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Ministry for the Environment
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SUBMISSION BY THE ROYAL FOREST AND BIRD PROTECTION SOCIETY OF NEW ZEALAND INC ON "ACTION FOR HEALTHY WATERWAYS"

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Introduction and summary

1. The Royal Forest & Bird Protection Society of New Zealand has been Aotearoa New Zealand's independent voice for nature since 1923. Forest & Bird's constitutional purpose is:

   To take all reasonable steps within the power of the Society for the preservation and protection of the indigenous flora and fauna and the natural features of New Zealand.

2. Forest & Bird is actively involved in national and regional planning processes relating to freshwater, coastal environments and biodiversity across Aotearoa New Zealand. In addition, we have over 100,000 members and supporters who are passionate about freshwater protection. They are involved in a range of freshwater restoration projects including regular planting and pest trapping at the Waimakariri Sanctuary, planting and creating natural habitat at Calder Green Reserve, an estuarine ecosystem which is a part of the Heathcote Ihutai Estuary in Christchurch; wetland protection and riparian planting across top of the South Island including Pearl Creek in Tasman, Paremata Flats in North Nelson, Marshall Place in Blenheim and Streamcare in Golden Bay; riparian restoration planting through the Pukaha Project at the headwaters of the Karamu Stream in Hawkes Bay, restoration planting along the Poukawa Stream which naturally drains the wetlands that form the Pekapeka Regional Park in Hawkes Bay, restoration and planting of the Waitangi Estuary in Hawkes Bay, restoration work and planning for the Ahuriri Estuary in Hawkes Bay, riparian planting along Hulls Creek and the Mawaihakona Stream in Upper Hutt, and running of a native plant nursery for and restoration planting of Lake Papaitonga.

3. Aotearoa New Zealand's unique freshwater animals are dying because of the state of our water and loss of habitat. A recent international assessment of New Zealand's freshwater flora and fauna concluded that New Zealand has "one of the most endangered freshwater habitats in the world".[1] Nationally, 76 per cent of freshwater fish species are threatened with extinction,[2] which is double the global average; and things are getting worse not better, with some species on the brink of extinction.[3] Activities on land are sending pollutants down our waterways and to the coast where they cause significant ecological harm, particularly in estuaries.[4]

4. The leading causes of decline in indigenous fish are degrading water quality, nutrient enrichment, water abstraction, invasive/exotic fish species, loss of habitat via land use, barriers to migration, loss of riparian vegetation, and river modification.[5] Effective action to address all of those impacts is urgently needed.

5. Forest & Bird welcomes the Action for Healthy Waterways discussion document but considers that significant changes are required to achieve Ministers' intention to make real change as quickly as possible.

6. For the most part, the policy instruments' intent is to achieve effective change for fresh water, but many of the provisions are drafted in a way that means they will not achieve the policy intent. Specific changes are discussed below in relation to each instrument, and where possible we have included tracked changes to key provisions.

7. Forest & Bird considers that the action required can be taken while sustaining a flourishing primary production sector. Clearly, that was also the view of the Freshwater Leaders Group which included several primary production representatives. Primary sector feedback on the proposals will help to ensure that where significant changes are required, appropriate support is available to ensure that the sector can adapt. However, attempts to undermine scientifically derived environmental limits should be avoided, and the mechanisms needed to achieve those limits should be supported.

8. The main areas where Forest & Bird seeks changes to the freshwater proposals can be grouped within the following themes:

    a. **Integrated management of water quality, water quantity and freshwater habitats**

        These three aspects of freshwater are critical to ensuring people and freshwater species can thrive. Better integration of these three aspects in the way we manage water and land use is required. Identification and protection of significant habitat of indigenous fauna within waterbodies, in accordance with s 6(c) RMA should be part of this integration.

    b. **Direction on timeframes required:**

[1] IUCN Freshwater Fish Specialist Group 2012 Annual Report (IUCN, 2012).
[2] Ministry for the Environment & Stats NZ (2019). New Zealand's Environmental Reporting Series: Environment Aotearoa 2019. Available from www.mfe.govt.nz and www.stats.govt.nz.
[3] Joy et al *Decline in New Zealand's freshwater fish fauna: effect of land use* Marine and Freshwater Research 2018 70(1) at 114-124
[4] Ministry for the Environment *Our Marine Environment 2019*
[5] Allibone et al *Conservation status of New Zealand freshwater fish* 2009 44 New Zealand Journal of Marine and Freshwater Research 44 at 271 to 287

Timeframes for achieving target attribute states may be of any length or period, which will not achieve the intention of meaningful change within a generation. More direction on setting timeframes is warranted.

c. Direction on managing land use as part of effective freshwater planning:

Regional plans must effectively manage the cumulative impact of many individual land uses on freshwater bodies and downstream receiving environments. This is where the system breaks down in many existing plans. The NPS direction on this aspect of freshwater management is cursory. Significant change is needed, or current poor practice will not improve.

Reliance on farm plans in place of robust regulatory oversight is inappropriate, particularly where water is overallocated and changes to the way that land is used must be made. While Forest & Bird sees merit in farm plans as a useful tool to support farm and land managers in managing their activities, they are not an effective mechanism for setting regional standards and monitoring for compliance – which is the responsibility of the regional councils. We support a clear and explicit rules-based system for managing high-polluting activities.

Forest & Bird supports a prohibition on conversions to highly polluting land uses, like dairy, and restricting high-polluting activities such as intensive winter grazing, until councils have a plan on how to fairly manage pollution within environmental limits. Additionally, we support bringing the highest polluters down to reasonable levels immediately through rules that target high-polluting activities.

d. Equitable and efficient nitrogen allocation

An equitable and efficient method is urgently required for allocating the amount of nitrogen that may be leached (and the proportion by which leaching must reduce, in order to achieve an in-stream target) from individual land parcels and activities. We are concerned that the NPS is silent on this matter, and that some of the proposals in the NES allocate leaching "rights" based on current levels of pollution. We support an allocation method based on the soil's health and capacity to process nutrients (land use capability or LUC). Allocating the nitrogen loss limit based on the soil's natural capability to process nutrients directly links to the underlying natural biophysical resources in the catchment, is independent of current land use. Grandparenting existing "rights to pollute" is the worst option for nitrogen allocation.

e. Consideration of receiving environments:

The NPS should make explicitly clear that environmental outcomes, target attribute states, limits and methods must protect the values of receiving environments such as wetlands and estuaries, and must be consistent with the NZCPS where it applies. Target attribute states that are adequate for a freshwater management unit may not be sufficiently conservative to protect ultimate receiving environments like groundwater, lakes, wetlands or estuaries. Some receiving environments are in the coastal environment and therefore technically protected by the stringent requirements of the New Zealand Coastal Policy Statement[6], but the NZCPS direction is seldom expressly considered in freshwater limit setting.

[6] Such as the Policy 11 requirement to "avoid adverse effects" on high value biodiversity.

The attribute tables in Appendices 2A and 2B do not apply to wetlands. The footnote on p 30 referring to sensitive downstream receiving environments is not sufficient to ensure wetlands are protected from contaminant inputs, and only applies to DIN and DRP concentrations/loads, not other contaminants. Adoption of the Wetland extent and Wetland Condition Index Attribute tables proposed by the STAG would go some way to addressing this.

f. Scientifically-derived national bottom lines are supported

Forest & Bird support the attribute states and national bottom lines put forward by the STAG. With regards to dissolved inorganic nitrogen (DIN), a national bottom line of 1 mg/L (median) is very well justified by evidence of ecological effects that occur at nitrogen concentrations beyond that level.

g. **Wetlands**:

Strong policy direction to protect remaining wetlands is supported. However, the wetland definitions contain arbitrary exclusions, the wetland policy is internally contradictory, and wetland rules will not be effective at preventing further loss.

h. No sector exclusions

New Zealanders would largely agree that all sectors, regions, and communities must play their part in protecting and restoring the health of waterways. In this regard, we cannot support an exemption for the six largest hydro-schemes from the requirement to meet bottom lines, and maintain that these schemes can responsibly contribute to meeting the goals of the freshwater policy.

Future policies on forestry, drinking water, wastewater, and storm water activities must also be consistent with the proposed freshwater reforms.

i. Better drinking water protection:

The New Zealand public has been alarmed over the last decade about the increasing and high levels of nitrates in drinking water. Excess nitrates put people at risk of illness and death, while also harming the natural environment and wildlife. We are calling on Ministry for the Environment to adopt the precautionary principle and urgently and strongly regulate to reduce sources of nitrates and other contaminants entering drinking water.

9. Forest & Bird wishes to speak to its submission if an opportunity is provided. Forest & Bird thanks MFE officials for the useful opportunities for direct engagement that have been provided.

Draft National Policy Statement for Freshwater Management

10. This part addresses the draft NPS provisions.

Part 1: Preliminary provisions

1.4 Matter of national significance

11. The matter of national significance is now "freshwater management". The previous matter of national significance was "the management of fresh water through a framework that considers and recognises Te Mana o te Wai as an integral part of freshwater management".

The change has reduced the focus on Te Mana o te Wai. The Court has previously placed weight on statement that Te Mana o te Wai is a matter of national significance.[7]

12. The matter of national significance should recognise that sustaining the life-supporting capacity of water and ecosystems is a biophysical bottom line and a critical aspect of sustainable management.

Relief sought:

13. Amend 1.4 to: <u>The matter of national significance to which this National Policy Statement applies is management of freshwater to sustain its life-supporting capacity and uphold Te Mana o te Wai</u>.

