps to include iwi and hapū in freshwater management.

ix) Fully implement the objectives and policies of the Freshwater NPS by 2030.

Implementation of the Freshwater NPS

10. All regional councils have begun the process of giving effect to the Freshwater NPS in their regional plans. Regional councils have discretion about how they implement the Freshwater NPS, and what they prioritise for implementation. Implementation is expected to be complete by 2028[9].

11. The procedural costs of implementing the Freshwater NPS are largely borne by regional councils, though there are participation costs for tāngata whenua, water users and other stakeholders. The costs created by the methods, including regulation, councils adopt to give effect to the Freshwater NPS fall on resource users and ratepayers.

12. The varied approaches to implementing the Freshwater NPS make it difficult to quantify the costs of the status quo for regional councils. The introduction of the national objectives framework in 2014 went some way to standardising approaches to setting freshwater objectives (by requiring councils to use specified attribute tables), but regional councils still have some discretion about how strict the objectives may be, and the timeframes within which they are to be achieved.

13. The regulatory impact analysis accompanying the proposed amendments to the 2011 Freshwater NPS forecast that implementation of the Freshwater NPS would have a

[8] Over-allocation refers both to quantity, i.e. too much water is extracted from a water body, and quality, i.e. too many contaminants are entering a water body.

[9] Based on the progressive implementation programmes of each council, which can be accessed at: http://www.mfe.govt.nz/fresh-water/national-policy-statement/regional-councils-implementation-programmes

medium impact on regional councils, costing them each between $2 million and $100 million to implement. Actual costs will depend on the size of regional councils, the scale of issues affecting their freshwater resources and the timeframe chosen for implementation. Costs may be higher because of some ambiguities and uncertainties in the Freshwater NPS.

14. Uncertainty in the interpretation of the Freshwater NPS increases the likelihood of costly court appeals. These costs might fall largely on one "fast adopting" council or be spread across many councils if they are each facing similar arguments about their interpretations of Freshwater NPS objectives or policies.

15. The varied approaches to implementing the Freshwater NPS makes the participation costs borne by iwi and hapū and stakeholders equally difficult to ascertain. The costs of participation estimated in the regulatory impact analysis accompanying the previous amendments to the Freshwater NPS were relatively low (less than $2 million), but significantly increase if regional plans go through court appeal processes (potentially greater than $100 million).

Issues emerging with implementation

16. Our work and consultation with regional councils, tāngata whenua and stakeholders indicates that there is a level of distrust and dissatisfaction that regional councils are not giving effect to the Freshwater NPS as intended or are not properly reflecting community aspirations in freshwater management. Specifically this means that:

    (i) The requirement of "maintaining or improving the overall quality of fresh water in a region" is being applied in various ways.

    (ii) Infrastructure owners believe they are operating in an uncertain regulatory environment in relation to measures that may be required to meet national bottom lines.

    (iii) Councils are not explicitly managing both nitrogen and phosphorus when setting objectives for periphyton in rivers.

    (iv) Councils are taking different approaches to using the lake quality attributes and national bottom lines for coastal lakes and lagoons.

    (v) The public's desire for swimmable fresh water is not being recognised in regional plans

    (vi) Te Mana o te Wai is not being given sufficient recognition in freshwater planning decisions.

    (vii) There is a risk economic wellbeing is not being adequately considered in freshwater planning decisions (despite existing Freshwater NPS requirements and the RMA).

    (viii) Councils are not taking a consistent approach to measuring the compulsory value of ecosystem health.

17. We recognise the evidence for some of these issues is limited. Nevertheless, failing to address some or all of them has the potential to undermine public confidence in the Freshwater NPS to establish an effective regulatory framework for the management of

New Zealand's freshwater resources. Further analysis, including public consultation, is therefore proposed before any final decisions are made.

18. At this stage, we consider this to be a comprehensive list of emerging problems associated with the implementation of the Freshwater NPS. In such a complex area as freshwater management, further issues with implementation may arise in the future.

Relevant decisions already made

19. In 2015, the Government confirmed five 'bottom lines' to guide the development of options for further freshwater reform and addressing iwi/hapū rights and interests.[10] These are:

    i) no one owns fresh water, including the Crown;

    ii) there will be no generic share of freshwater resources provided for iwi;

    iii) there will be no national settlement of iwi/hapū claims to freshwater resources;

    iv) freshwater resources need to be managed locally on a catchment-by-catchment basis within the national freshwater management framework; and

    v) the next stage of freshwater reform will include national-level tools to provide for iwi/hapū rights and interests.

Progress made in addressing these issues

20. In February 2016, the Government released the *Next steps for fresh water* (*Next steps*) consultation document.[11] Five proposals in the consultation document related to the Freshwater NPS:

    i) Provide further meaning and context of Te Mana o te Wai and explicitly require regional councils to give effect to it while implementing all relevant policies of the Freshwater NPS;

    ii) Require regional councils to monitor macroinvertebrates as a mandatory method of monitoring freshwater ecosystem health;

    iii) Amending Objective A2 so regional councils would be required to maintain or improve overall water quality across a freshwater management unit not their region, and provide direction of how regional councils could demonstrate water quality is – at least – maintained;

    iv) Addressing the impact of national bottom lines on infrastructure; and

[10] Cabinet paper 14-C-02011 refers, see: http://www.mfe.govt.nz/sites/default/files/media/Legislation/Cabinet%20paper/freshwater-reform-next-steps-and-waitangi-discussions.pdf

[11] *Next steps for fresh water* can be located at: http://www.mfe.govt.nz/publications/fresh-water/next-steps-fresh-water-consultation-document

v) The application of water quality lake attributes and national bottom lines to coastal lakes and lagoons.

21. Public consultation on the consultation document took place over two months. The Ministry received 3,966 submissions in total, representing the views of 6,342 people. A series of meetings and hui were also held during the two month consultation period, attended by approximately 1050 people.

22. Additionally, in early 2016 the Government asked LAWF to consider how the Freshwater NPS could address:

    i) Nitrogen as a nutrient

    ii) Monitoring macroinvertebrates

    iii) The public aspiration for swimming

23. One further option, relating to the inadequate provision for economic wellbeing, was not proposed in *Next steps*, nor considered in-depth by LAWF. Consultation has taken place with key stakeholders and relevant iwi authorities.

24. Feedback on each of the issues addressed in this draft regulatory impact statement is discussed in detail in the Options and Impact Analysis section.

Objectives

25. The preamble of the Freshwater NPS sets out the following objectives:

    a. Freshwater management is done in an integrated manner, recognising the links between land, water and the marine environment;

    b. Freshwater resources are managed sustainably to ensure that future generations can benefit from them as well as current resource users. This requires the establishment of clear limits on resource users; and

    c. Freshwater management enables economic development and does not unnecessarily constrain economic activity.

26. In light of these objectives for freshwater management and to address the problems the identified above, the objectives of the proposals that are the subject of this draft regulatory impact analysis are:

    a. to provide public confidence that the Freshwater NPS will establish an effective freshwater management framework; and

    b. the Freshwater NPS appropriately reflects community aspirations for freshwater management.

