

4 February 2014

Submission from Bridget Robson on

Proposed amendments to the National Policy Statement for Freshwater Management 2011 (“the Discussion Document”).

I support several of the proposed amendments to the National Policy Statement for Freshwater Management 2011 (NPSFM), including the framework of the National Objectives Framework (NOF) and the inclusion of freshwater accounting and monitoring requirements.

I have concerns about some proposed amendments to the NPSFM. These include concerns about the interpretation of ‘overall’ freshwater quality within a region, and the contents of the NOF.

The NOF ties together the approach proposed for managing freshwater. If it not robust the entire policy structure will fail. Amendments are required to fix deficiencies in the draft.

Interpretation

Decision sought: refine the scale at which FMUs can be set to ensure that individual ecosystems can be characterised at a scale that is hydrologically, geographically/morphologically coherent.

The definition of freshwater management unit (“FMU”) allows freshwater objectives and limits to be set and freshwater accounting and management to occur at *any* scale. In principle, a FMU could be so large as to obscure the differences between individual ecosystems. E.g. a FMU encompassing the whole of the Rangitāiki River catchment would obscure the excellent water quality of the upper Rangitāiki Plains, to the Aniwhenua dam, and the degraded water quality of small lowland streams.

Objective A1

Decision sought: this objective is not restricted to secondary contact but refers to **human health generally**.

I support the inclusion of the health of people and communities in this objective. However, I do not support the restriction of this objective to *secondary contact*. This objective must be broad enough to cover *secondary contact* in all rivers and *primary contact* in rivers where swimming is an identified value.

Although some waterways will never be considered swimmable even in their natural state (e.g. too cold, too small, too turbulent) for the most part, New Zealanders expect our waterways to be **safe** for swimming. Therefore the primary contact recreation should be a compulsory value for all waterbodies which are utilised for primary contact recreation.

Policy CA1

Decisions sought:

- Retain Paragraphs (a) (b) and (c).
- Amend Paragraph (d) to specify that for those water bodies currently above the national bottom line, the regional council must assign an attribute state which is equal to or above the current state.
- Amend Paragraph (e) to clarify that these considerations fit *within* the requirement to maintain and enhance water quality and do not derogate from that requirement
- Amend Paragraph (f)(v) to specify that these matters are relevant only to the timeframe for achieving the freshwater objectives

Discussion

Paragraph (b) should specify the situations in which primary contact recreation or secondary contact recreation (depending on whether swimming is undertaken in the waterbody) is the compulsory value.

Paragraph (c) should clearly state that additional attributes will be necessary beyond those listed in Appendix 2 (as the NOF is not fully populated) or in the alternative narrative descriptions of those attributes should be included immediately.

Paragraph (d) as currently written does not accord with the interpretation of “maintain or improve” set out by the LAWF.

Paragraph (e) provides the direction that the most stringent freshwater objective is applied provides clarity to users and is necessary to ensure all identified values are provided for.

Paragraph (f) requires amendment to clarify that these considerations fit *within* the requirement to maintain and enhance water quality and do not derogate from that requirement.

Paragraph (f)(v) Implication for resource users, people and communities arising from the choice of freshwater objectives is relevant to the timeframe required for achieving the freshwater objective - not what objective is to be set. Freshwater objectives must be set at a level that will maintain or enhance water quality consistent with the LAWF recommendation 14. National bottom lines and freshwater objectives should not be confused. Freshwater objectives are a desired outcome. National bottom lines indicate a minimum standard. The preamble should clarify the difference between these two terms.

Policy CA2

Decisions sought:

- amend Policy CA2 to ensure that an attribute state equal to or above the current state is assigned for water bodies currently above the national bottom line.
- insert the grounds for exceptions based on natural state
- delete the exception for historical activities or in the alternative the amendment of the exception so it applies only where improvements *cannot* be achieved
- insert a requirement for all exceptions to be specified in the NPSFM and therefore subject to the NPS amendment process

I oppose the direction that freshwater objectives for the compulsory values ‘are set at or above the national bottom lines’. Further direction is required to specify that for those water bodies currently above the national bottom line, the regional council must assign an attribute state which is equal to or above the current state (i.e. maintain or improve).