1.6 Definitions

14. Definitions are discussed below, where relevant to the provisions they are used in. The following definitions are addressed:

    a. FMU or freshwater management unit

    b. Limit / Limit on resource use

    c. Natural wetland

    d. New definitions of "maintain" and "degraded" in relation to water quality.

    e. Stream

Part 2: Objective and policies

2.1 Objective

15. The use of a clear hierarchy and express reference to the future are supported, however:

    a. The term "resources" is broad and uncertain.

    b. "The health and wellbeing of waterbodies" is not a phrase used in the RMA and does not have an established meaning. The RMA uses "well-being" and "health" only in relation to people[8]. Sub-paragraph a) should refer to safeguard the life-supporting capacity of water and freshwater ecosystems.

    c. "The essential health needs of people" is uncertain and the policies do not assist in understanding what this means. Currently, people's wellbeing in terms of being able to connect with water (e.g. for swimming or mahinga kai) is prioritised over other uses of water. That hierarchy should be preserved, otherwise swimming and irrigation sit in the same level of the hierarchy in sub-paragraph c).

    d. The objective is about how water is managed, but not what the outcome or objective for freshwater is.

16. We propose that the objective is amended to:

> <u>The objective of this National Policy Statement is to safeguard the life-supporting capacity of water and waterbodies by sustainably managing land and water in a way that prioritises:</u>

[7] *Sustainable Matata v May of Plenty Regional Council* [2015] NZEnvC 90 at [388]-[402]
[8] Section 5 (well-being), sections 5, 142, 341, 387 ("health")

a) First, the ecological health of water and freshwater ecosystems, and safe drinking water for people;

b) Second, tangata whenua and other people and communities' ability to connect with water through a range of different activities in a range of different flows.

c) Third, the ability of people and communities to provide for their social, economic and cultural wellbeing, now and in the future.

2.2 Policies

17. The role of Te Mana o te Wai is not clear in the policies. It is cross-referenced in Policy 13 but not other policies, which suggests it is not relevant to those other policies.

18. Individually and together, the policies do not clearly require that water quality is maintained, or improved where degraded. That is an express requirement of the RMA and should be incorporated consistently throughout. This requires a definition of what "maintained" and "degraded" mean in relation to freshwater. Definitions are proposed below.

19. Policy 2 refers to the "health and wellbeing of water bodies and freshwater ecosystems" – as above, this is not a phrase used in the RMA and it does not have an established meaning. Policy 12 uses the same phrase.

20. Policy 2 does not provide a basis for setting target attribute states any higher than either current state or the national bottom line. While other policies may require an improvement in water quality (e.g. Policy 11: safeguard habitats of indigenous freshwater species), that is not clearly linked to management of fresh water through the NOF. If the policies are to be framed as outcomes (as they presently are) it would be preferable for all the outcome policies to come first, followed by a policy that specifies that fresh water is managed through a national objectives framework to achieve those outcomes, as demonstrated below. That approach would also improve Policy 13 (economic wellbeing) which is currently a grab-bag of cross-references to things that must be achieved while providing for economic wellbeing.

21. The policies do not implement those aspects of the objective relating to people's use and enjoyment of water, other than indirectly through references to tangata whenua values (Policy 5) and the achievement of the national target for water quality improvement (Policy 6, which by cross-reference to Appendix 3, is referring to the national target to increase rivers and lakes suitable for primary contact).

22. Policy 4 refers to managing land use on a whole-of-catchments basis, considering effects on sensitive receiving environment. The policy direction should be to protect sensitive receiving environments (not just consider them) and to improve them where they are degraded. The policy should refer to ki uta ki tai (from the mountains to the sea).[9]

23. Policy 8 is supported but should also refer to encouraging wetland restoration and enhancement.

[9] Tipa, G, Harmsworth, GR, Williams, E, & Kitson, JC (2016). Integrating mātauranga Māori into freshwater management, planning and decision making. In Jellyman, PG, Davie, TJA, Pearson, CP, & Harding, JS (Eds), *Advances in New Zealand Freshwater Science*. New Zealand Freshwater Sciences Society & New Zealand Hydrological Society.

24. Policy 9 – no net loss of streams – will not ensure that stream habitat is protected. While some loss of stream length is inevitable, and can be offset by expensive mechanisms like daylighting, this provision should not enable loss of habitat quality or extent.

25. Policy 10 - that the significant values of outstanding waterbodies are protected -. This perpetuates an existing problematic approach: if a waterbody is identified as having outstanding values, and therefore meeting the definition of "outstanding waterbody," must an assessment of which of its values are also "significant" be undertaken? It would be preferable to protect any values that contribute to the waterbody being outstanding.

26. Policy 11 is to safeguard the habitats of indigenous freshwater species. It would be preferable to use the RMA's language of protecting habitats and safeguarding ecosystems. This policy is not well implemented in Part 3 of the proposed NPS and is poorly-integrated with quality and quantity provisions.

27. Methods to manage activities are critical to the effectiveness of freshwater policy. A new policy should be included which requires that methods to manage land use, freshwater use, discharges, diversions and damming will be demonstrably effective in achieving the freshwater outcomes sought by this NPS.

28. We recommend that the policies are amended as set out below.

New policy 1:	Water quality in waterbodies and FMUs is maintained, or improved where degraded[10].
Amend Policy 11 and move to Policy 2 position:	The habitats of indigenous freshwater species are ~~safeguarded~~ protected, and the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems, of fresh water, are safeguarded.
Amend Policy 4 and move to Policy 3 position:	Land and freshwater ~~is~~ are managed: (a) in ~~an integrated way, in~~ accordance with ki uta ki tai; (b) to provide for Te Mana o te Wai; (c) in a manner that considers the effects of the use and development of land on a whole-of-catchments basis, ~~including the effects on~~ and (d) to protect sensitive receiving environments.
Amend Policy 6 and move to Policy 4 position (could be merged with the policy above):	Land and freshwater are managed in a way that: (a) enables tangata whenua and other people and communities to connect with water through a range of different activities in a range of different flows, and (b) achieves the national target for water quality improvement for primary contact. ~~The national target for water quality improvement (as set out in Appendix 3) is achieved~~.
Amend Policy 8 and move to Policy 5 position:	There is no further loss or degradation of natural wetlands, and wetland restoration and enhancement is encouraged.
Retain policy 9, move to Policy 6 position	There is no further net loss of streams and no loss of stream habitat extent or quality.
Amend Policy 10, move to Policy 7 position	~~The significant values of~~ Outstanding waterbodies are identified, and the values that make them outstanding are protected.
Retain Policy 3, move to Policy 8 position	The condition of waterbodies and freshwater ecosystems is systematically monitored over time, and action is taken to reverse deteriorating trends.
Amend Policy 5, move to Policy 9 position	Iwi and hapu are involved in freshwater management, ~~and~~ tangata whenua are supported to identify their values and interests ~~are identified~~ and where identified those values and interests are reflected in the management of, and decisions relating to waterbodies and

[10] See definition of "degraded" at paragraph 29- 30 below.

	freshwater ecosystems.
Amend Policy 13, move to Policy 10 position	Communities are enabled to provide for their economic wellbeing ~~while managing freshwater in a manner consistent with Te Mana o te Wai and as required by the national objectives framework and other requirements of this National Policy Statement.~~ in a matter that is consistent with Policies 1 to 9.
Amend Policy 2 and move to Policy 11 position:	Freshwater is managed through a national objectives framework in a manner that achieves the objective and Policies 1 to 10 ~~in order to ensure that the health and wellbeing of waterbodies and freshwater is maintained or improved.~~
New policy 12	Methods to manage land and freshwater use, discharges, damming and diversions are adopted that will demonstrably ensure that freshwater outcomes in the objective and Policies 1 to 10 are achieved.
Retain Policy 7, move to Policy 13 position	Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided.
Amend Policy 12, move to Policy 14 position	Information about the state of waterbodies and freshwater ecosystems, ~~and the challenges to their health and wellbeing~~ pressures on and trends in their quality and life-supporting capacity, is regularly monitored, reported on and published.

29. We recommend that a new definition of "degraded" (in relation to water quality) is included. The prerequisites for a definition of degraded are:

    a. The definition should ensure that it applies to all relevant attributes, to avoid the situation where a waterbody is considered not to be degraded because several attributes are at an acceptable level and only one or a few are at an unacceptable level. Averaging across attributes is not appropriate as all contribute to freshwater health in different ways.

    b. The definition should be able to be applied before the process to set target attribute states has occurred, so that it can guide that process. Otherwise, there will be no basis within the policies to guide councils to set target attribute states any higher than (the higher of) current state or national bottom line.

30. We have attempted to provide a definition that meets those requirements but technical and planning input on the final definition should be sought:

> **Degraded**, in relation to water quality, means that the current state of any attribute in a waterbody does not (within appropriate statistical parameters) meet the threshold necessary for the attribute to provide for the compulsory values and any additional values identified for the waterbody.

31. We also support a new definition of "maintain". We are very pleased to see that the reference to maintaining "overall water quality" within a freshwater management unit has not been carried over. That phrase has been relied on by some councils and industry groups to argue that the NPS does not require that water quality is maintained in an absolute sense. There are two ways that this argument is put forward. The first is that degradation in some locations is acceptable so long there is a commensurate improvement in other places.[11] The second is that degradation in some attributes is acceptable (e.g. DIN) as long as other attributes are improved (e.g. sediment). In both respects, the concepts are

[11] This approach was rejected by the Environment Court in *Ngāti Kahungunu Iwi Inc v Hawke's Bay Regional Council* [2015] NZEnvC 50

meaningless and do not implement the RMA requirement to maintain water quality. To provide certainty, Forest & Bird recommends that a definition of "maintain" is provided. Suggested wording (subject to technical and planning input) is:

> **Maintain**, in relation to water quality, means that the state of attributes in a waterbody remains the same (within reasonable statistical parameters) and does not worsen.

Part 3: Implementing objectives and policies

Subpart 1 Approaches to implementing objective and policies

3.2 Te Mana o te Wai

32. Implementing policy ("IP") 3.2(7) requires that regional councils assess whether waterbodies in the region can both sustain current pressures on them and provide for the long-term vision articulated in its regional policy statement. However, there is no consequence if the current pressures will not provide for the long-term vision. IP 3.2(8) provides that the long-term vision informs and provides the context for freshwater planning, but does not require that freshwater planning is consistent with the long-term vision. There is also a practical difficulty in retaining "the discussions that led to the long-term vision" so that they can inform freshwater planning.