Options and impact analysis

27. As the Freshwater NPS is the primary regulatory vehicle that establishes a freshwater management framework, other regulatory options, such as legislative reform or establishing new policy instruments have not been considered. This is to avoid a

piecemeal approach to providing national direction and create unnecessary confusion for councils, tāngata whenua and stakeholders. It is intended that the options retain the appropriate level of discretion for regional councils to make freshwater management decisions with their communities that recognise local environmental conditions, social, cultural and economic values and aspirations.

28. The following analyses have been made on the basis that regional councils will give full effect to the provisions of the Freshwater NPS. If a regional council fails to properly give effect to a national policy statement in its regional plans, the RMA provides these intervention options to the Minister for the Environment:

    i) Ministerial consultation and submissions on plan changes;

    ii) Ministerial power to investigate the performance by a local authority of any of its duties under the RMA;

    iii) Ministerial power to direct a review of a regional plan; and

    iv) For matters of national significance under Part 6AA of the RMA, ministerial power to appoint project coordinators or commissioners to assist the council or a hearing panel.

29. While relying on these intervention options could ultimately reduce inconsistencies in approaches taken by regional councils, they are significant and often costly interventions and would not minimise effort across all parties. Instead, they would likely cause significant costs and delays.

30. Below are analyses of each of the issues identified above and options to address those issues. Each provides detail of the status quo, the problem relating to the status quo, options to address the problem, consultation already undertaken to develop options, the impacts of the options and the effectiveness of those options.

Overall water quality is maintained or improved

Status quo

31. Objective A2 of the Freshwater NPS directs regional councils to maintain or improve the overall water quality in their region. Objective A2 was included in the Freshwater NPS in 2011 and was not amended in 2014.

32. The 2014 amendments to the Freshwater NPS require regional councils to set freshwater management units (FMUs), which can comprise a water body, part of a water body, groups of water bodies or any combination of these options. FMUs are the scale at which regional councils manage freshwater resources. Councils have generally set FMUs at catchment or sub-catchment level, though there are exceptions to this such as groups of several small coastal catchments grouped together as one FMU.

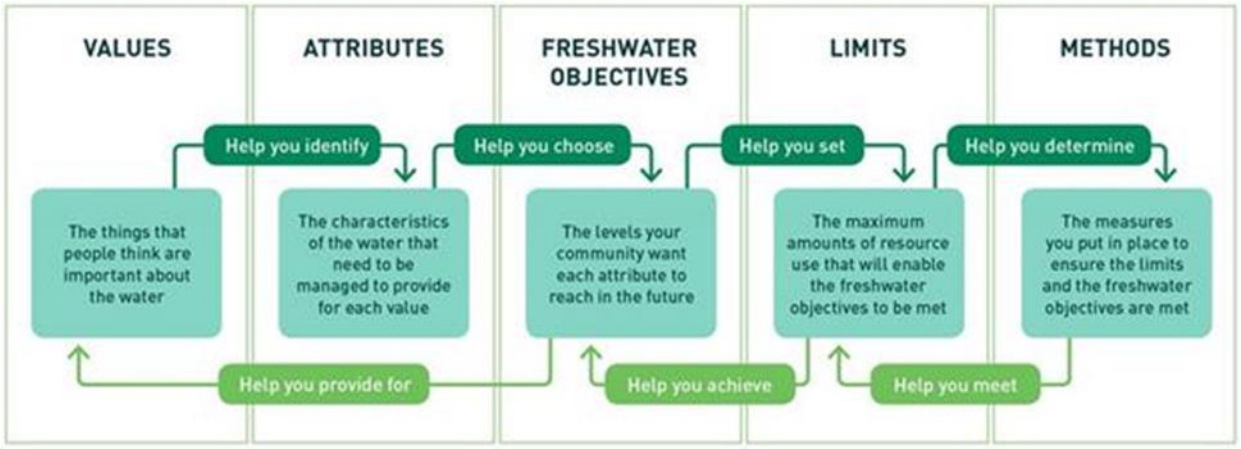
33. Within these FMUs, councils are required to:

i) identify the values the community holds for the water body or bodies that comprise the FMU[12];

ii) establish freshwater objectives – the intended state of the water body or bodies to provide for those values. Freshwater objectives are expressed using attributes, e.g. *E.coli*[13]; and

iii) establish limits on resource use to ensure the freshwater objectives are met.

34. This process is illustrated in the below diagram:



35. Directing councils to maintain or improve overall water quality within a region provides councils and their communities with some level of flexibility when establishing freshwater objectives and limits in their region. When Objective A2 was adopted, the Freshwater NPS did not require councils to manage water within an FMU, and did not require councils to set objectives using the water quality attributes in Appendix 2.

Problem statement

36. The Freshwater NPS is silent on how councils can demonstrate water quality is at least 'maintained', creating a risk of inconsistent approaches and increasing the chances of litigation.

Options

Option A: Guidance

37. The Water Directorate would produce guidance, clarifying the intent of Objective A2 and providing direction on using the flexibility available to them under the status quo, e.g. setting FMUs at appropriate scales, representative monitoring and setting freshwater objectives.

Option B: Amend the Freshwater NPS to clarify intent of Objective A2

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[12] As noted above, this must include the two compulsory values – ecosystem health and human health for recreation.

[13] Attributes for the two compulsory values are described in Appendix 2 of the Freshwater NPS. Bands are used to express an attribute state, from A band, which describes natural or near natural state, through to D band, which describes an unacceptable state.

38. Amend the Freshwater NPS to clarify that:

    i) Objective A2 applies within a FMU, rather than a region; and

    ii) Insert additional policies within Policy CA2 that specify minimum requirements for freshwater objectives intended to 'maintain' overall water quality in terms of Objective A2 – specifically, that they must be:

        (1) within the same attribute band as existing water quality (where attribute bands have been defined), referred to as the 'bands test'; or

        (2) so that the values identified for the FMU will not be worse off when compared to existing water quality (where attribute bands have not been defined), referred to as the 'values test'.

Consultation

39. *Next steps* proposed amending the Freshwater NPS as per Option B.

40. There was broad support from submitters for clarifying that overall water quality needs to be at least maintained at the FMU scale.

41. There was some support for using the bands to provide some flexibility (including from LAWF and the Parliamentary Commissioner for the Environment), although some submitters were concerned this approach could allow degradation in water quality due to the size of the bands. These submitters were concerned that councils would permit water bodies with current water quality near the top of a band to degrade to the bottom of the band. There is no evidence to demonstrate that councils would allow this to happen.

42. Those who opposed this proposal generally wanted water quality at least maintained at its current state, and were opposed to any level of flexibility.

43. About a fifth of submissions, including LAWF, were in favour of the second part of the proposal.

Impacts

44. Both options clarify the intent of Objective A2. As such, there are no new impacts associated with either option when compared to the 2014 regulatory impact analysis accompanying previous amendments to the Freshwater NPS. Costs associated with the legal uncertainty caused by the current drafting are likely to be reduced.

