

Proposed amendments to the National Policy Statement for Freshwater Management 2011 – A discussion document

Submission from the Environmental Defence Society Inc

Introduction

The Environmental Defence Society (“EDS”) is a public interest environmental law group, formed in 1971. It has a membership that consists largely of resource management professionals. The focus of EDS’s work is on achieving good environmental outcomes through improving the quality of New Zealand’s legal and policy frameworks and statutory decision-making processes.

The Land and Water Forum (“LAWF”) came about as a result of an agreement reached amongst key stakeholders at EDS’s 2008 annual conference. EDS was represented on the Small Group of the LAWF and supports the recommendations of the LAWF including the submission on these amendments, which we have seen.

EDS welcomes the opportunity to comment on *Proposed amendments to the National Policy Statement for Freshwater Management 2011* (“the Discussion Document”).

EDS supports a number 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. However, EDS has significant concerns with some of the proposed amendments to the NPSFM, including the interpretation of ‘overall’ freshwater quality within a region and the contents of the NOF.

EDS contends that the NOF is the keystone to the new approach proposed for managing freshwater. If it is weak or ineffective, the entire policy edifice will fail. It is crucial that amendments are made to “fix” the deficiencies in the draft.

Preamble

The preamble must reflect the contents of the NPSFM objectives and policies, in accordance with the suggested amendments below. Consequential changes to the preamble will therefore be required.

Water quality, water quantity, and integrated management (Sections A, B and C)

Interpretation

EDS opposes the definition of freshwater management unit (“FMU”) which 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 Waikato River catchment would obscure the excellent water

quality of the reach immediately downstream of Taupo gates and the degraded water quality of small lowland streams.

Further guidance is required as to the appropriate scale for FMUs and to ensure they are hydrologically and geographically/morphologically coherent.

Objective A1

EDS notes that the NOF includes *ecosystem health* parameters to implement Objective A1(a). EDS suggests that the terminology *lifesupporting capacity, ecosystem processes and indigenous species of freshwater* has caused confusion. If it is considered that *ecosystem health* adequately represents those concepts, the terminology in the objective should reflect that.

EDS supports the inclusion of the health of people and communities in this objective. However, EDS does 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.

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

Objectives A2 and B4

The addition of 'significant values' to the objective concerning outstanding freshwater bodies introduces an additional assessment requirement – a freshwater body must have significant values' and be 'outstanding' for the objective to apply. This is repetitive and unnecessarily demands additional resource. If a freshwater body is outstanding it is likely to have significant values (and vice-versa).

This could be clarified by deleting the word 'significant' so that the objective reads *Protecting the values of outstanding freshwater bodies* or by deleting the word 'outstanding' so that the objective reads *Protecting the significant values of freshwater bodies*. This ensures only one assessment of 'significance' or 'outstandingness' is required.

The discussion document gives the impression that the NPSFM will not allow any further degradation in water quality. However, the amendment to the preamble suggests that the interpretation of 'overall' will allow degradation of some water bodies provided 'net water quality' is maintained.

The LAWF did not make a recommendation on the meaning of 'overall.' However it recommended that "maintained or improved" should be defined – with "maintained" meaning that a band lower than current state could not be chosen and "improved" meaning the selection of a band higher than current state. It is clear from the recommendations that degradation was only contemplated within a band and in the case of the identified exception for *exceptional economic benefit where a net environmental gain will result*. It is therefore submitted that this amendment is inconsistent with the LAWF recommendations and in any event is not supported by EDS.

In addition, there would be considerable difficulties in making water quality trade-offs work. The section 32 report states that *most councils are in only the early stages of accounting for all sources of contaminants, and the approaches used vary widely.*¹ It will therefore be some time before freshwater accounting may be able to reliably determine the net outcome of deterioration in one area and improvement in another area. Until this can occur such assessments will be 'guess work' only. It will not be possible for parties to be 'well informed about the effects of any "trading off" between water bodies' as suggested in the Reference Group report.²

The proposed amendment does not accord with the community expectation (or representations in the discussion document) that freshwater bodies will not be allowed to degrade any further.

This is of particular concern when considered in combination with the proposal to utilise 'freshwater management units' which could be as broad as a whole region, allowing for significant 'overs and unders'. Trade-offs of this nature would be unlikely to have legitimacy and be accepted by the wider community.