33. There is no clear link between the long-term vision and the NPS policies.

34. We recommend that:

    a. IP 3.2(8) is amended:

    > Freshwater management and freshwater planning decisions must be consistent with achievement of the long-term vision. ~~The long-term vision and the discussions that led to it must inform and provide the context for all subsequent freshwater management and freshwater planning decisions in the region~~

    b. Further consideration as to whether a new or amended NPS policy is required to link to the long-term vision concept.

3.3 Tangata whenua roles and interests

35. Tangata whenua are best placed to comment on this policy. From a drafting perspective, it seems to be written in a way that makes tangata whenua passive recipients of regional council engagement. Should it be drafted in a way that enables tangata whenua to exercise kaitiakitanga in an active way?

3.4 Integrated management

36. Forest & Bird considers that the NPS can do much more to ensure that integrated management occurs. This should start with recognition that water quality, water quantity and habitat are all linked, and that environmental outcomes should be described in a way that drives provisions for maintaining or improving water quality, identifying and achieving environmental flows, and identifying and protecting habitat of indigenous fauna. This is discussed further in relation to IP 3.7.

37. Integrated management ki uta ki tai requires recognition of the critical importance of ephemeral waterbodies, such as those in catchment headwaters. These waterbodies have very high biodiversity values and are often critical source areas. They are not necessarily encompassed within the definition of stream/river (some plans distinguish between

ephemeral and intermittent waterbodies). They should be covered by all relevant NPS and NES provisions.

38. "Avoid, remedy or mitigate adverse effects" is an unhelpful phrase in relation to freshwater management, because it is not outcome-focussed. Mitigation may not be sufficient to achieve the freshwater outcomes that this NPS seeks, but mitigation is clearly provided for by IP3.4. We recommend that IP 3.4 is redrafted to focus on integrated management to achieve freshwater outcomes.

39. IP 3.4(3) provides an example of what giving effect to integrated management requires. The example is "encouraging the co-ordination and sequencing of regional or urban growth, land use and development, and the provision of infrastructure". It is unclear why this particular example and not others have been included, and why it refers to "encouraging" when regional councils are responsible for controlling the use of land for the purpose of water quality maintenance and enhancement.[12] In relation to the effects of urban growth and infrastructure on fresh water, decisions about where and whether these activities occur are also relevant (not only co-ordination and sequencing).

40. We recommend that if this example is to be retained, it should be amended to refer to "encouraging and controlling the location, co-ordination and sequencing of regional or urban growth, land use and development, and the provision of infrastructure".

41. The direct insertion policy at IP3.4(5) and the policy at IP3.4(6) direct district plans/territorial authorities to control the effects of land use from urban development on waterbodies and sensitive receiving environments. While we support the intention to ensure urban development is managed in a way that protects water, this is a significant change to what is presently considered to be covered by district council functions.[13] We support the interpretation of the integrated management function in s 31(1)(a) as covering freshwater effects of urban development. District councils are likely to need assistance to implement the integrated management function in this regard.

42. In addition, the policy is not sufficiently directive or outcome focussed to ensure that land use decisions protect fresh water. The examples given in the information note, in particular "using zoning to avoid all, or certain types of development in areas where effects on fresh water could not be adequately managed" will not occur if the direction is only to "avoid, remedy or mitigate" effects.

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[12] Section 30(1)(c)(ii)

[13] The purpose of district plans is to assist territorial authorities to carry out their functions (s 72) so the NPS can only direct district councils to address these matters in their plans if it is a district council function. This was addressed in *Canterbury Regional Council v Banks Peninsula District Council* [1995] 3 NZLR 189; [1995] NZRMA 452. The Court of Appeal said:

> A regional council may, to the extent allowed under s 68 of the Resource Management Act, include in a regional plan rules which prohibit, regulate or allow activities for the purpose of carrying out its functions under s 30(1)(c) to (h). A territorial authority may, to the extent allowed under s 76, include in a district plan rules which prohibit, regulate or allow activities for the purpose of carrying out its functions under s 31. Neither a regional council nor a territorial authority has the power to make rules for purposes falling within the functions of the other, except to the extent that they fall within its own functions and for the purpose of carrying out its own functions. To that extent only both have overlapping rule making powers, but the powers of a territorial authority are also subject to s 75(2).

43. District Councils are responsible for stormwater and wastewater infrastructure. Although that infrastructure is regulated by regional councils and therefore already subject to the provisions of this NPS through regional plans, it would be efficient and effective for district councils to be directed to consider freshwater outcomes in planning for such infrastructure.

44. We recommend a new IP3.4(7):

> In planning for the development of infrastructure for community wastewater or stormwater infrastructure, district councils must have particular regard to effects on fresh water and receiving environments.

Subpart 2 National objectives framework

3.5 Overview of national objectives framework

45. IP3.5(1) refers to "interventions", being limits specified in rules, or action plans to achieve target attribute states, flows and levels. This is not a term used in the RMA, which refers to "methods".[14] It is better to use statutory terms where they exist and adequately describe the concept referred to.

46. The intent of IP 3.5(1) is supported but is not adequately reflected in the following IPs.

47. The NPS and the Resource Management Amendment Bill 2019 together provide for a change in the freshwater planning process, by moving away from the collaborative planning approach described in Policy CA2 of the NPSFM 2017. That change is supported, on the basis that the need for those collaborative planning processes to occur appears to be one of the key reasons why many councils are yet to implement the NPSFM 2017. Placing the primary responsibility for freshwater plan development on councils, with people and communities having the ability to submit and participate in hearings, is also more likely to ensure that robust and current science is prioritised and that higher order instruments and the RMA are given effect to in regional plans and are not diverted towards outcomes sought by those with short-term economic interests in perpetuating unsustainable land and freshwater use.[15]

3.6 Identifying FMUs and monitoring sites

48. Policy direction on FMU identification is warranted. At present some regional councils appear to set FMUs at a scale that does not provide for effective freshwater management and enables "averaging out" of poor quality and good quality waterbodies. Councils are overly influenced by the cost of establishing FMU collaborative planning groups (although this does not appear to be provided for under new processes). Direction should not be left to guidance, which is unenforceable and has little effect on council decision-making. Criteria should include matters such as:

    a. Consideration of the environmental values of waterbodies, receiving environments, and the area within which land uses and discharges in the catchment contribute to effects on waterbodies and receiving environments.

    b. A boundary and scale that will enable land use and fresh water to be managed ki uta ki tai to achieve the NPS objective and policies.

[14] For example, in ss 30, 31 and 32.
[15] Forest & Bird also intends to submit on the Resource Management Amendment Bill 2019.

49. The definition of FMU implies that councils determine FMU boundaries in their discretion ("…that a regional council determines under clause 3.6 is an appropriate unit…"). The NPS should make clear that regional councils do not have sole discretion to identify FMU boundaries, as is currently claimed by at least one council,[16] and that this is a matter on which people may submit and seek alternatives.

50. IP 3.6(3) requires councils to identify the location of habitats of Threatened species. In order to maintain indigenous biodiversity, this should also extent to identifying habitats of At Risk species.

51. Outstanding waterbodies are to be identified "within each FMU".[17] It is presently unclear at what scale (regional or national) a waterbody's outstandingness is to be addressed. This policy may be interpreted as meaning the scale is the FMU, which we assume is not intended. The definition of outstanding waterbodies should be amended to clarify the scale. There is conflict between the outstanding waterbody definition and IP 3.6(3), as the definition says that an outstanding waterbody is one that is identified in a RPS or plan, yet IP 3.6(3) requires that outstanding waterbodies are identified.

52. We recommend the definition is amended as follows:

> **Outstanding waterbody** means a waterbody ~~identified in a regional policy statement or plan has having outstanding values~~ that has outstanding environmental values (such as ecological, landscape, recreational or spiritual values) compared with similar waterbodies at either a national or regional scale.

53. The provision for identification of monitoring sites seem skewed towards primary contact sites over other considerations. A list of criteria for monitoring sites that goes beyond primary contact sites would assist. At the minimum the list should ensure sites of relevance to threatened and at risk species are selected, as well as degraded waterbodies.

3.7 Identifying values and environmental outcomes

54. IP 3.7 is critical as it provides for the identification of values, environmental outcomes and attributes. It is a confusing provision.

55. IP3.7(2) requires that councils describe "the environmental outcomes it wants to achieve" for the compulsory values and any additional values, and IP3.7(2) says that councils may identify "additional components and attributes". It is not clear whether environmental outcomes are attributes (or attribute states?) or something different. The definition of "environmental outcome" does not assist.[18] The meaning of "component" is also unclear. The description of ecosystem health refers to 5 biophysical components, but other compulsory values do not expressly contain components. Are the "matters to take into account" for the human contact compulsory value "components"?

56. More fundamentally, there is no direction on what environmental outcomes should be sought. There is no link to the NPS objective and policies. The environmental outcomes should integrate water quality, water quantity and habitat considerations, and should be outcomes that will achieve the NPS objective and policies. This is essential, because under IP3.9 target attribute states are set to achieve the environmental outcomes specified under IP3.7, not to achieve the NPS policies. If inadequate environmental outcomes are specified

[16] Southland Regional Council
[17] IP 3.6(3)
[18] "**Environmental outcome** means an environmental outcome for an FMU, or for individual waterbody or freshwater ecosystem that is described as required by clause 3.7."

where water is degraded (for example, maintaining water in a polluted state that will not safeguard native freshwater species), then target attribute states will also fail to achieve adequate environmental outcomes and the intention of the NPS will be frustrated. The current NPSFM 2017 has the same "missing link" which leads to arguments that meeting national bottom lines is sufficient, even where they would not provide for ecosystem health or human health for recreation.