45. Currently, Objective A2 creates a minimum requirement and a starting point for setting freshwater objectives, but can be superseded by other requirements. This amendment will not affect that. Regional councils still have to comply with all obligations under the RMA (including those in national policy statements of national environmental standards) and other legislation, which can create additional requirements (and impacts) over and above Objective A2. This is also true of other objectives or policies within the Freshwater NPS – in particular, proposed amendments that will require improvement (not maintenance) of water quality in terms of swimming are likely to create additional impacts over and above Objective A2.

46. No regional councils have attempted to give effect to Objective A2 in a manner that is inconsistent with its intent (as clarified by both options). Therefore there are no impacts

on councils having to reconsider objectives, policies or rules that give effect to Objective A2 in an inconsistent manner with the proposals contained in Option B.

47. No unintended consequences have yet been identified but may be uncovered through further consultation and analysis.

Effectiveness

Option A

48. Guidance can be an effective means of explaining the intent of regulation but it does not hold any regulatory weight. Communities could lobby councils to trade off improvements and degradations within a region in a way that would be contrary to the intent of Objective A2. Not addressing the ambiguity in Objective A2 would mean the litigation risk for councils would remain high. Councils may therefore constrain themselves and adopt objectives that do not provide the level of flexibility originally intended.

Option B

49. Clarifying the intent of Objective A2 in the Freshwater NPS itself would address the problem. Regional councils and communities would be given clarity about how they could demonstrate water quality is at least maintained, significantly reducing the litigation risk they face. Consistent application and greater clarity in how Objective A2 is given effect is likely to improve public confidence in the Freshwater NPS as an effective instrument establishing a clear framework for freshwater management in New Zealand.

50. As per the objectives of the Freshwater NPS, Option B will provide councils more certainty to ensure they are able to manage fresh water in an integrated and sustainable manner, while providing for economic growth within environmental limits.

Addressing the impact of national bottom lines on infrastructure

Status quo

51. The Freshwater NPS requires regional councils to establish freshwater objectives to provide for community values in their freshwater bodies, e.g. *E.coli* objectives are set to provide for a community's recreational values in a river or lake. For the two compulsory values – ecosystem health and human health for recreation – the Freshwater NPS provides water quality attributes with national bottom lines. Regional councils must not set freshwater objectives below these bottom lines unless the provisions of Policies CA3 or CA4[14] apply.

52. Policy CA3 allows regional councils to set freshwater objectives below national bottom lines if current water quality is below national bottom lines and:

    i) Is caused by naturally occurring processes; or

    ii) Infrastructure, which is listed in Appendix 3 of the Freshwater NPS, contributes to current water quality.

[14] Policy CA4 relates to transitional freshwater objectives and is not affected by this proposal.

53. Clause ii was introduced to provide an opportunity for regional councils and their communities to balance the benefits of environmental safeguards with the benefits provided by infrastructure, such as renewable electricity production or economic activity.

54. Appendix 3 is currently empty, meaning that no regional councils can consider setting freshwater objectives below national bottom lines in water bodies where water quality is affected by the presence of infrastructure.

Problem statement

55. There is uncertainty for communities and infrastructure owners about what matters a regional council might choose to consider when making the decision to set an objective below a national bottom line. Specifically:

    i) Freshwater objectives could be set below national bottom lines regardless of the age or significance of the infrastructure;

    ii) It is not clear that regional councils can only set freshwater objectives below national bottom lines for those attributes where the existing water quality is below national bottom lines;

    iii) Freshwater objectives could be set below national bottom lines in circumstances where setting freshwater objectives at or above national bottom lines would not reasonably impede the operation of the relevant infrastructure; and

    iv) Freshwater objectives could be set below national bottom lines in parts of an FMU where the infrastructure does not contribute to existing water quality.

Options

Option A: Guidance

56. Guidance about the scope of Policy CA3 could provide examples of circumstances where freshwater objectives could be set below national bottom lines. These could include the circumstances identified in the problem statement above.

Option B: Amendments to the Freshwater NPS

57. Policy CA3 of the Freshwater NPS could be amended to clarify that:

    i) It only applies to significant infrastructure that was operational prior to 1 August 2014[15];

    ii) Regional councils can only set freshwater objectives below national bottom lines for attributes that are currently below national bottom lines;

[15] This is the date that Policy CA3 came into force, which included a reference to existing infrastructure (emphasis added).

iii) Regional councils can only set freshwater objectives below national bottom lines if it is reasonably necessary for the realisation of the benefits provided by the infrastructure; and

iv) Regional councils can only set freshwater objectives below national bottom lines in a water body, multiple water bodies or any part of a water body where water quality is affected by the infrastructure.

Consultation

58. *Next steps* proposed further guidance for councils and infrastructure owners who want infrastructure listed in Appendix 3. The proposal contained an indicative list of evidential requirements applicants would have to provide in order for the Government to consider listing infrastructure in Appendix 3.

59. Submissions from infrastructure owners raised concerns about the evidential burden that is placed on applicants by the proposal. Many other submitters raised concerns about the potential broad ambit of Policy CA3 and requested its ambit be limited.

60. Following the *Next steps* consultation, officials from the Water Directorate convened a working group with officials from the Ministry for Business, Innovation and Employment and representatives of hydroelectricity generators and regional councils where major infrastructure is located. This working group helped develop the proposals to clarify the ambit of Policy CA3 in relation to infrastructure.

Impacts

61. These options do not propose listing infrastructure in Appendix 3 of the Freshwater NPS, meaning that the provisions of Policy CA3 relating to infrastructure cannot be triggered. As such, there are no new impacts associated with either option.

62. It is possible that further clarification of the scope of Policy CA3 might increase the chances of listing infrastructure in Appendix 3 in the future. Predicting what infrastructure might be listed in Appendix 3 is difficult, as any such listing would require a regional council or infrastructure owner to indicate interest in listing infrastructure in Appendix 3 and ministerial approval for such a listing. As the listing would require an amendment to the Freshwater NPS it would be subject to the consultation requirements set out in the RMA for amending a national policy statement.

63. New Zealand generates more than half its electricity from hydro-electric power schemes and hydro-electricity is critical to achieving the goal of 90% renewable electricity by 2025. As such, it is possible that in the future the Minister for the Environment might wish to proposed listing some infrastructure associated with hydro-electricity generation schemes in Appendix 3. The six largest schemes contribute approximately 89% of the electricity generated but to date no evidence has provided to demonstrate the schemes are contributing to water quality that is below national bottom lines, nor have any regional councils expressed an interest in listing infrastructure in Appendix 3.

64. The economic impacts of listing infrastructure in Appendix 3 are difficult to estimate, as they will vary depending on what infrastructure is subject to a listing. Such economic impact analysis will need to accompany any proposal to list infrastructure in Appendix 3, which would be the subject of another regulatory impact analysis.