I support the inclusion of an exceptions framework to ensure that the few exceptional water bodies do not ‘drag down’ the standards required of the bulk of water bodies. However, it is crucial that the expectations regime is kept as tight as possible to ensure the integrity of the framework.

I conditionally support exceptions which are based on natural state. This is consistent with LAWF recommendation 7. However, those naturally occurring processes should be listed specifically in the NPSFM.

I do not support exceptions which are based on historical activities where *the reversal of those impacts is not reasonably practicable, either physically or ecologically, even in the long term*. The terminology *reasonably practicable* is ambiguous and would open up the exception regime to mis-use. This would also be inconsistent with LAWF recommendation 7.

There is a discrepancy between the wording of the proposed policy and the description of this provision in the summary material which refers to impacts which *can’t reasonably be fixed, even in the long term, without creating worse environmental effects*. I would support an exception for situations where enhancement *cannot be achieved* and it is likely that such situations would be very rare indeed.

I request that all exceptions are specified in the NPSFM. This ensures that all exceptions are subject to a rigorous and transparent process at the national level. This will ensure the exceptions regime is not misused and therefore does not derogate from the integrity of the NPSFM framework.

Policy CA3

Decision sought: delete Policy CA3

This policy, would allow a regional council to set a freshwater objective below a national bottom line on a transitional basis. Objectives are not intended to be immediate standards and communities will be able to set out timeframes for their achievement. This policy is redundant and would undermine the integrity of the framework.

Appendix 1

Decisions sought:

1. Amend Appendix 1 to ensure primary contact recreation in a compulsory national value for those water bodies in which swimming occurs.
2. Amend the 'Natural form and character' value to refer to ecosystem benefits
3. insert numeric attribute states for MCI and water temperature
4. insert narrative attribute states for sediment (clarity and deposited sediment)
5. reduce the national bottom line for nitrogen toxicity and measurement as a maximum annual value
6. include nitrogen numeric attributes states to address eutrophic effects
7. reduce the national bottom line for ammonia
8. include phosphorus numeric attribute states to address eutrophic effects
9. apply dissolved oxygen attribute states to the entire river
10. utilise percent saturation for dissolved oxygen attribute states
11. shift Band C for dissolved oxygen to protect ecosystem health
12. Require freshwater accounting systems to be implemented immediately with all systems to be in place by 2019
13. Require freshwater accounting systems to meet a minimum standard capable of identifying trends in water quality and quantity
14. Require information from freshwater accounting systems to be made available to the public at no cost
15. Require freshwater quality accounting systems to be updated annually

Compulsory Values

Ecosystem health must be a compulsory value in order to provide guidance on the key objective of safeguarding the life-supporting capacity, ecosystem process and indigenous species of freshwater.

Human Health (secondary contact recreation) is not appropriate as a compulsory value in water bodies utilised for primary contact. New Zealanders expect that waterbodies which are swimmable remain so and those waterbodies in which they swam as children return to being swimmable. Human Health (primary contact recreation) must be a compulsory national value for those water bodies in which swimming occurs.

A timeframe for achieving the national bottom lines for compulsory values should be specified. A maximum timeframe alongside a requirement for interim targets would ensure that improvements are undertaken in a progressive and steady manner.

Other national values

The present description of 'Natural form and character' should not be purely related to the value people and communities place on the natural qualities of the freshwater management units. It includes matters such as flow regime and morphology, which are essential for the ecosystems they support.

Attributes

Attributes have not been included in the NOF which are crucial for assessing the ecosystem health of waterbodies: macroinvertebrate community index (MCI), sediment, and water temperature.

MCI is a key indicator of ecosystem health which has been in use for a number of decades, has well established bands, and is monitored at numerous sites and by its nature expresses the metadata state of any water body. Any further scientific research required should be expedited so that MCI numbers can be included in the NPSFM through this process.

Sediment is a contaminant of particular concern in many parts of New Zealand, although high sediment occurs naturally in some waterbodies. It is one of the most important attributes for ecosystem health and human health. While more scientific research is required to generate a numeric table (compared to the MCI) a narrative attribute that states (clarity and deposited sediment) should be identified through this process, and the missing numeric provided at a later date.