It is noted that the meaning of 'overall' is currently ambiguous. The Oxford Dictionary states that 'overall' may mean *taking everything into account or taken as a whole, in all.*³ The word 'overall' may therefore allow for 'overs and unders' or it may require the objective to be achieved 'everywhere' in the region.

For the reasons above, EDS requests that the word 'overall' is deleted from the NPSFM or, in the alternative, amendments to the NPSFM to clarify that 'overall' means everywhere within the region.

Policies A1 and B1 and C2

EDS supports the amendment to ensure decision-makers have regard to the connections between freshwater bodies and the coast. This is an important component of integrated management and essential to ensure that freshwater management decisions do not have adverse effects on the receiving environments.

EDS suggests that *coastal environment* should be preferred to *coastal water* to ensure consistency with the New Zealand Coastal Policy Statement 2010 ("NZCPS"), Objective C1, and to ensure the wider environmental connections are considered e.g. sedimentation.

To date, neither the NPSFM or the NZCPS have addressed bottom lines for estuaries. Estuaries are the first receiving environment for discharges from our rivers and are often areas of considerable conservation, biodiversity, cultural and recreational significance. It is essential that they do not 'fall between the cracks'.

Given this policy directive, it is critical that numeric attributes and bottom lines are set at levels which will ensure large contaminants loads are not discharged via rivers to estuaries or coastal marine waters. Managing rivers to secondary contact standards or to nitrate or ammonia toxicity levels has the potential for large loads of faecal or nitrogenous contaminants to be transported to

¹ Page 9

² <http://www.mfe.govt.nz/issues/water/freshwater/report-national-objectives-framework-reference-group.pdf>

³ <http://www.oxforddictionaries.com/definition/english/overall>

the coastal environment and may mean coastal bathing or shell fish collection standards are unable to be met or result in adverse impacts on the nitrogen sensitive environment.

Alternatively, the NPSFM could direct that regional councils must ensure their limits / targets account for coastal and estuarine water quality. However, this option will introduce new uncertainties and therefore reduce the value of national guidance provided through the NOF.

Policy A4

See comments above regarding Objective A1.

National Objectives Framework (Section CA and Appendix 1)

EDS is generally supportive of the NOF framework which is consistent with the recommendations and expectations of the LAWF. However substantive changes are needed to its contents make it fit for purpose.

Objective CA1

EDS generally supports this objective. However some redrafting may be necessary to reflect the fact that the NOF will not provide national consistency for 'other values' for which attributes and attribute states are not listed.

Policy CA1

Paragraph (a) is supported.

Paragraph (b) is supported. This would be the appropriate location to 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) is supported. However, it 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) is not supported. As currently written it does not accord with the interpretation of "maintain or improve" set out by the LAWF. This paragraph must 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.

Paragraph (e) is supported. In particular 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) is supported in part (excluding subparagraph (v)). Amendments are required 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) is opposed in part. 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. This is consistent with the LAWF recommendation 14: *Regional councils should retain discretion to set timeframes for the adjustments required in land use, the use of water, and the discharging of contaminants appropriate to the circumstances of each case, within bounds of reasonable economic practicality. Where significant adjustment times are required, targets should be set in regional plans at no more than 5 year intervals to ensure progress towards freshwater state objectives, and to provide for timely adjustment of interventions as necessary.*

It is noted that 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

EDS opposes 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).

EDS supports 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.

EDS conditionally supports 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.

EDS does 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 misuse. This would also be inconsistent with LAWF recommendation 7.

EDS notes that 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*. EDS would support an exception for situations where enhancement *cannot be achieved* and it is likely that such situations would be very rare indeed.

EDS does not support exceptions based on significant existing infrastructure e.g. hydroelectricity or drinking water dams. It is not clear why these waterbodies should be exempted from water quality or quantity bottom lines. This is not consistent with LAWF recommendation 7 which recommended an exception only in cases of *exceptional economic benefit where a net environmental gain will result*.

EDS requests 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

EDS does not support this policy, which allows a regional council to set a freshwater objective below a national bottom line on a transitional basis. As set out in the discussion document, 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

Compulsory Values

EDS agrees that 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. The Section 32 report considered this option and identified problems relating to lag times and economic shock. However, the current NPSFM and proposed amendments would allow for *any* timeframe to be chosen (including for example one as preposterous as 2200). A maximum timeframe alongside a requirement for interim targets would ensure that improvements are undertaken in a progressive and steady manner. EDS suggests a maximum timeframe of 20 years.