65. In order to illustrate the nature and scale of possible impacts on infrastructure, analysis modelled hypothetical changes to hydro scheme operations aimed at improving water quality – such as changes to minimum flows. Modelling indicated that constraints on hydro generation activities (e.g. to meet a national bottom line) can increase the cost of generating electricity, increase the cost of electricity for consumers, reduce revenue for infrastructure operators, create additional fuel, capital and operating costs for replacement generation, and increase CO^2 emissions. A report outlining the results is available on the Ministry for the Environment's website.[16]

66. It is important to note that listing infrastructure in Appendix 3 does not mean a freshwater objective will be set below national bottom lines, as this will remain the discretion of regional councils. If a regional councils elects to set a freshwater objective at or above a national bottom line in spite of a listing in Appendix 3, the impacts of national bottom lines as identified in the regulatory impact statement accompanying the 2014 amendments to the Freshwater NPS remain valid.

67. Further clarity about the scope and effect of Policy CA3 will reduce uncertainty costs for regional councils and infrastructure owners that might want to have infrastructure listed in Appendix 3.

68. No unintended consequences have yet been identified but may be uncovered through further consultation and analysis.

Effectiveness

Option A

69. Guidance is an effective means of clarifying the intent of regulation but it does not hold regulatory weight. Regional councils would not be constrained from pursuing policies, objectives or rules that are contrary to the intent of Policy CA3, should the Government elect to list infrastructure in Appendix 3 in the future.

Option B

70. Clarifying the intent of Policy CA3 in relation to infrastructure through amendments to the Freshwater NPS would provide regional councils and infrastructure owners with certainty about the scope of possibilities should the Government elect to list infrastructure in Appendix 3 in the future.

71. By clarifying the scope of Policy CA3, Option B would provide councils and infrastructure owners more certainty to ensure they are able to manage fresh water in an integrated and sustainable manner, while providing for economic growth within environmental limits.

Addressing nitrogen and phosphorus

Status quo

[16] http://www.mfe.govt.nz/publications/fresh-water/assessment-of-impact-of-flow-alterations-electricity-generation Note that none of the modelled scenarios are have been proposed by the relevant regional councils. These hypothetical changes to hydro scheme operations are only used to illustrate the nature and scale of potential impacts, where exceptions to national bottom lines are not available but would otherwise be used and are not exhaustive.

72. High levels of nitrogen and phosphorus in rivers can promote aquatic plant growth, such as periphyton. In large quantities, aquatic plants can have negative consequences on freshwater ecosystems, such as smothering the bed or reducing oxygen levels. Nitrogen itself can be toxic to animals and humans in very high concentrations.

73. The Freshwater NPS requires councils to adopt limits to achieve specific periphyton objectives in rivers. In practice, this requires limits for both nitrogen and phosphorus.

74. Other factors also influence periphyton abundance, notably flow rates, shading, temperature and bed substrates. While managing any of these factors can have an effect on periphyton abundance, limiting the inputs of nutrients is a particularly effective way regional councils can manage periphyton.[17]

75. Approximately 75% of rivers in New Zealand are able to support the growth of periphyton.

76. Dissolved inorganic nitrogen (DIN) and dissolved reactive phosphorus (DRP) are measures of the nitrogen and phosphorus that are available for aquatic plant growth.

Problem statement

77. Regional councils are expected to manage nitrogen and phosphorous concentration when managing FMUs to achieve for periphyton objectives. However, there is no explicit direction to councils that they must manage DIN and DRP when doing so.

78. Feedback from the public and LAWF indicates they are not confident regional councils will manage nutrients. There is a perceived risk that councils will not manage DIN and DRP, leading to ineffective management of problematic plant growths that could negatively affect freshwater ecosystem health.

Options

Option A: Amend the Freshwater NPS to require councils to set in-stream concentrations for DIN and DRP

79. The Freshwater NPS would be amended to clarify that regional councils:

- Must set in-stream concentrations for DIN and DRP when managing for the periphyton attribute, managing for them in the same way they do other freshwater objectives; and
- Consider downstream environments when setting maximum DIN and DRP concentrations.

Option B: Amend the Freshwater NPS to include attribute tables for DIN and DRP

[17] Under the RMA, a regional council has limited ability to require improvements in shading or flows, or alter bed substrates unless this is required to avoid, remedy or mitigate the effects directly associated with a resource use. In many cases the only effective mitigation is to limit nutrient inputs from future resource use, and in the context of the Freshwater NPS nutrient management is the 'best fit' with limit setting.

80. The Freshwater NPS could be amended to include attribute tables for DIN and DRP, which regional councils would be required to use to set freshwater objectives when managing for the ecosystem health value.

81. These attribute tables could be similar to those already in Appendix 2 of the Freshwater NPS, setting out acceptable levels of DIN and DRP in water bodies and defining a national bottom line, below which are unacceptable levels of DIN and DRP.

Consultation

82. There was no proposal in *Next steps* about providing specific direction in the Freshwater NPS to manage DIN and DRP in order to manage periphyton. However, many submitters called for specific direction on managing nitrogen and phosphorus in the Freshwater NPS.

83. In early 2016 the Government asked LAWF to consider how the Freshwater NPS should address nitrogen as a nutrient, and in July 2016 the Minister for the Environment sought further comments from iwi, councils and other relevant stakeholders.

84. LAWF recommended an approach similar to Option A. It recommended amending the Freshwater NPS to require regional councils to establish in-stream concentrations of DIN and DRP when managing for all problematic aquatic plant types.[18]

Impacts

85. Clarifying that regional councils must manage both DIN and DRP when setting limits for periphyton confirms the existing intent of the Freshwater NPS, and is consistent with the approach taken by most councils to date. As such, it will reduce the risk of litigation, but could remove choices for councils who may have considered taking a different approach to managing periphyton.

86. As a result, implementation costs could increase for resource users and councils though we consider these costs are necessary to implement the current intent of the Freshwater NPS, in particular the requirement to set limits to manage for periphyton. A 2013 study of the Hinds Catchment in Canterbury, which informed the analysis undertaken in the regulatory impact analysis accompanying the previous amendments to the Freshwater NPS, modelled a variety of policy settings to manage nutrients, estimating the impact on net farm revenue would vary from -4% to -31% depending on the policy setting chosen.[19]

87. LAWF recommended that the Government should work with councils to prepare guidance on a process for establishing DIN and DRP concentrations in rivers. The costs of preparing a nutrient setting decision-support system for all river types in New Zealand would fall on both central and local government, but is part of the necessary support needed to improve water management generally, and is budgeted for within the implementation programme.

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[18] The Freshwater NPS addresses problematic plant growth in lakes by requiring councils to use water quality attributes for total nitrogen, total phosphorus and phytoplankton.

[19] The study can be accessed at: http://www.mfe.govt.nz/publications/fresh-water/modelling-economic-impacts-nutrient-allocation-policies-canterbury-hinds

88. LAWF also recommended clarifying that in water bodies where there is potential for problematic aquatic plant growth, the nitrate toxicity national bottom line is not applicable (because the national bottom line for periphyton is more conservative). We propose to make this clarification only in terms of rivers where there is potential for problematic periphyton growth (approximately 75% of rivers). For other water bodies, in particular water bodies that grow phytoplankton or emergent plants, the nitrate toxicity national bottom line is still appropriate, and we believe it should be retained.

89. Further clarity about the scope and effect of managing for periphyton will reduce uncertainty costs for regional councils and stakeholders as they manage for periphyton in their region.