57. Additionally, there is no express requirement to set environmental outcomes for downstream receiving environments. While these are part of FMUs, they need specific consideration to avoid being subsumed within outcomes set for the wider FMU. We propose that environmental outcomes should be set for downstream receiving environments, and where those receiving environments are in the coastal environment, the NPS should expressly require that the environmental outcome is consistent with the NZCPS. While in theory that is required anyway, in practice there is very little consideration given to the NZCPS in freshwater planning.

58. IP 3.7 is otherwise supported. Our recommendations are to:

    a. Redraft IP 3.7 to remove uncertain terms and ensure that different terms with the same intended meaning are not used. Define key terms, and not by circular reference back to the policy that the term is used in.

    b. Require that environmental outcomes achieve the NPS objective and policies.

    c. Expressly require environmental outcomes for downstream receiving environments (consistent with the NZCPS where relevant).

3.8 Identifying current attribute states

59. IP 3.8 is supported. The reference to "current" should encompass a range of measurements over a statistically appropriate time period.

3.9 Setting target attribute states

60. Target attribute states relate to freshwater quality. Alongside these targets, freshwater habitat should be identified and protected. Water quality should be managed alongside water quantity and habitat in an integrated way.

61. The requirement to set target attribute states at or above current state is supported. However, it is not clear why Human Contact attributes must be set above current state. This appears to be inefficient where a waterbody is pristine or already adequately providing for Human Contact values.

62. Enabling Councils to set any timeframe for achieving target attribute states is a significant weakness in the NPS, and will not achieve the Government's intention. Additional direction on timeframes should be provided, such as indicative timeframes with provision for longer periods to be adopted where the indicative timeframe could not be met (with reasons required). It would be especially useful for a list of criteria to be used by Councils when setting timeframes; this is particularly pertinent with respects to the foreseeable effects of climate change contributing an additional stress on ecosystem integrity and creating urgency where a more lenient approach may be taken if other aspects such as economy are used to drive the impetus for a timeline and milestones. At present, the effect on people and communities' economic interests is usually the overriding consideration in setting timeframes, with little consideration of the impact of long-term degradation on

ecosystems (including our declining native fish fauna), recreational use, and cultural value. Specific criteria could help to address that imbalance.

63. There is an inconsistency between IP 3.9(1) which says target attribute states are "to achieve the environmental outcomes described under clause 3.7" and IP 3.9(6) which says that regional councils must "have regard to" a list of matters - one of which is the environmental outcomes set under clause 3.7 - in setting target attribute states. It should be clarified that target attribute states are set to achieve the environmental outcomes. The considerations in (6) are otherwise supported.

64. Target attribute states should be set at a level that will provide for environmental outcomes in downstream receiving environments. This may be a more conservative state than would otherwise be acceptable (for example, in many cases the national bottom line for DIN may be suitable for a river, but insufficient to achieve the significant reduction in DIN load required to provide for the health of a downstream estuary, particularly if the estuary meets Policy 11(a) NZCPS).

65. We recommend that:

    a. Further consideration is given to whether a requirement for Human Health attributes to always be set above current state is justified/efficient.

    b. The NPS provide direction on setting timeframes (indicative timeframes and criteria).

    c. IP 3.9(1) and 3.9(6) are amended to clarify that target attribute states must be set at a level that achieves specified environmental outcomes.

    d. Target attribute states are required to provide for environmental outcomes in sensitive receiving environments.

3.10 Identifying limits on resource use and preparing action plans

66. Forest & Bird is concerned that this part of the freshwater planning framework does not adequately direct Councils to use effective methods to achieve environmental outcomes.

67. Effective water quality planning involves identifying values or environmental outcomes, then setting target attribute states to provide for those values/outcomes. This aspect is addressed well in the NPS. The next step is to set methods for achieving target attribute states, which should include limits on resource use where possible. This is the most difficult part of freshwater planning, because receiving environment outcomes are the product of a range of different land uses, which contribute contaminants in different ways. Unless all land uses that are affecting the receiving environment are managed within the waterbody and downstream receiving environment's capacity to assimilate pollutants, degradation will result. For some contaminants, a total load can be determined and shares of that load can be allocated, and should be, in order to avoid over-allocation. There are various ways to allocate shares in a contaminant load, all of which raise considerations of equity (including intergenerational and inter-sector) and of how to provide for the rights of tangata whenua. The decision not to provide any direction or guidance on allocation is a missed opportunity to have that conversation at a national level.

68. In addition, there is insufficient direction on methods to achieve environmental outcomes/target attribute states. This continues the existing approach, which tells Councils that their methods must achieve specified environmental outcomes but leaves it entirely up

to the Council how it does that. This does not work. A requirement to adopt measures that will achieve objectives has applied to regional councils since the RMA's inception, and has more specifically required, since the first NPSFM was gazetted, that methods avoid over-allocation and achieve freshwater targets within a defined timeframe. Those directions have not been effective in ensuring appropriate measures are adopted. We know this because water quality is still declining.

69. Regional councils are under immense pressure to adopt methods that are least impactful on the primary production sector. That pressure has led to a continual rejection of regulatory requirements to manage land in ways that will meaningfully reduce contaminant losses in favour of flexible, non-regulatory approaches. For example, it was identified in 2012 that a 50% cut in nutrient inputs into the internationally significant Waituna Lagoon was required to achieve ecological health. Despite that alarming advice, Southland Regional Council deliberately did not adopt a regulatory response requiring nutrient reductions. There was no regulatory approach because "the level of stress was so high that Environment Southland felt that the risk of putting someone over the edge by bringing in regulation at that point was very high".[19] The non-regulatory approach that has been adopted has not resulted in the significant nitrogen reduction needed to protect the lagoon. The inappropriate use of Farm Environment Plans is another example.

70. Unless the NPS/NES specify:

    a. the methods that Councils must implement to ensure that target attribute states are achieved;

    b. a requirement for Councils to demonstrate to a high degree of certainty that the measures they adopt will be effective at achieving the target attribute states; and

    c. that resource consents may not be granted in circumstances where the activity, cumulatively with other land uses, means the target attribute state may be exceeded/not achieved;

    then regional councils will continue to preference inadequate methods that are acceptable to their primary sector constituents but which do not achieve the significant changes in water quality outcomes that are needed. The new freshwater panel process provided for in the Resource Management Amendment Bill will not, by itself, address this issue.

71. Returning to IP 3.10, this should start with a direction to councils to incorporate methods in regional plans to ensure that target attribute states are achieved, and to demonstrate that the methods will be effective.

72. For allocable contaminants like nitrogen, the NPS should specify that loads are to be determined (having particular regard to receiving environments) and provide guidance on how that load should be allocated to land. Forest & Bird supports a Land Use Capability-based allocation method that limits nitrogen loss based on the soil's natural capacity to process nitrogen and is linked directly to the underlying natural biophysical resources in the catchment, and is independent of current land use. Grandparenting existing "rights to pollute" is the worst option for nitrogen allocation.

73. Ideally, nutrient leaching would be managed based on accurate modelling of current and future losses under different land use scenarios. Given the shortcomings in Overseer at

[19] Southland Regional Council officer's oral evidence to Environment Court hearing Topic A of appeals on the Southland Water and Land Plan.

present to adequately do this, we expect that input controls on synthetic fertiliser use and stocking rates would be used in tandem with total instream load limits (i.e. attribute targets).

74. Not all contaminants can be allocated, and different methods must be used to ensure target attribute states are achieved/not exceeded. For attributes requiring limits, the NPS requires that Councils identify "limits on resource use that will achieve the target attribute state". Almost any method, at any scale, would qualify as a limit. Councils "may" impose conditions on resource consents to achieve the target attribute states. The intention to increase the regulatory approach by requiring "limits on resource use", which must be included as rules in a regional plan, is supported. However, this could be interpreted as including permitted activity rules, and opens the door to methods such as good management practice being applied as limits. That is not what we understand by limits on resource use, as in most situations its effectiveness is too uncertain and it is largely unenforceable. Policy 3.10(4) should explicitly require that methods must be demonstrably effective in achieving target attribute states.

75. Sediment is an Appendix 2A attribute, but the description of "limits on resource use" in IP 3.10(4) does not clearly encompass the types of limits that may be required to ensure sediment target attribute states are achieved. That is because the limits are described as being input or output controls, where-as the methods required for sediment control could relate to cultivation methods or prohibiting cultivation in certain areas, regulating the extent of exposed soil, and earthworks controls. We are unsure whether those controls are "input controls". IP 3.10(4) should ensure sediment-focussed methods are provided for.

76. The use of action plans that sit outside statutory RMA planning documents is not supported (IP 3.10 (6) "Action plans may be […] published separately"). Regional plans are the appropriate place to incorporate methods to achieve target attribute states. Action plans will have uncertain status in relation to resource consent decisions, and the requirement for councils to observe and enforce their own policy statements and plans will not apply to them.[20]

77. The link between achievement of target attribute states and resource consent decisions must be strengthened. At present IP 3.10(1), (2) and (3) say that regional councils "may impose conditions on resource consents." This is very weak policy and does not provide for situations where resource consent must be declined to achieve target attribute states. IP 3.10 should instead specify that "regional councils must not authorise any activity that is inconsistent with achievement of target attribute states and may decline applications for resource consents or impose consent conditions in order to ensure target attribute states will be achieved".

78. Methods must ensure that receiving environments are also protected. This could occur by requiring target attribute states for those environments, or by incorporation into the requirements of IP 3.10.

79. We recommend that IP 3.10 is amended as follows:

> 3.10 ~~Identifying limits on resource use and preparing action plans~~ Methods to achieve target attribute states
> (1) In order to achieve the target attribute states and protect sensitive receiving environments, every regional council:

[20] Section 84.

a) must include methods in its regional plan that are demonstrably effective in controlling cumulative effects in a manner that will achieve the target attribute states and protect sensitive receiving environments;
b) must include those methods as rules in its regional plan;
c) may also include additional non-regulatory methods in its regional plan; and
d) must not grant a resource consent for an activity where the activity, individually or in combination with other activities in the catchment, would not be consistent with achievement of the target attribute states or protection of receiving environments.