Other national values

EDS does not support the description of 'Natural form and character'. This value is not 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

A number of 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. Any further scientific research required should be expedited so that MCI numbers can be included in the NPSFM through this process.

EDS would support a NOF attribute table for MCI as follows:

Attribute State	Numeric Attribute State
A	> 120 or within 10 of reference
B	100 – 120 or within 20 of reference
C	80 – 100 or within 40 of reference
D	< 80 or greater than 40 from reference

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. We are aware that more scientific research is required to generate a numeric table (compared to the MCI) and therefore we request that narrative attribute 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

EDS agrees that national bottom lines for compulsory values are essential. However, it is concerned that 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.

1. Lakes

The attribute states may be appropriate for many lowland lakes but they are inappropriate for deep / upland / alpine lakes. It is not appropriate to allow for a moderate risk of flipping due to elevated nutrients / excessive plant or algal growth (Band B and C) in those lakes. Reference to a lake class could potentially provide more meaningful assignment of bands for protecting specific values, as well as defining reference ranges.

2. Nitrogen toxicity

EDS has significant concerns regarding the proposed nitrogen limits.

In relation to nitrogen toxicity, EDS does 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). Furthermore, the use of a 95th percentile allows for exceedances above this during 5% of the year. The National Bottom Line should be reduced and the figure should be a maximum annual value.

Although we understand the ecotoxicological rationale underpinning the derivation of numeric attributes for toxicity, we fail to see how a nitrate toxicity attribute will 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 above in relation to nitrogen toxicity, Band C does not protect ecosystem health as it allows for effects on 20% of species. EDS requests the numeric attributes states are shifted upwards to reflect this 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. EDS 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'. EDS requests that this attribute state 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 above in relation to 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. EDS requests the numeric attributes states are shifted upwards to reflect this.

6. Periphyton

EDS does not support the use of chlorophyll a as a measure of periphyton. The NIWA report⁴ suggests that chlorophyll a should be preferred because it has been used extensively in New Zealand

⁴ <http://www.mfe.govt.nz/issues/water/freshwater/supporting-papers/national-objective-framework-periphyton.pdf>

and overseas for many years. However, it is a surrogate measure which can be influenced by a number of factors including the composition of the periphyton, it is expensive to measure, and it is inconsistent with recent scientific developments. EDS suggests that percentage cover (PeriWCC) should be used to measure periphyton. This measure is directly related to the effects of periphyton on values and easily understood by communities.

EDS does not support the allowance for the annual maximum to be exceeded on two occasions annually based on monthly monitoring. This means the numeric attribute is no longer an 'annual maximum' and that significant period of exceedance could occur in every year. EDS requests that only one exceedance per annum is provided for.

7. E. coli

EDS does not support a bottom line for *E. coli* which allows for a 5% risk of infection from water-borne pathogens.

This is unlikely to meet community expectations for safe recreation. It is noted that this standard is lower than the commonly used guideline set out in ANZECC 2000 which refers to faecal coliforms. *E. coli* are just one component of faecal coliform bacteria and therefore expressing the guideline as *E. coli* is always more permissive and sometimes considerably more so. EDS requests the numeric attributes states are shifted upwards to reflect this.

EDS does not support the use of an annual median. This means that the risk stated in the NOF (5% for band C) may be exceeded up to 50% of the time. This does not provide the community with any certainty regarding safe recreation. It is also inconsistent with the current NZ bathing water guidelines. EDS requests that numeric attribute states be expressed as the annual 95% percentile.

8. Cyanobacteria

EDS does not support the bottom line for cyanobacteria which is the amber alert level which requires action to be taken with potential closure of the water body. This is unlikely to meet community expectations for safe recreation. EDS requests the numeric attributes states are shifted upwards to reflect this.

The NOF bands use threshold values slightly modified from those in the 'New Zealand Guidelines for Managing Cyanobacteria in Recreational Fresh Water'⁵. Those guidelines were designed to trigger a series of management actions when there is a single exceedance. In the NOF, the threshold values are applied as two year averages. They are therefore inappropriate to provide for Human Health values. EDS requests that the numeric attributes states be expressed as an annual maximum.