90. No unintended consequences have yet been identified but may be uncovered through further consultation and analysis.

Effectiveness

Option A

91. Clarifying that councils must manage DIN and DRP provides regional councils and resource users certainty about what is required when they set objectives for periphyton to give effect to the Freshwater NPS.

92. This option will provide councils more certainty to ensure they are able to manage fresh water in an integrated and sustainable manner, while providing for economic growth within environmental limits.

Option B

93. Analysis done by officials and LAWF indicates that attribute tables for DIN and DRP would be overly complex to include in national regulation and unlikely to be scientifically defensible. As such, further analysis has not been undertaken.

Coastal lakes and lagoons

Status quo

94. Intermittently closing and opening coastal lakes and lagoons (ICOLLs) are coastal lakes and lagoons that are opened to the sea generally to reduce flooding, but also for other reasons such as to allow access to the sea for migratory species like eels. New Zealand has seven large ICOLLs – six in the South Island and Te Whanga Lagoon on Chatham Island that are managed as fresh water. Some ICOLLs, such as Lake Onoke in Wairarapa, are maintained as open coastal lagoons and managed as coastal water so are not subject to the Freshwater NPS requirements.

95. The Freshwater NPS applies to all fresh water, whether it is in an aquifer, river, wetland or lake.

Problem statement

96. It is currently unclear whether the lake attributes in Appendix 2 of the Freshwater NPS apply to ICOLLs. This ambiguity has arisen as a result of a footnote to the total nitrogen attribute for lakes.

Options

Option A: Guidance

97. The Ministry for the Environment published a technical report about appropriate attributes for ICOLLs in March 2016. This report could be supplemented with guidance about how to use the attributes when setting objectives for ICOLLs, including that the lakes attributes in Appendix 2 of the Freshwater NPS do apply to ICOLLs.

Option B: Amend the Freshwater NPS

98. The footnote to the Total Nitrogen lakes attribute could be removed from the Freshwater NPS, making it clear that lakes attributes do apply to ICOLLs. This would necessitate adding some clarification about the sampling regime for monitoring those attributes.

Consultation

99. *Next steps* proposed amending the Freshwater NPS to clarify that lake attributes apply to ICOLLs. There was strong support for this proposal.

Impacts

100. Both options clarify the existing intent of the Freshwater NPS. As such, there are no new impacts associated with either option. Clarifying that lake attributes do apply to ICOLLs will reduce uncertainty costs for regional councils and stakeholders.

101. Implementation costs associated with meeting the bottom lines in the lakes attributes might be perceived to increase, especially in any council that did not consider the lakes attributes applied to ICOLLs.

102. Evidence about current water quality suggests that New Zealand's ICOLLs will be able to meet the national bottom lines, with the exception of Te Waihora/Lake Ellesmere in Canterbury.

103. Environment Canterbury strongly opposed this proposal in their submission to *Next steps* because coastal lakes in Canterbury have been degraded by previous land uses and it is unlikely that the national bottom lines could be achieved in the foreseeable future. Environment Canterbury said this applied particularly to Ellesmere/Te Waihora, where agreements have been made with affected communities to establish an ongoing inter-generational programme of work with targets out to 2035 and beyond.

104. The plan change to give effect to the Freshwater NPS (adopted in February 2016) would improve water quality for Ellesmere/Te Waihora, but not to a level that meets the national bottom lines for nutrients. Environment Canterbury did not quantify the costs of what would be needed to achieve the national bottom lines for Te Waihora because their assessment showed that there are no feasible means of improving water quality to that extent.

105. This proposal removes ambiguity and so reduces the potential for debate and litigation. But removing the ambiguity would have significant impacts when the national bottom lines are applied to Ellesmere/Te Waihora. Provisions in the operative plan for Ellesmere/Te Waihora were developed and agreed on the council's understanding that the lake attributes do not apply to ICOLLs.

106. Environment Canterbury is required to evaluate the effectiveness of its current approach in 2021. At that time, the governance partners for Te Waihora (Environment Canterbury, Te Rūnanga o Ngāi Tahu and Selwyn District Council) will have better information to determine if their assumptions about the difficulty of improving the water quality in the lake still apply, and whether the costs are as prohibitive as they currently appear to be.

107. If evidence demonstrates that is still not possible to improve water quality in Ellesmere/Te Waihora, the governance partners may seek to have Ellesmere/Te Waihora listed in Appendix 4 of the Freshwater NPS, enabling the creation of a transitional objective below a national bottom line. This would be within the 2025 deadline to fully implement the Freshwater NPS (or 2030 if it is impracticable to complete implementation by 2025), and would allow the current approach to continue with no new impacts.

108. At the end of that transitional period, the governance partners can review the situation and if necessary, apply for another transitional period where an objective below the national bottom line could apply. The Government has discretion over the period a transitional objective can apply.

109. No unintended consequences have yet been identified but may be uncovered through further consultation and analysis.

Effectiveness

110. Guidance can be an effective means of clarifying the intent of regulation but it does not hold regulatory weight so uncertainty about the application of the lakes attributes to ICOLLs could remain.

111. Removing the footnote that has created the uncertainty would effectively demonstrate the lakes attributes apply to ICOLLs, enabling councils to manage fresh water in an integrated and sustainable manner, while providing for economic growth within environmental limits.

Suitability of lakes and rivers for swimming

Status quo

112. The Freshwater NPS requires councils to safeguard the health of people and communities “at least as affected by ‘secondary contact’ with fresh water”. The Freshwater NPS defines secondary contact as “contact with freshwater that involves only occasional immersion and includes wading and boating (except boating where there is a high likelihood of immersion)”.

113. Regional councils are required to develop policies, plans and rules to provide for community values in their water bodies, including their recreational values.

114. Additionally, councils are required to at least maintain or improve water quality (subject to amendment itself, as discussed above), meaning that water quality that is already suitable for swimming cannot degrade, unless there is a commensurate improvement in water quality elsewhere.

115. If a water body is suitable only for secondary contact, regional councils are not required to improve the quality of the water for swimming unless the community values that water body for swimming.

116. The current policy settings have created a public perception that councils need only aim for rivers and lakes to be of a sufficient quality that protects people's health when boating or wading. Moreover, public feedback indicates there is a strong desire to have swimming as the bottom line for water quality, not secondary contact.

Problem statement

117. Public confidence in the Freshwater NPS is undermined by the perception that its current settings will not lead to improvements in water quality to meet a swimmable standard. Moreover, there is a strong desire to have swimming as the bottom line for water quality, not wading.

Options

Option A: Guidance

118. Guidance could be developed to promote the intent of the Freshwater NPS and clearly state the requirements of the Freshwater NPS with regard to swimming. This guidance could include:

- information to communities about the existing suitability of water for swimming so they can have a clear understanding of where improvements should be prioritised and the implications of making those improvements; and
- the expectations that councils will work towards swimmable water quality where the community has indicated it values swimming.