(2) For the attributes in Appendix 2A, ~~every regional council~~those methods must ~~identify~~include limits on resource use that will achieve the target attribute state.
~~a) must identify~~include ~~limits on resource use that will achieve the target attribute state; and~~
~~b) must be included the limits on resource use as rules in its~~the ~~regional plan.; and~~
~~c) may prepare and publish action plans; and~~
~~d) may impose conditions on resource consents.~~

(3) ~~In order to achieve the target attribute states f~~For the attributes in Appendix 2B and any other target attribute states, ~~every regional council~~those methods may include limits on resource use, or other methods that will achieve the target attribute state and protect receiving environments.~~:~~
~~a) must prepare an action plan for achieving the target attribute state within the specified timeframe; and~~
~~b) must publish the action plan; and~~
~~c) may identify~~ include ~~limits on resource use and include them as rules in its regional plan; and~~
~~d) may impose conditions on resource consents.~~
~~(3) In order to achieve any other target attribute states, a regional council may do any or all of the following:~~
~~a) identify limits on resource use and include them as rules in its regional plan;~~
~~b) prepare and publish action plans;~~
~~c) impose conditions on resource consents.~~

(4) Regional councils must determine the total nitrogen load that will achieve target attribute states and receiving environments as affected by nitrogen, and must include in its regional plan, as a limit on resource use, a method to allocate the load to contributing land. In allocating nitrogen load to land, the regional council must prioritise input controls, and have particular regard to land use capability.

(4~~5~~) Limits on resource use ~~may~~means methods that:
a) apply to any activity or land use practice; and
b) apply at any scale (such as to all or any part of an FMU, or to a specific waterbody or individual property); and
c) ~~be~~are expressed as an input control (such as an amount of fertiliser that may be applied)~~, or~~ an output control (such as a volume or rate of discharge), or other control on land use, earthworks, diversions or discharges, but not including a requirement to apply good management practices; and
d) describe the circumstances in which the limit applies.

(~~5~~6) In setting limits on resource use, regional councils must:
a) use the best information available at the time (which may include measured, modelled, or estimated data); and
b) take into account results or information from freshwater accounting systems.

~~(6) Action plans may be published either by including them in a regional plan, or by being published separately.~~

3.11 Setting environmental flows and levels

80. IP 3.11 is supported but requires some strengthening of its language. Environmental flows and levels should be set "to achieve" the environmental outcomes under clause 3.7 and protect downstream receiving environments. We propose that IP 3.11(2) is amended by replacing "on the basis of" with "to achieve".

81. Forest & Bird considers that a definition for environmental flows must be included, such as:

> **Environmental flow** is the flow required to provide for in-stream environmental outcomes

82. Provisions providing for takes, damming and diversions should ensure that both the environmental flow and adequate flow variability above the environmental flow are provided for (not exceeded). Where environmental flow or adequate flow variability are not currently met, takes, damming and diversions should be managed to achieve those outcomes within a defined timeframe.

83. A National Environment Standard on Environmental Flows should be progressed to completion. Currently the Ministry for the Environment's website hosts the draft NES (from 2008) which is available for download. Regional councils have historically used, (and some continue to use) this draft document to set ecological flows across the country. There are multiple issues with this. First, public participation in this draft document (including from the scientific community) is lacking, Second, the draft standards are potentially out of date for some areas. Third, climate change has not been properly taken into account with regards to how ecological flows will be affected and what processes will need to be in place to allow for adjustments as climate change will effect the available volume and frequency of rainfall as well as rising temperatures.

84. "Current" flow should be determined over a period that is sufficient to understand the "natural" flow of the waterbody.

3.12 Identifying take limits

85. IP 3.12 provides for take limits, which are a limit "on the amount of water that can be taken from an FMU". This does not appear to cover damming and diversion and should be extended to cover those activities (as should other references to "taking" in IP 3.12).

86. IP 3.12 does not deal with the change over time that is required to transition unsustainable takes and diversions to a sustainable environmental flow and level. Where environmental flows and levels are exceeded or are expected to be negatively affected by the foreseeable impacts of climate change, IP 3.12 should require regional councils to identify a timeframe for achieving the specified environmental flows and levels, and to adopt methods that ensure that the environmental flows and levels will be achieved within the timeframe. Those methods are likely to include decreasing take limits over time. Our submissions on timeframe considerations at paragraphs 62 to 65 above also apply here.

87. The reference in IP 3.12(3)(e) to "aquifer" should be changed to "groundwater" which is a broader term encompassing the water table.

88. As with IP 3.10, the relationship between resource consents and take limits is not appropriately described. IP 3.11 should say that Councils must not grant a resource consent for an activity where the activity, individually or in combination with other activities in the catchment, would exceed the take limit or be inconsistent with achieving the environmental flows and levels within the specified timeframe.

89. A mechanism enabling take limits to be reviewed if they are shown not to be sufficient to achieve the environmental flows and levels (for example, due to foreseeable climate change impacts) should be incorporated.

3.13 Monitoring

90. IP 3.13 should refer to monitoring of progress towards achieving environmental flows and methods, as at present it appears to be water quality-focussed.

3.14 What to do if deterioration detected

91. All references to action plans should be deleted and replaced with a requirement to review regional plan methods and change them in a way that will demonstrably be effective at halting and reversing deterioration.

92. The requirement to act if deterioration is detected needs to be extended to include a requirement to act where environmental flows or levels are exceeded, or (where already exceeded) are not on track for achievement within the timeframe.

93. The intent of IP 3.14(3) is unclear ("councils may take any other regulatory or non-regulatory steps to assist the improvement of water quality and avoid over-allocation within defined timeframes"). If it is intended only to confirm that councils can take steps over and above specified regulatory ones then it is probably harmless (but unnecessary). However, it should be written in a way that ensures it does not authorise councils only taking non-regulatory action to address water quality or quantity policy failure.

Subpart 3 Specific requirements

3.15 Inland wetlands

94. Wetlands are biodiversity hotspots, and provide important ecosystem services by purifying water by filtering out nutrients and sediments, regulating water flow during storms and storing carbon as peat. Around 90 per cent of wetlands in New Zealand have been drained, and this destruction continues due to insufficient policy direction at the national level and insufficient regulation and enforcement rules at the regional level. Little is known about the quality of remaining wetlands. Most large remaining wetlands are in public ownership, but 40% (by area) of remaining wetlands are on private land with the majority of these being the country's smaller wetlands (under 100 ha)[21] the vast majority of which are surrounded by farmland in private ownership.[22]

95. New Zealand is a contracting party to the Ramsar Convention and has committed to implement the Ramsar Convention and Forest & Bird is one of two National CEPA Focal Points assigned to help coordinate national implementation and act as the daily contact point. The Convention provides for the protection of wetlands of international importance and the "wise use" of all wetlands. A definition of the "wise use" concept was adopted by COP3 (1987) and an updated definition was adopted in 2005 by COP9.[23] "Wise use" of wetlands is "the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development"

[21] Ward, Helli. Ministry for the Environment. 29 November 2018. Freshwater Science and Technical Advisory Group: Wetlands, released under OIA

[22] Ministry for the Environment & Stats NZ (2019). New Zealand's Environmental Reporting Series: Environment Aotearoa 2019. Available from www.mfe.govt.nz and www.stats.govt.nz.

[23] Ramsar Secretariat *Ramsar Resolution IX.1* (2005), Annex A.

where "ecological character" is "the combination of the ecosystem components, processes and benefits/services that characterise the wetland at a given point in time."

96. Forest & Bird does not support a distinction between inland and coastal wetlands. The definition of coastal wetland is uncertain, and some wetlands may fall within a gap between the coverage of the NZCPS and this NPS. In addition, the NSCPS does not specifically address wetlands.

97. Geothermal wetlands are excluded from the definition of inland wetland and are not dealt with in other policy. This exclusion is inappropriate and does not implement the wetland protection requirements of the RMA.

98. The definition of natural wetland excludes wet pasture or paddocks where water temporarily ponds after rain in places dominated by pasture, or that contain patches of exotic sedge or rush species. This exclusion is not justified. There will be circumstances where areas that could meet that description also have important wetland values. This was the subject of extensive evidence in the Hawke's Bay wetland definition case.[24] Although the decision was complicated by jurisdictional issues, the ecological evidence in that case was clear that areas that could be described as "wet paddock" could also be wetlands, and the Court found:

> [34] The Decision Version specified the following new definition of 'wetland' …:
>
> > Wetland includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions. For the purposes of this Plan, a wetland is not:
> > a) wet pasture or cropping land
> > b) artificial wetlands used for wastewater or stormwater treatment
> > c) farm dams and detention dams
> > cA) reservoirs, dams and other areas specifically designed and established for the construction and/or operation of a hydro-electric power scheme.
>
> [35] **The Decision Version definition of 'wetland' is not supported by the evidence, including the JWS**. In any case, considering only what is appropriate for the RPS, **the Decision Version definition is inappropriate for the purposes of RPS objectives and policies. Specifically, we find the various exclusions in that definition (Le. a) - cA)) would be either undermining of the intentions of, or unnecessary for, various RPS objectives and policies**.
>
> [36] By way of illustration of that point, we refer to RPS objective 15:
>
> > The preservation and enhancement of remaining areas of significant indigenous vegetation, significant habitats of indigenous fauna and ecologically significant wetlands.
>
> [37] **For the definition to exclude from that objective any 'wet pasture or cropping land' could potentially compromise achievement of the objective**. ....
>
> (emphasis added)

99. IP 3.15(6) says that in cases of uncertainty or dispute about the existence or extent of a natural inland wetland, the wetland delineation protocol must be used, and is definitive. The "wet paddock" exclusion may well conflict with that definition. Description of areas that are likely to be wetland or not is more appropriate in guidance than a definition.