9. Phormidium

EDS opposes the exclusion of numeric attribute states for *Phormidium* from the proposed NOF. Research by various agencies and monitoring by regional councils at multiple rivers around New

⁵ Ministry for the Environment and Ministry of Health. 2009. New Zealand Guidelines for Managing Cyanobacteria in Recreational Fresh Waters – Interim guidelines. Prepared for the Ministry for the Environment and the Ministry of Health by S.A. Wood, D.P. Hamilton, W.J. Paul, K.A. Safi, W.M. Williamson. Wellington: Ministry for the Environment. 89 p.

Zealand has resulted in extensive datasets (up to 5 years in length) that provide adequate evidence for the development of NOF bands and for the inclusion of *Phormidium*-relevant criteria.

EDS would support a NOF attribute table for benthic *Phormidium* as follows:

Attribute State	Numeric Attribute State	Narrative Attribute State
A	All transects have less than 10% <i>Phormidium</i> cover	Contact with water poses no human health risk
B	All transects have less than 50% <i>Phormidium</i> cover	At certain times contact with river water poses a human health risk, and care may be required as extent of blooms increases
D	Any one transect has more than 50% <i>Phormidium</i> cover	High human health risk

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.

EDS considers that 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. EDS requests the numeric attributes states are shifted upwards to reflect this.

Timing

EDS agrees 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, it needs to be very clear that additional attributes will be inserted into the NOF at a future date. 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)

EDS agrees that good decision-making requires good information – including an accurate understanding of water takes and discharges of contaminants.

Objective CC1

EDS supports this objective.

Policy CC1

EDS does not support the direction that freshwater accounting systems are only to be established and operated in freshwater management units where the regional council is setting or reviewing freshwater objectives and limits. All freshwater management units must proceed through this process and therefore all require a freshwater accounting system. EDS agrees that freshwater accounting systems should be put in place in the same order of priority as the setting or reviewing freshwater objectives and limits.

EDS does not support the direction that freshwater accounting systems are to be maintained at a level of detail commensurate with the quality and quantity issues in the freshwater management unit. This is circular logic. Freshwater accounting systems are the tools that will be used to identify quality and quantity issues. If it is perceived that there are minimal quality and quantity issues in a freshwater management unit and this results in a minimal freshwater accounting system being maintained, quality and quantity issues which may exist may not be identified. There must be a minimum standard of freshwater accounting systems for all freshwater management units. We agree that poor water bodies may require a higher standard of freshwater accounting system.

EDS does not support a commencement date 24 months following the date of entry into effect of these amendments. This would allow regional councils two years in which they are not required to commence establishing and operating freshwater accounting systems. This is a further delay to much needed progress in improving New Zealand's freshwater management. It would be preferable to insert a date by which all regional council must have freshwater accounting systems in place throughout their region. This will need to be a number of years in advance of the 2030 deadline for objectives and limits to be in place throughout their region to provide trend data. EDS suggests a deadline of 1 July 2019.

Policy CC2

EDS supports the inclusion of a requirement to make available information gathered under Policy CC1 and for that to be regularly updated. EDS suggests that the policy should specify that the information should be made readily available to the public at no cost. EDS is concerned that the information relating to quality would only be updated on a five yearly basis. This could allow quality information to become significantly out of date and improving/declining trends may not be identified as early as possible. EDS suggests that both quality and quantity information should be updated annually.

Freshwater monitoring (Section CB)

EDS supports the requirement for monitoring plans. Monitoring is an essential component of the policy review and development process as it allows the success (or otherwise) of previous policy settings to be evaluated and therefore an assessment as to whether changes are required.

Objective CB1

EDS does not support the wording 'To provide an approach...' which does not accurately reflect the desired outcome. The desired outcome is to 'improve the consistency and accuracy of monitoring'.

Policy CB1

EDS supports the requirement for each regional council to develop a monitoring plan. It is not clear whether this plan is to be included in a regional plan or whether it is a separate document. EDS does not consider it necessary for this to be included in a regional plan and requests that the NPSFM specify that each regional council must publish a monitoring plan and update it biannually.