119. This guidance could be located in the preamble of the Freshwater NPS.

Option B: Amend the Freshwater NPS

120. The Freshwater NPS could be amended in the following ways:

- All references to 'secondary contact' could be deleted, including its definition;
- Insert an objective to require councils to improve water quality in large lakes and rivers so they are suitable for swimming more often;
- Insert a new policy requiring councils to identify which large lakes and rivers are suitable for swimming now, and which will be improved so that they are suitable for swimming in the future, and specify timeframes;
- Require councils to consider swimming when they develop objectives and limits;
- Require councils to monitor water quality for the purposes of demonstrating how often water quality based on *E.coli* is suitable for swimming; and
- Replace the current *E.coli* attribute table with a table with bands that vary according to the amount of time the water quality is swimmable.

Consultation

121. *Next steps* did not contain proposals relating Objective A1 but 55% of total submissions requested a change to the national bottom line for human health from secondary contact (such as boating and wading) to primary contact (such as swimming and kayaking).

122. Subsequently, consultation has taken place with key stakeholders and relevant iwi authorities seeking their views on how amendments to the Freshwater NPS could address the issue of swimming.

123. The Iwi Leaders Group has consistently expressed the view that we should at least aim for lakes and rivers to be suitable for swimming, even as a long-term aspiration.

Impacts

Option A

124. Option A attempts to clarify the existing intent of the Freshwater NPS. As such, it does not introduce any impacts that have not been defined in previous regulatory impact analyses accompanying the introduction or amendments to the Freshwater NPS. Clarifying that regional councils must manage for the community's recreational values will reduce uncertainty costs for regional councils and stakeholders.

Option B

125. Option B requires action from regional councils beyond what is required by the current Freshwater NPS. As such, it creates new impacts, including:

    - The costs associated with improving the water quality of large rivers and lakes where the water quality is not currently swimmable for long periods.
        - Currently, regional councils are permitted to maintain the current water quality, in respect of *E.coli*, in these water bodies (as long as the water quality is not below a wadeable standard and the councils can show that maintaining the quality is providing for the community's values in those water bodies). Regional councils will now be required to improve the quality of these water bodies so they are swimmable more often. These costs will be borne primarily by regional and district councils and landowners.
        - Smaller district councils are concerned they will be face significant costs to improve sewerage treatment plants and stormwater infrastructure. There are already significant social and cultural pressures to remove sewerage discharges from water and upgrade stormwater infrastructure and are costs that cannot be entirely attributed to this proposal.
        - There is no set timeframe in which to demonstrate these improvements, potentially meaning these costs can be spread out.
        - Further analysis and consideration of submissions is required to quantify these costs. Through 2017, officials from the Water Directorate will work with regional councils to ascertain the costs of improving freshwater quality in order for rivers and lakes to be suitable for swimming more often. Following consultation, modelling of the costs associated with this option is planned prior to the Government making any final decisions.

- The costs associated with monitoring for the purposes of demonstrating how often water quality meets a swimmable standard will be a new costs for regional councils to bear. Additional work is needed to determine whether current monitoring practices are sufficient, and if not, assess any additional costs for regional councils.

- Replacing the current *E.coli* table with a table with bands that vary according to how often a water body is suitable for swimming removes the bottom line for *E.coli*. Regional councils will still be required to set objectives for *E.coli* across their regions because "human health for recreation" is a compulsory value in the Freshwater NPS. The current state will effectively be the "bottom line" for all rivers and lakes, and in large rivers and lakes maintaining that level will not be sufficient.

126. No unintended consequences have yet been identified with either option but may be uncovered through further consultation and analysis.

Effectiveness

127. Guidance does not hold regulatory weight, even if it is located in the preamble to Freshwater NPS, so Option A might not adequately address the public's perception that the Freshwater NPS only protects water bodies for the purposes of secondary contact. Further, Option A will not address the public's desire to improve the quality of fresh water so that it meets a swimmable standard.

128. Option B will more effectively address the poor public perception of the Freshwater NPS as it will ensure that water quality improves towards a swimmable standard. This will enable regional councils to manage fresh water in an integrated and sustainable manner, while providing for economic growth within environmental limits.

Economic wellbeing

Status quo

129. The Freshwater NPS requires councils to improve and maximise the efficient use of fresh water (in respect of water quantity) and to consider economic implications when identifying community values for freshwater bodies, establishing freshwater objectives to provide for those values, and setting limits to ensure those freshwater objectives are met.

130. There is a risk that the current direction is not sufficient to ensure that discussions about the community's economic wellbeing happen before councils set limits to achieve freshwater quality objectives.

131. Some of the other proposed amendments might heighten this risk and tip the balance further towards environmental protection at the cost of economic development. This may result in constraints on potential future economic uses of the water resource.

Problem statement

132. There is a risk that there is insufficient consideration of a community's economic wellbeing when limits and freshwater objectives are set, resulting in constraints on future economic uses of fresh water.

133. There is a limited evidence base showing this risk playing out but the potential impacts, such as lost regional economic activity, if the risk does eventuate could be high.

Options

Option A: Guidance

134. The Water Directorate could prepare guidance to emphasise that regional councils must consider implications for economic wellbeing before they establish limits to meet freshwater objectives.

Option B: Amend the Freshwater NPS

135. The Freshwater NPS could be amended to make clear that regional councils must:

    i) consider people's economic wellbeing and opportunity before making decisions about water quantity and where water quality will be improved; and

    ii) Consider economic wellbeing when setting freshwater objectives.

Consultation

136. Consultation was not undertaken on this issue in the consultation on the *Next steps* discussion document.

137. In July 2016 the Minister for the Environment asked LAWF, regional councils and relevant iwi authorities whether there should be more consideration of economic factors in freshwater planning decisions. Most respondents indicated that more detail is required before a position could be presented.

Impacts

Option A

138. Option A does not propose any change to the Freshwater NPS. As such, it would not result in any new regulatory impacts. Status quo with targeted guidance could address the risk identified of regional councils giving insufficient consideration to community economic wellbeing.

Option B

139. Option B would require regional councils and their communities to give greater consideration to economic wellbeing when establishing freshwater objectives and could result in opportunities for growth taking precedence over opportunities to improve water quality.

140. It is not clear what impact Option B could have. The Freshwater NPS already requires regional councils to consider the economic implications (which could be defined to include economic wellbeing) at all relevant points of the limit-setting process.

141. Further analysis plus consultation is required to assess the likely impacts of amending the Freshwater NPS as per Option B.

Effectiveness

142. Further analysis and consultation is necessary to ascertain the effectiveness of either option.

Te Mana o te Wai

Status quo

143. Te Mana o te Wai is a concept for fresh water that encompasses the integrated and holistic health and well-being of a water body.

144. References to Te Mana o te Wai were introduced into the preamble and in a statement sitting above the objectives and policies at the start of the of the Freshwater NPS in 2014. The statement states the Freshwater NPS is about *"recognising … Te Mana o te Wai"* and that *"a range of community and tāngata whenua values … may collectively recognise … Te Mana o te Wai"*.

145. The Government and the Iwi Leaders Group have agreed to develop a range of mechanisms to give effect to iwi/hapū values in order to maintain or improve freshwater quality. This agreement is part of the collaboration between the Government and the Iwi Leaders Group to provide for iwi/hapū rights in fresh water.