[24] *Hawke's Bay Fish and Game Council v Hawke's Bay Regional Council* [2018] NZEnvC 192. The ecologists' evidence included examples of wetlands that were described by a non-ecologist witness (a Federated Farmers staff member) as 'wet pasture'.

100. We support the use of the wetland delineation protocol, but note that it is incomplete. We support the allocation of funding to enable the hydrology aspect of this tool to be completed. We note that until it is completed, there will be some wetlands for which the tool is not definitive (especially relating to peat wetlands).

101. The inclusion of the "net loss" and "net gain" definitions is confusing as the terms are not used in IP 3.15 at all, and only "net loss" is used in IP 3.16 (streams). There are number of problems with the definitions:

    a. The definition of "net loss" is limited to where positive effects from actions match environmental losses due to impacts so there is no net reduction. However, net loss should also cover the situation where there is a net reduction in environmental values. The net loss and net gain definitions are also uncertain in terms of what is being measured/addressed, which carries the risk of loss of habitat extent or condition in exchange for some other unspecified environmental values.

    b. The net gain definition refers to effects on "ecosystem health" (presumably a reference to the compulsory value?) where-as the net loss definition refers to "environmental values" (undefined).

    c. These definitions would inappropriately enable "trading off" within the different environmental values, for example, loss of biodiversity values of a wetland which is compensated for by an increase in extent of carbon storage potential. Such trade-offs will not maintain biodiversity or water quality and may result in hidden net loss of wetland condition and extent.

102. Strong policy direction to avoid the drainage, vegetation destruction or degradation of natural wetlands is supported (IP 3.15(2)). However, this is only to be included in regional policy statements and is immediately undermined by IP 3.15 (4) which provides for councils to apply the effects management hierarchy when considering an application for a consent. Application of the effects management hierarchy does not equate to avoidance of loss, and will not turn the tide on wetland drainage and destruction. The "avoid" direction in IP 3.15 (2) should be a general direction to regional and district councils, which they must implement through all planning instruments.

103. Policy direction to avoid drainage, vegetation destruction and degradation of wetlands should refer to condition and extent.

104. IP3.15(3)(a) is confusing. Policy cannot be read "subject to rules" – this does not make sense, as rules implement policies. In terms of policy coherence, the NES for Freshwater should implement the policy direction in the NPS so this provision should be unnecessary in any event.

105. Direction to identify wetlands is supported but should also cover wetlands known to contain At Risk species. If small wetlands (not otherwise captured by the requirement to map wetlands over 0.05 hectares) contain At Risk species despite their small size, they are ecologically significant.

106. Policy to encourage restoration or enhancement of wetlands is supported (IP3.15(7)). Forest & Bird recommends that Councils are encouraged to restore historic wetlands with respect to original type.

107. IP3.15(8) is for councils to permit the management of a constructed wetland to prioritise practices consistent with the constructed wetland's purpose. The intent of this provision is

not of concern, but the use of the term "permit" is inappropriate as it suggests permitted activity status must be used, which may not be appropriate for a range of reasons. For example, activities in flood control wetlands may need oversight to ensure adverse effects on downstream properties are appropriately managed. The term "provide for" is better.

108. Policy to monitor wetland condition and extent is supported, and in particular the requirement to have methods to respond when degradation of wetland conditions is detected, but it is unclear whether the "monitoring plan" is a statutory plan (i.e. part of a regional plan) or not. Forest & Bird considers this should be part of a regional plan.

109. There are no provisions relating to wetland water quality and no link into the national objectives framework. Forest & Bird strongly supports adoption of the STAG recommendations for inclusion of additional attribute tables for Wetland Condition Index and Wetland Extent.

3.16 Streams

110. Policy direction to protect streams is welcomed. However, many of the issues with the drafting of the wetland policy also apply to streams, including:

    a. The requirement to read policy "subject to" rules.

    b. Potential for conflicting direction between a requirement to "at least maintain" but also to "apply the effects management hierarchy" and "avoid infilling unless there are no other practicable alternative methods".

111. Within the streams policy or elsewhere, a requirement to identify and protect freshwater habitat is required. Policy should direct no loss of stream habitat condition or extent, and the "no net loss" direction should apply to stream length (not habitat). At a minimum, īnanga spawning habitat (which can be on land at stream banks) should be prioritised for identification and protection.. The values of streams are not homogenous, and a requirement to protect these high value areas is needed. We recommend that fish habitat be included as a value in Appendix 1B.

3.17 Fish passage

112. Specific direction on fish passage is also welcomed. However, the policy is undermined by providing a discretion to achieve diversity and abundance of fish in "all or specified streams" (IP3.17(1)). This enables councils to choose just a few streams to apply fish passage policy to, which will not safeguard the life-supporting capacity of freshwater ecosystems.

113. References to threatened fish species should also include At Risk species.

114. IP3.17(3) relating to considerations for in stream structures is supported. These considerations should be linked to achievement of objectives for all streams (by amending IP 3.17(1)).

115. Provision for work programmes to remediate fish passage barriers is supported.

116. Forest & Bird supports the submission by the New Zealand Fish Passage Advisory Group on matters not covered above.

3.18 Primary contact sites

117. Prioritisation of particular primary contact sites for monitoring and action will only be appropriate if measures to move all waterbodies to a state where they are appropriate for primary contact are implemented.

118. Sampling should be required outside of the summer bathing season as other recreational sports and winter swimming does occur meaning that human health as a value is pertinent throughout the entire year.

3.19 Water allocation

119. This provision should refer to water quantity allocation, as the phrase "allocation" is used in relation to both quality and quantity where-as this provision appears to relate only to quantity.

120. IP 3.19(3) requires councils to define timeframes for phasing out over-allocation. This should be part of IP3.12, amended as set out above. We strongly oppose leaving Councils to set their own timeframes without any guidance.

121. IP 3.19 (2) 'efficient use of water' should include identifying and reducing losses related to inadequate infrastructure maintenance.

3.20 Accounting systems

122. IP 3.20 is supported. The term "regularly" is vague. We would like to see the system for making this 'information available to the public' (4) be set on a national database rather than disparate (separate for 16 councils) systems that are inconsistent and unreliable.

3.21 Assessing and reporting

123. We support an express requirement for Councils to assess and report on freshwater outcomes. It is important that the report focusses on state (degraded or not) as well as trend. We are unsure of the value of a combined ecosystem health score, as it seems likely to oversimplify consideration of these components. At this stage we do not support it.

124. Habitat (state, pressures, trends) is not adequately covered in the requirements for assessing and reporting, and IP 3.21 should be amended to rectify this.

Subpart 4 Exceptions

3.22 Exception for large hydro schemes

125. An exception for large hydro schemes is not justified. Forest & Bird accepts the critical need for New Zealand to transition away from fossil fuels, and as part of this to increase renewable electricity generation. However, the requirement to safeguard life supporting capacity of water and ecosystems is an environmental bottom line. The transition needs to occur within environmental bottom lines to be sustainable.

126. IP 3.22 enables councils to set target attribute states that are below national bottom lines in respect of waterbodies or freshwater ecosystems that are adversely impacted by large hydro scheme structures. Officials have advised that water quality and quantity is to be maintained, regardless of that provision, but the NPS does not say that. That also raises the question: maintained in relation to what? Many of these hydro schemes were consented many years ago and the approach to providing for minimum flows, flow variability and so on are not reflective of current approaches. Once those schemes' resource consents expire (if their structures are consented rather than authorised by statute), the existing

environment for the fresh waterbody is the environment that would exist without the structures. "Maintenance" against the conditions that prevail with the structures in place is simply locking in the effects of these schemes without the opportunity to assess whether improvements can and should be required.

127. Renewable electricity generation is already provided for in the National Policy Statement for Renewable Electricity Generation, which must be given effect to in plans. Any further provision for hydro structures should require that hydro operators and councils demonstrate that it is not possible to maintain generation capacity (both at the site and nationally) if a bottom line is required to be met, before any deviations from bottom lines are able to be considered.

128. Forest & Bird understands (from officials) that the exception does not apply to flows. However, the relationship between flows and water quality requires careful consideration. In circumstances where a waterbody would meet bottom lines but for the reduced flow that results from the hydro scheme take (for example, because the low flow results in higher temperatures), it is unclear whether the exemption applies or not. As we do not support the exemption, we would not support any extension from the requirement to achieve environmental flows.

129. Large hydro-schemes have a significant impact on river connectivity and, hence, the distribution and abundance of aquatic organisms. This has been evidenced by numerous articles on fish kill events and research by Waikato Regional Council which shows that migrating female longfin eel have a reduced (if not zero) chance of survival when migration out to sea is interrupted by a flood pump or a hydro scheme. If the NPS is to achieve improved outcomes for at risk and threatened species then hydro-schemes' impacts on changes in habitat, water quality and barriers to migration must be taken into account and managed.

3.23 Exception for naturally occurring processes

130. While an exception for naturally occurring processes is unobjectionable, it should not enable climate change to be treated as a naturally occurring process justifying exemptions from default NPS requirements. The definition of naturally occurring processes in 3.23(3) could be read as including climate change.

131. The NPS is largely silent on climate change implications. Forest & Bird recommends that a specific policy be included that requires Councils have particular regard to the effects of climate change when identifying environmental outcomes, target attribute states, environmental flows and methods.

Part 4 Timing

4.1 Timing

132. A requirement to have final decisions on policy statements and plans to give effect to the NPS by 31 December 2025 is supported. Existing processes have taken far too long and New Zealand's freshwater ecosystems have suffered as a result.