EDS is concerned that the lack of guidance relating to the identification of FMUs in combination with the requirement to monitor representative site or sites' could result in inadequate monitoring (it could potentially result in only one monitoring site in the entire region). EDS requests that multiple monitoring sites are required as a minimum and further guidance is provided in relation to identifying representative sites.

Progressive Implementation Programme

Policy E1

EDS supports the requirement to review the staged implementation programme to take account of the new amendments.

Conclusion

In conclusion EDS seeks the following changes to the NPSFWM:

- **Consequential amendments to the Preamble based on the comments below.**
- **The provision of further guidance material setting out how FMUs will be determined.**
- **The use of the terminology *ecosystem health* in Objective A1(a)**
- **The amendment of Objective A1(b) to refer to human health generally**
- **The inclusion of *primary contact recreation* as a compulsory value for all waterbodies which are utilised for primary contact recreation**
- **The deletion of 'significant' or the deletion of 'outstanding' from Objective A2(a)**
- **The deletion of preamble material suggesting that 'overall' allows degradation of some water bodies provided 'net water quality' is maintained**
- **The deletion of 'overall' from Objective A2 or amendments to clarify that 'overall' means everywhere within a region**
- **The replacement of 'coastal water' with 'coastal environment'**
- **That numeric attribute states and national bottom lines are set at levels which will prevent large contaminant loads being discharged from freshwater bodies to the coastal environment, or, an amendment to direction regional councils to account for coastal and estuarine water quality when setting limits / targets**
- **The amendment of Policy CA1 to specify the situations in which primary contact recreation or secondary contact recreation is the compulsory value**
- **The amendment of Policy CA1(d) to ensure that an attribute state equal to or above the current state is assigned for water bodies currently above the national bottom line**

- The deletion of Policy CA1(f) or in the alternative the amendment of the paragraph to specify that these matters are relevant only to the timeframe for achieving the freshwater objectives
- The amendment of 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
- The insertion of the grounds for exceptions based on natural state
- The deletion of the exception for historical activities or in the alternative the amendment of the exception so it applies only where improvements *cannot* be achieved
- The deletion of the exception for significant existing infrastructure
- The insertion of a requirement for all exceptions to be specified in the NPSFM and therefore subject to the NPS amendment process
- The deletion of Policy CA3
- The amendment of Appendix 1 to ensure primary contact recreation in a compulsory national value for those water bodies in which swimming occurs
- The insertion of a maximum timeframe for achieving national bottom lines of 20 years
- The amendment of the 'Natural form and character' value to refer to ecosystem benefits
- The insertion of numeric attribute states for MCI and water temperature
- The insertion of narrative attribute states for sediment (clarity and deposited sediment)
- The amendment of the attribute states for lakes to account for different lake classes
- The reduction of the national bottom line for nitrogen toxicity and measurement as a maximum annual value
- The inclusion of nitrogen numeric attributes states to address eutrophic effects
- The reduction of the national bottom line for ammonia
- The inclusion of phosphorus numeric attribute states to address eutrophic effects
- The application of dissolved oxygen attribute states to the entire river
- The utilisation of percent saturation for dissolved oxygen attribute states
- The shifting of Band C for dissolved oxygen to protect ecosystem health
- The use of PeriWCC in preference to chlorophyll a as a measure of periphyton
- The deletion of the allowance for the annual maximum to be exceeded on two occasions
- The shifting of Band C for *E. coli* to protect human health
- The use of an annual 95% percentile for determining compliance with the attribute states for *E. coli*
- The shifting of Band C for cyanobacteria to protect human health
- The use of an annual maximum for determining compliance with the attribute state for cyanobacteria
- The inclusion of numeric attribute states for *Phormidium*
- The amendment of the SFRG table to ensure the assessment is explicit to the reader
- The shift of Band C for SFRG to protect human health
- Require freshwater accounting systems to be implemented immediately with all systems to be in place by 2019
- Require freshwater accounting systems to meet a minimum standard capable of identifying trends in water quality and quantity
- Require information from freshwater accounting systems to be made available to the public at no cost

- **Require freshwater quality accounting systems to be updated annually**
- **Amend Objective CB1 to reflect the desired outcome of improving the consistency and accuracy of monitoring**
- **Amend Policy CB1 to ensure monitoring plans are published by regional councils and updated biannually**
- **Amend Policy CB1 to ensure multiple monitoring sites and provide guidance in relation to the identification of representative sites**