Problem statement

146. Feedback from councils, iwi and hapū and other stakeholders indicates the meaning of Te Mana o te Wai is unclear, and the direction it provides to councils is uncertain. This lack of clarity and direction creates a risk that Te Mana o te Wai is being given insufficient recognition in freshwater planning decisions.

Options

Option A: Guidance

147. The Water Directorate could produce guidance that:

    i) clarifies the meaning of Te Mana o te Wai and its status in the Freshwater NPS;

    ii) outlines the best practice approach to recognising Te Mana o te Wai in freshwater management under the Freshwater NPS; and

    iii) outlines how to successfully integrate this into regional planning

Option B: Amend the Freshwater NPS

148. The Freshwater NPS could be amended to:

    i) move the section "National significance of fresh water and Te Mana o te Wai" to the body of Freshwater NPS under "Commencement";

    ii) include the text used in *Next steps* to describe Te Mana o te Wai (with some changes) in the section "National significance of fresh water and Te Mana o te Wai";

    iii) add a new objective requiring councils to consider and recognise Te Mana o te Wai in the management of fresh water;

iv) add a new policy directing councils to consider and recognise Te Mana o te Wai when making or changing regional policy statements and plans, while noting the connection between fresh water and the broader environment and the need to inform the setting of freshwater objectives and limits through engagement with the community, including tangata whenua;

v) clarify within Policy CA2 how councils are to consider and recognise Te Mana o te Wai in the objective setting process;

vi) add a requirement to recognise the interactions, ki uta ki tai (from the mountains to the sea) between fresh water, land, associated ecosystems, and the coastal environment;

vii) amend Policy CB1(ba) to include mātauranga Māori as an established monitoring method that is appropriate for monitoring progress towards, and the achievement of, freshwater objectives that are set in line with the concept of Te Mana o te Wai;

viii) amend the names and order of the national values in Appendix 1 of the Freshwater NPS so they can more easily be linked to Te Mana o te Wai by associating each value with te hauora o te wai (health of the water), te hauora o te taiao (health of the environment), and te hauora o te tangata (health of the people);

ix) amend the description of the compulsory value "human health for recreation" so that it removes the emphasis on boating and wading and provides a more positive explanation of what a healthy water body means for human health; and

x) amend the description of the additional value "natural form and character" so that it provides clearer links to Te Mana o te Wai.

Consultation

149. *Next steps* proposed the introduction of a purpose statement in the Freshwater NPS to provide context about the meaning of Te Mana o te Wai. *Next steps* also proposed that councils would have to demonstrate how they had used Te Mana o te Wai as a platform for community discussions on freshwater management.

150. Feedback on the proposals in *Next steps* was generally positive though a significant number of individuals who interpreted Te Mana o te Wai as being Māori-centric were opposed to affording iwi/hapū rights or interests in fresh water. A common observation of those in support was that council engagement with iwi and hapū is necessary to ensure that Te Mana o te Wai is implemented in a way that is meaningful to the whole community and is used in discussions about freshwater management.

151. Since the *Next steps* consultation, the Iwi Advisors Group[20] has engaged with LAWF and officials to clarify how they see the concept of Te Mana o te Wai being applied by communities.

[20] A group of technical experts who advise the Freshwater Iwi Leaders Group

152. The Government and the Iwi Advisors Group worked together to further develop the proposed amendments and have reached agreement as presented in Option B.

Impacts

Option A

153. Guidance attempts to clarify the existing intent of the Freshwater NPS. As such, the new impacts are minimal.

154. There will be costs associated with the development of guidance, on behalf of the Government, as well as by those councils and iwi/hapū involved in its scoping.

155. Because guidance does not carry legal weighting the existing uncertainty around the meaning and effect of Te Mana o te Wai in the Freshwater NPS is likely to remain resulting in uncertainty costs for regional councils, iwi/hapū and stakeholders.

Option B

156. The proposed amendments build on the existing approach directed by the Freshwater NPS – to base freshwater objective setting on community discussions about the values held for the water. For this reason, they impose minimal new impacts on what is already required.

157. There is a risk that changing the value descriptions to help make Te Mana o te Wai a platform for community discussions may elevate the values more closely associated with Te Mana o te Wai over other non-compulsory values. This may lead to conflict in communities, but the extent of this as a realistic risk is unknown and will be tested during consultation.

158. Increased clarity will reduce uncertainty costs for regional councils and stakeholders.

159. Highlighting the expectation that Te Mana o te Wai involves engagement with tāngata whenua on the values they hold for fresh water will help support compliance with Part D of the Freshwater NPS: Tāngata whenua roles and interests. This may decrease litigation costs arising from inadequate recognition of Part D.

160. Option B emphasises engagement with tāngata whenua as well as the wider community, this may increase wider community buy in for the eventual plan changes which again may decrease litigation costs.

161. No unintended consequences have yet been identified but may be uncovered through further consultation and analysis.

162. Further analysis and consultation is required to assess the impacts of either option.

Effectiveness

163. Guidance is a valuable tool to clarify the meaning and effect of Te Mana o te Wai however it does not hold regulatory weight. As a result there is no incentive upon councils to improve on the status quo whereby Te Mana o te Wai is not receiving adequate recognition in the implementation of the Freshwater NPS.

164. *Next Steps* consultation found that several submitters supported the use of guidance in conjunction with amending the Freshwater NPS but only one stated that guidance alone would be adequate to increase clarity and compliance.

165. Although some councils may voluntarily take up the recommended best practice put forward in guidance, on its own it is likely that Option A will not consistently meet the objectives of providing clarity to the meaning of Te Mana o te Wai, direction to regional councils about how to implement it and of giving effect to iwi/hapū values in improving fresh water quality.

166. The amendments proposed in Option B provide more consistent national direction to the meaning and status of Te Mana o te Wai in the Freshwater NPS and the requirements upon councils to include Te Mana o te Wai in freshwater planning. The amendments will improve the connection between the Freshwater NPS and the process councils follow with their communities when deciding on their objectives for the water bodies, and when monitoring progress towards achieving those objectives. The likely outcome is that Te Mana o te Wai will be more clearly seen as an integral part of the framework that forms the platform for community discussions as proposed in Next steps.

167. Further analysis and consultation is necessary to ascertain the effectiveness of either option.

Ecosystem health monitoring

Status quo

168. Freshwater macroinvertebrates are small aquatic animals whose communities respond quickly to changes in water quality, habitat and catchment condition. As such, monitoring the abundance and diversity of macroinvertebrates is widely used to assess water quality and the ecological health of rivers and streams.

169. Macroinvertebrate monitoring in rivers is generally undertaken for one of two main purposes:

    i) Broad-scale monitoring of the ecological condition in river catchments over time; or

    ii) Finer-scale monitoring and diagnosis of issues in a specific stream or river.

170. Monitoring macroinvertebrates is a key component of freshwater management. The information derived from long-term monitoring of macroinvertebrates (and other biological indicators) can be used to inform policy decisions, as well as for assessing the effectiveness of regional plans and policies and other methods to improve the environmental condition of rivers.