133. The NPS provides for regional councils to demonstrate that they do not need to make changes because their instruments are already consistent with the NPS. This approach is supported, but it is not clear how councils would "show" this. This process could be

achieved by requiring councils to publish a statement that identifies which provisions of existing instruments are said to implement the new NPS requirements.

Appendices

Appendix 1A: Compulsory values

134. The descriptions of the compulsory values are supported. However, if the term "components" is to be retained in Policy 3.10, the components of each compulsory value should be specified.

135. The Threatened species compulsory value should also refer to At Risk species.

136. We consider that all indigenous freshwater fish spawning habitat should be a compulsory value. Due to the high number of species that are classified as either at risk or threatened with extinction (76%), protection of spawning ground is paramount to the preservation of the species.

137. Forest & Bird supports a Mahinga Kai compulsory value.

. Appendix 1B: Other values that must be considered

138. We would like to see a value relating to fish habitat (beyond spawning habitat, which we seek be a compulsory value).

139. The description of the natural form and character value refers to "where people value particular natural qualities". People's experience is only one part of natural character. Natural character has three main components: natural processes, natural elements and natural patterns. Natural processes include the action of rivers, waves, tides, wind and rain as well as the movement of animals and the natural succession of plant species. Natural elements include water, landforms, and vegetation cover. The distribution of these natural elements over an area forms natural patterns. The fourth important component is the human experience of these natural processes, elements and patterns and values.[25] "Processes" is largely missing from the list of matters contributing to natural form and character.

Appendix 2A: Attributes requiring limits and Appendix 2B: Attributes requiring action plans

140. Subject to the submission points about relating to the use of the terms "methods", "limits" and "limits on resource use" and the use of action plans, Forest & Bird supports the division of attributes between Appendices 2A and 2B.

141. Forest & Bird support the attribute states and national bottom lines put forward by the STAG. With regards to dissolved inorganic nitrogen (DIN), a national bottom line of 1 mg/L (median) is very well justified by evidence of ecological effects at nitrogen concentrations beyond that level.[26] According to the STAG Report, they:

> Attempted to define our bottom lines considering both our understanding of New Zealanders' views as to the bounds of acceptability and, from a technical perspective, **the points at which impacts on the health and functioning of aquatic ecosystems shift from moderate to severe**.

[25] Environment Foundation *Environment Guide: "What is natural character"* <http://www.environmentguide.org.nz/issues/natural-character/>

[26] Death et al "Clean but not green: a weight-of-evidence approach for setting nutrient criteria in New Zealand Rivers" (2018 – in preparation). See also Appendix 4 STAG Report.

142. Setting the national bottom line for DIN any higher than 1 mg/L would not safeguard life-supporting capacity of water and ecosystems as required by the RMA and would be a departure from scientific consensus.

143. There is an overwhelming weight of scientific evidence in support of setting the proposed DIN national bottom line at no higher than 1 mg/L. In addition to the national STAG process, this approach is increasingly being adopted in regional planning. This year all technical witnesses giving evidence to the Environment Court on the Southland Water and Land Plan appeals agreed that a waterbody with a nitrogen concentration above 1mg/L is degraded and requires improvement. As early as 2014, the Board of Inquiry into the Tukituki Catchment Proposal published their final decision stating that "…the Board sees the DIN limit of 0.8 mg/L as a pragmatic level that appropriately protects ecological health while enabling more intensive land use." The outlier is Canterbury, where most zones have adopted nitrogen toxicity and ammonia limits as the only nitrogen-related limits. Those provisions were adopted under the special ECan Act process which did not provide for evidence to be tested in the Environment Court.

144. The proposed new levels for nitrogen would help clean up New Zealand waterways to a level tolerable by our sensitive native fish – the proposed levels are polluted, not pristine. The banded kōkopu and the common bully for example would struggle at nitrate levels of 1.0 or higher.[27]

145. Land use modelling[28] published this month shows that only 18% of measured sites, and 10% of modelled rivers by length (outside of public conservation land) fail for the proposed new nitrogen levels. While it is no surprise that the majority of the country's nitrogen leaching comes from dairy, it is important to note that while 20% of dairy by land area will be required to reduce their nitrate leaching, 11% is already captured by the NPSFM 2017 requirements relating to periphyton. This means that only an additional 9% is affected by the proposed new regulations. This means that the majority of New Zealand farming is not significantly impacted by new nitrogen controls, contrary to the exaggerated picture painted by industry interests.

146. While there are particular catchments that will have trouble meeting the current regulations (NPSFM 2017), only a few of these will be impacted by the proposed new values on nitrogen. Meanwhile there will be a small number of new catchments that may have met the 2017 regulations on periphyton but will need further adjustment to meet the proposed new nitrogen regulations. Overall however, the number of catchments which require additional work due to the proposed new nitrogen limits are minimal. The top 5 regions needing to address the new nitrogen rules are Southland, Waikato, Auckland, Taranaki and Canterbury ranging from 10% - 6% by river length (excluding those waterways already requiring reductions due to NPSFM 2017).

147. In summary, Forest & Bird considers that the DIN bottom line of 1 mg/L is ecologically justified, and that it is efficient and effective to require that all waterbodies are below that concentration (provided appropriate timeframes and other support for transition are given).

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[27] Richardson et als. (2001) Avoidance behaviour of freshwater fish and shrimp exposed to ammonia and low dissolved oxygen separately and in combination, New Zealand Journal of Marine and Freshwater Research, 35:3, 625-633, DOI: 10.1080/00288330.2001.9517028.

[28] Canning, Adam. Land Use and the Proposed Nitrogen Bottom-line, Environmental Protection Trust, 23 October 2019, https://environmentalprotectiontrust.files.wordpress.com/2019/10/land-use-and-din.pdf.

148. The Nitrate (Toxicity) attribute table (Table 8) is unnecessary and confusing in light of the DIN national bottom line. Consistent with the STAG report recommendations, we request that this table is deleted.[29]

149. As discussed elsewhere, we would like to see the STAG-recommended wetland condition and wetland index tables adopted.

150. With regard to IP 3.23 and Appendix 4 (naturally occurring processes), we support the approach of enabling bottom line breaches where naturally occurring processes are the cause, but we strongly recommend that this is drafted in a way that does not enable the effects of climate change to come within this category. As the climate changes, it will be increasingly important to ensure water is managed adaptively (and with increasing precaution) so that freshwater ecosystems are not jeopardised.

Proposed National Environmental Standards for Freshwater

151. Forest & Bird supports the proposal for a National Environmental Standard for Freshwater that addresses wetlands, rivers, fish passage, and some farming activities.

152. While most of our submission points relate to the effectiveness of controls from an environmental perspective, in considering national controls on farming it is also worth taking into account that national rules have applied to forestry since the National Environmental Standard for Plantation Forestry took effect in 2018, and this regulates matters including setbacks, discharge standards, and requirements for how a range of forestry-related activities are undertaken. Inclusion of nationally applicable rules relating to farming in a NES, together with the stock exclusions regulations, will help to increase consistency of rules across the country and level the playing field between farming and forestry.

Part 1 Preliminaries

153. Forest & Bird opposes the idea that the NESPF should prevail over wetland rules. The two instruments should align.

Part 2 Wetlands, rivers, and fish passage

154. Our comments above on the definition of natural wetland also apply to the NES.

155. The definition of "vegetation destruction" is uncertain and will not prevent ongoing wetland destruction and degradation because it is limited to destruction of "significant indigenous vegetation". This means that an assessment of whether indigenous vegetation is significant or not must be undertaken (and the vegetation must be assessed as significant) before the rule applies. This makes it very difficult to objectively ascertain where the rule applies and whether it has been breached. It is important that the definition applies to all indigenous vegetation, and that there is no test (such as "indigenous dominated") applied in determining what is "indigenous vegetation". An approach requiring indigenous dominance has led to ongoing loss of wetlands, for example in Northland, where activities can be undertaken that reduce the extent of indigenous vegetation to the point that it is no longer dominant.

156. There may also be instances where clearance of exotic vegetation next to or in wetlands should be controlled. Exotic vegetation may be important as habitat for freshwater species,

[29] At 41.

to keep water cool, and to mitigate sediment runoff into wetlands. Restoration of exotic dominated wetlands typically requires a planned program of exotic vegetation reduction with indigenous vegetation reinstatement. Protection of wetlands should incorporate planning when managing restoration, as clearing vegetation in or around a wetland whether exotic or indigenous can have negative impacts on the wetland condition and extent.

157. In addition, if only destruction of vegetation is controlled, this will not halt the decline in wetland condition. The definition should refer to vegetation destruction or modification" and should include destroying or degrading indigenous vegetation.

5 Standard wetland monitoring obligation

158. This direction is supported but should also require that wetland fauna is monitored.

159. This direction should be complimented by a provision requiring that a review condition is included in any consents granted under the Standard, which enables the Council to review the conditions of consent where monitoring indicates wetland condition is declining.

6 Standard conditions for nationally significant infrastructure

160. Regulation 6 purports to provide standard consent conditions, but these provisions are not appropriate as consent conditions. They leave consideration of whether adverse effects are avoided, remedied, mitigated or offset to the person undertaking the activity, where-as this is a matter that should be determined by the consent authority when deciding whether to grant consent, and on what terms. Conditions of consent set the parameters within which an activity may be undertaken and must be certain, enforceable, and not written in a way that abrogates the consent authority's function. This provision should be deleted.

161. If it is to be retained, we submit that:

    a. If the policy intention is to halt the loss of wetlands, this will not be achieved by directions which allow wetland drainage or destruction to be offset.

    b. There is a conflict between the "effects management hierarchy" in NPS Policy 3.15(4) which includes compensation, and regulation 6 which does not include compensation.

162. The rules should be linked to achieving target attribute states in the wetland condition and extent indicators proposed by the STAG.

7 Vegetation destruction – discretionary activities and 8 vegetation destruction – non-complying activity

163. In order to halt the loss of wetlands, activities involving clearance of wetland vegetation should be non-complying activities where they are for one of the specified purposes, and otherwise prohibited (other than some activities with de minimis impacts which should be permitted). The discretionary activities under regulation 7 are too broadly framed and should be subject to tests relating to functional need and consideration of alternatives.