Water temperature is critical to the survival, reproductive success and distribution of aquatic species and must be included in the ecosystem health attributes. There is sufficient information available about the effects of water temperature on organisms to identify numeric attribute states.

Attribute states must take into account the LAWF's recommendation that the standards *must* provide for the achievement of the objectives which will satisfy the community values. Where achieving these standards is difficult, the LAWF recommended a longer time frame to enable change to proceed without significant economic detriment. Financial achievability must be addressed through the use of targets and timeframes, not by including inappropriate standards or not including standards.

Numeric Attribute States

National bottom lines for compulsory values are essential. However, a number of the national bottom lines are inappropriate. It is the attribute states (rather than the NOF framework) which will have impact on the ground - if they are not right, water quality will degrade even further around New Zealand.

2. Nitrogen toxicity

I do not support the National Bottom Line. An allowance for adverse effects on 20% of species will have considerable impacts on ecosystem health and is inconsistent with Objective A1(a). The use of a 95th percentile allows for exceedances for 5% of the year. The National Bottom Line should be reduced and the figure should be a maximum annual value.

Although there is an ecotoxicological rationale underpinning the derivation of numeric attributes for toxicity, a nitrate toxicity attribute will not safeguard ecosystem health from the more pervasive and likely effects of eutrophication from nitrogen and phosphorus in rivers. These adverse effects occur at much lower concentrations of nitrogen than those that related to toxicity. Eutrophication associated with nitrogen and phosphorus pollution is undoubtedly one of the major threats to the associated values of ecosystem health and life supporting capacity in New Zealand freshwaters. Limits are required to specifically prevent adverse effects arising from eutrophication. The ANZECC guidelines 2000 provide a useful starting point for determining these numeric values.

3. Ammonia

As noted for nitrogen toxicity, Band C does not protect ecosystem health as it allows for effects on 20% of species. The numeric attributes states need to be shifted upwards to reflect this and to provide a bottom line of 90% species protection.

4. Phosphorus

The proposed NOF does not include an attribute for phosphorus for rivers. Phosphorus (along with nitrogen) is widely recognised as a key factor driving eutrophication in aquatic ecosystems. I requests the inclusion of an attribute state for phosphorus. The ANZECC guidelines 2000 provide a useful starting point for determining these numeric values.

5. Dissolved oxygen

Dissolved oxygen is critical for ecosystem health. It is inappropriate to limit this attribute state to 'downstream of point sources'. This attribute state should apply throughout each river.

Dissolved oxygen is also dependant on temperature and altitude effects. As this attribute state must be applied throughout New Zealand percent saturation should be utilised to allow for variances in temperature and altitude.

As noted for nitrogen toxicity, Band C does not protect ecosystem health as it allows moderate stress on a number of aquatic organisms, and sensitive fish and macroinvertebrate species may be lost. The numeric attributes states need to be shifted upwards to reflect this.

10. Suitability for Recreation Grade

'Fair' etc are not numeric attribute states. This table does not provide details about the numeric water quality attributes which align with each grade. This does not provide the necessary information for the reader.

The use of 'fair' and other narrative descriptions in the numeric attribute state column is confusing. The SFRG reflects a combination of risk assessment and measurement. This is not explicit and it should be clear to the reader how this is determined.

The minimum acceptable state of 'fair' allows for a moderate risk of infection from water-borne pathogens which is inappropriate to provide for human health. The numeric attributes states need to be shifted upwards to reflect this.

Timing

I agree that it is useful to insert the NOF into the NPSFM now, despite not all attributes being available at this time. This is because it will provide guidance and reduce litigation on those matters in the interim. However, the process and timing whereby the additional attributes will be inserted into the NOF is required.

Where narrative attribute states can be provided now, they should be included as a holding position pending the development of numeric ones.

Where narrative attributes states cannot be provided now the attributes should nevertheless be included in the table indicating that the attribute states will be completed at a future date.

Freshwater accounting (Section CC)

Good decision-making requires good information - including an accurate understanding of water takes and discharges of contaminants. This must be available to all the community involved in the decision-making.