171. Part CB of the Freshwater NPS requires regional councils to establish plans to monitor the progress towards, and the achievement of, freshwater objectives. Freshwater objectives describe the intended state of freshwater bodies to provide for the community's values in those freshwater bodies, including the value of ecosystem health.

172. The Freshwater NPS does not contain direction on monitoring macroinvertebrates though the description of the ecosystem health value in Appendix 2 states the "health of flora and fauna may be indicated by measures of macroinvertebrates".

173. Fifteen regional councils currently undertake some form of macroinvertebrate monitoring. Gisborne District Council is the one council that does not.[21]

Problem statement

174. The Freshwater NPS does not provide direction on how to monitor the effectiveness of targets, limits and methods implemented to achieve freshwater objectives, in particular the utility of data gathered from macroinvertebrate monitoring programmes.

Options

Option A: Guidance

175. Non-statutory guidance for regional councils would provide direction on the best-practice use of measures of macroinvertebrates for the purposes of the monitoring the progress towards, and achievement of, freshwater objectives.

Option B: Amend the Freshwater NPS – Introduce a narrative attribute for macroinvertebrates

176. A narrative attribute for macroinvertebrates into Appendix 2 of the Freshwater NPS would describe the abundance and or diversity of macroinvertebrates in various states of quality from un-impacted, to degraded.

177. Regional councils would be required to set narrative (or numeric if they choose) freshwater objectives for macroinvertebrates and then monitor progress towards achieving those objectives as per Policy CB1.

Option C: Amend the Freshwater NPS – Monitoring requirement for macroinvertebrates and national values

178. This option[22] would involve amending the Freshwater NPS to require regional councils to:

    i) Use macroinvertebrate monitoring as part of an assessment of the extent to which the national value of ecosystem health is being provided for; and

    ii) Establish methods to respond to monitoring results that indicate freshwater objectives are not met and/or national values are not being provided for.

Consultation

179. *Next steps* proposed requiring the use of the macroinvertebrate community index (MCI) as a mandatory method of monitoring ecosystem health.

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[21] Nor does Chatham Islands Council, though it is understood monitoring macroinvertebrates is not appropriate in the water bodies of that region.

[22] This option is subject to the passage of the enabling provisions contained in the Resource Legislation Amendment Bill.

180. There is broad support for requiring regional councils to monitor macroinvertebrates though concerns were raised about specifying the MCI as the tool to monitor macroinvertebrates.

Impacts

Option A

181. Option A does not propose regulatory change, as such there are no associated regulatory impacts.

Option B

182. It is difficult to quantify the impacts of implementing Option B. Regional councils would interpret a narrative attribute in different ways, meaning that implementation costs would also vary. Uncertainties surrounding interpretation is likely to increase planning costs and has the potential to lead to more litigation. Gisborne District Council would be required to implement some form of macroinvertebrate monitoring, which has been estimated by NIWA to cost at least $10,000 a year.[23]

Option C

183. As nearly all regional councils are already monitoring macroinvertebrates and while it is possible these monitoring programmes will need altering, the implementation costs of Option C are not expected to be high. As above, Gisborne District Council would be required to establish a macroinvertebrate monitoring programme at an estimated cost of $10,000 a year. Monitoring costs could be recovered from resource consent holders.

184. No unintended consequences have yet been identified but may be uncovered through further consultation and analysis.

Effectiveness

Option A

185. The effectiveness of Option A to address the problem stated above and the overall objective of these amendments is contingent on regional councils implementing the recommendations of the guidance. Failure to do so will render Option A ineffective.

Option B

186. Option B may not directly address the problem as stated, and as such is not considered an effective option to pursue.

Option C

187. Option C effectively addresses the problem, as regional councils will be required to follow a nationally-consistent approach to monitoring the effectiveness of freshwater objectives in relation to macroinvertebrates. It will enable regional councils to manage fresh water in an integrated and sustainable manner, while providing for economic growth within environmental limits.

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23 http://www.landcareresearch.co.nz/publications/researchpubs/Storey_2012_Biological_monitoring_rivers_Gisborne.pdf

Conclusions and recommendations

188. Clarifications of a number of provisions in the Freshwater NPS are required to ensure it is effectively implemented. Further amendment may be necessary to better reflect public aspirations for their lakes, rivers, aquifers and wetlands. Given the stage of the policy development process – these proposals are subject to public consultation that is likely to lead to further analysis – we have refrained from making firm recommendations for amendments to the Freshwater NPS at this stage.

189. The public feedback and analysis we receive on these proposals will be analysed before final recommendations for changes to the Freshwater NPS are made. The Government will make a final assessment as to whether the above options ought to be given effect subsequent to this final analysis.

Implementation plan

190. These proposed changes generally support and clarify what is required by the Freshwater NPS. Any introduced changes will be supported by a comprehensive package of guidance and support to regional councils to assist with translating these changes into their regional freshwater management.

Monitoring, evaluation and review

191. Section 35 of the RMA requires regional councils to monitor the state of the environment to the extent required to perform its functions set out in the RMA, including those prescribed in the Freshwater NPS. As a result of this requirement, regional councils monitor freshwater quality attributes, such as *E.coli* levels, dissolved oxygen levels and water clarity.[24] The Freshwater NPS requires regional councils to monitor all of the water quality attributes set out in Appendix 2.

192. This monitoring information is used to inform national environmental reporting under the Environmental Reporting Act framework. The first report, *Environment Aotearoa*, was released in 2015.[25] It contained an overview of the state of fresh water based on data through to 2013. A freshwater domain report, which will provide an updated and more detailed overview of the state of fresh water nationally is expected to be published in 2016. Subsequently, freshwater domain reports will be published every three years.

193. The Water Directorate maintains close relationships with regional councils, iwi and hapū (particularly through the relationship with the Iwi Leaders Group) and other stakeholders, such as those in the primary sector or representing environmental interests. These relationships are critical to our ability identify challenges in the implementation of the Freshwater NPS and to help develop responses to these challenges that are proportionate and practical.

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[24] An example of such reporting on the monitoring of the rivers in the Greater Wellington region can be accessed at: http://www.gw.govt.nz/assets/Our-Environment/Environmental-monitoring/Environmental-Reporting/Rivers-State-of-the-Environment-monitoring-programme-Annual-data-report-2015-16.pdf

[25] *Environment Aotearoa* can be accessed at: http://www.mfe.govt.nz/publications/environmental-reporting/environment-aotearoa-2015

194. This monitoring data and these relationships are the primary vehicles through which the Freshwater NPS is monitored, evaluated and reviewed. Freshwater ecosystems are extremely complex and improvements in water quality as a result of improved resource management practices may take decades to become apparent. However, recurrent environmental reporting will enable early identification of trends and regular interaction with our wider network will highlight local decisions that are not likely to give full effect to the provisions of the Freshwater NPS. For example, by 2030 monitoring data should show whether the limits and methods regional councils have set are halting further declines in water quality.

195. Should a regional council not give full effect to the provisions of the Freshwater NPS, the options identified in paragraph 28 will be considered where appropriate.

196. As prescribed in the preamble to the Freshwater NPS, a review of its implementation is currently underway. The findings of the review are expected to be published later this year. Further reviews are possible but have not yet scheduled.