164. Providing for the ongoing destruction of wetlands to enable new infrastructure or public flood control/drainage schemes to establish will not halt wetland loss. Councils would have a discretion whether to grant or decline consent under Reg 7, and only need to "have regard to" the policies. This approach will not protect wetlands, particularly when the implementing policy framework applying to such decisions is to "apply the effects management hierarchy". The stated policy outcome – no further loss or degradation of

natural inland wetlands – and the requirements of ss 6(a) and 6(c) RMA will not be achieved.

165. Given that no scale of vegetation destruction is specified, the NES results in all vegetation destruction requiring consent no matter how minimal the impact. Some activities should not require consent, in particular sustainable harvest, removal of exotic vegetation, and vegetation destruction necessary to install a protective fence around the wetland or install educational signage. Some clearance for recreational purposes may be acceptable as a permitted activity, but other clearance may be entirely inappropriate, such as a boardwalk through habitat of threatened species. Overall, more thought needs to be given to the division between permitted, non-complying and prohibited vegetation destruction in wetlands.

166. This rule should also apply to degradation of wetland vegetation.

167. Forest & Bird notes that this provision is less stringent than the policy framework proposed by the Biodiversity Collaborative Group (BCG), in two ways:

    a. The BCG unanimously proposed more stringent policy direction for wetlands:[30]

        > 2. Avoid loss or degradation of any wetland or part of any wetland identified in accordance with Policy 12 1a) above and Appendix 3, or any wetland identified in accordance with Appendix 3 through an assessment undertaken as part of a resource consent application.
        >
        > 3. Provide for activities that are necessary for: a) The intended purpose of the wetland to be met where that wetland was established for a purpose other than the maintenance or enhancement of indigenous biodiversity. b) The protection of the wetland.

    b. The BCG proposed a policy framework for Significant Natural Areas (SNAs). Under that framework loss of ecological integrity of high value must be avoided. The NPS and NES would allow such loss to be assessed as a discretionary activity under an "avoid, remedy, mitigate, offset, compensate" policy. This means that where an area of habitat is partly wetland and partly high value terrestrial SNA, the wetland could be destroyed but the adjoining terrestrial SNA could not be. It is difficult to see any ecological or socio-economic justification for the distinction.

168. We would like to see the Biodiversity Collaborative Groups recommendations for wetlands followed in the NES.

9 - 14 Earth disturbance

169. Stringent provisions controlling earth disturbance and drainage are supported.

170. The same general comments made above in relation to vegetation destruction also apply to earth disturbance. The policy framework against which these activities are considered needs clarification, and should ensure loss or degradation of wetlands is avoided. Other than de minimis activities, earth disturbance and drainage should be non-complying or prohibited.

171. Clauses 12 and 13 turn on whether the activity will "result in a greater than 0.1m change beyond the wetland's annual median water level" which may be insufficiently protective for

[30] Biodiversity Collaborative Group report.

some wetlands. We are unsure whether this is appropriate for all wetlands. Regulation 13b)ii) is supported on its merits but may be insufficiently certain to operate as a rule.

172. There is a gap between the activities covered in Regs 7-14 and those covered in Regs 9-13. Earth disturbance is only controlled within 10 m of a wetland. Earth disturbance further away may change the water level of a wetland by altering the water table, but is specifically excluded by the definition of water take and therefore not covered by the water take provisions. This gap should be addressed.

15 – 17 Water take activities

173. The definition of water take activities is broader than the definition of "take" in the NPS.

174. Water takes from wetlands for new public flood control or drainage and new infrastructure should be non-complying to avoid the cumulative loss of wetlands from these activities. The status of water takes for public flood control and infrastructure that will not cause the changes described in 16(4)(b) is unclear – it would not make sense for such activities to be non-complying when they do not cause environmental changes, but discretionary where they do.

175. The comments above about the appropriateness of a 0.1m threshold also apply to regulation 17.

Subpart 2 – river bed infilling

18 Infilling bed of river

176. Limitations on infilling beds of rivers, and a requirement to demonstrate there are no practicable alternative methods are supported.

177. Regulation 18(2) (standard consent conditions) are opposed on the grounds of certainty/inappropriate delegation as set out above in relation to regulation 6. A consent review condition is sought, also as described for regulation 6.

Subpart 3 – fish passage

178. Regulations for fish passage are welcomed, but should not only apply to structures constructed after the commencement date. Where such structures are authorised by a consent that expires, the fish passage regulations should also apply to reconsenting decisions. The purpose of having defined duration consents for water-related activities is to ensure that the appropriateness of the activity and any conditions of its existence/operation can be revisited.

179. The fish passage regulations are generally supported, except:

    a. The regulation 21(3) standard conditions for resource consents for culverts are opposed. These are not consent conditions. Whether a culvert is contrary to a regional council's objectives for aquatic life as required by the NPS is a matter that the consent authority needs to determine when deciding whether to grant the consent and on what terms. The appropriate place to ensure this is considered is in the NPS.

    b. The regulation 23(2)a) standard condition for resource consents for passive flap gates that "the passive flap gate must comply with all relevant rules in the relevant regional plan" is not appropriate. This is a matter for the consent

authority to determine in deciding whether to grant the consent and on what terms. There are also difficulties with this provision given the requirement that plan rules may only be more stringent than a NES where provision is made for stringency. It is unclear what is intended by this regulation.

c. No activity status is specified for dams, fords and non-passive flap gates. These activities should be discretionary or non-complying and should be required to meet fish passage standards.

Part 3 Farming

180. Regarding the definitions of annual forage crop (which excludes pasture) and intensive winter grazing (which means grazing on annual forage crops), we understand that intensive winter grazing can also occur on pasture with supplementary feed and recommend that the definitions are amended to encompass this activity.

30 Intensive winter grazing

181. Controls on intensive winter grazing are urgently needed, and so Forest & Bird welcomes the intention to regulate this activity.

182. Our main concern with the intensive winter grazing controls is that they are predominantly provided through permitted activity conditions, with the ability to seek consent if the permitted activity standards will not be met. Regional councils in affected parts of the country have demonstrated that they are not willing to control intensive winter grazing even where it is badly impacting on freshwater health. We recommend that where this activity cannot meet permitted standards it should be a non-complying activity.

183. The 30 hectare threshold is too large, we do not support 50 ha, and recommend 10 ha.. The option of a percentage of farm area may be acceptable but should not operate to enable one contiguous area of more than 10 ha..

184. Intensive winter grazing on slopes over 10 degrees should be prohibited.

185. A 5 metre buffer is likely to be insufficient to mitigate run-off of sediment and contaminants, the alternative 20 m buffer is supported. The requirement that this strip be vegetated is strongly supported as consistent with research on the effectiveness of buffers.

186. The recognition of critical source areas is welcome, but these areas should also be protected by a buffer of at least 10 metres. The challenge with critical source areas is their appropriate identification, however, with the increasing availability of LiDAR information it is now possible to use find scale topography to identify these areas in a robust manner. The use of this information should be required as a condition of the activity. A definition of critical source area should be included. We suggest the following definition:

> **Critical source areas** are those areas within a catchment that contribute a disproportionately large amount of contaminants to water, due to a high-level of contaminant sources or a high contaminant transport potential.

187. The pugging standard is too lenient in terms of animal welfare, soil conservation and water quality. Pugging depth should be no more than 5 cm. We do have some concerns about the practical enforceability of this provision however, and we would support workshops with stakeholders and councils to work through how best to implement this.

188. The cumulative total in regulation 30(2)(b) requires information about cumulative forage cropping between 2013-14 and 2018-19 that is unlikely to be available in some regions (in a robust enough form to enable enforcement). This regulation is unnecessary as the activity should default to non-complying. In some areas (e.g. Southland) a reduction in intensive winter grazing is required, rather than just maintaining the status quo). Regulations 30 to 33 enable increases in intensive winter grazing in some circumstances. Forest & Bird opposes that policy direction, at least until NPS provisions are fully implemented.

Subpart 2 – Intensification

189. Measures to control intensification while the NPS is fully implemented are strongly supported.

31 Geographic application of subpart 2

190. Regulation 31(2) should be amended to align with changes sought to the NPS terminology regarding methods, limits and action plans.

33 Intensive winter grazing within certain areas

191. Under regulation 33, intensive winter grazing is a discretionary activity where the total area increases compared with the previous 5 year period.

192. No increase in intensive winter grazing should be provided for. This is an unsustainable activity that should be reducing in many places, not increasing.

193. The condition requiring that contaminant discharges be shown not to have increased is too easily manipulated, and rewards landowners who already have high discharge rates rather than those with lower leaching.

194. The condition requiring farm plans which include actions to avoid, remedy or mitigate adverse effects will not achieve the significant improvements in water quality required. Farm plans are useful as a non-regulatory tool to assist farmers to record the environmental features of their land and implement their intended farm management practices, but they are focussed on farming methods rather than freshwater outcomes and are not effectively and transparently linked to reductions in contaminant losses needed to achieve freshwater outcomes. This means that they create the impression that significant effort is going into managing farming practices to achieve freshwater goals (and that impression may be justified), but whether the effort will be effective is usually unknown.

34 Irrigated farming

195. There should be no increase in irrigated area for dairy farms. Increased irrigation areas result in increased fertiliser use and increased discharges of contaminants from effluent. We are not convinced that comparisons of nutrient outputs over time are robust enough to allow increased irrigation where discharges will not increase.

196. It may be appropriate to allow for increased irrigation for low leaching activities such as some forms of horticultural production. Overall, any measures to constrain the expansion of high leaching activities should be adopted.

35 High Risk land use change and 36 Land use change to commercial vegetable production

197. The same comments above apply to regulation 35 and 36.

Subpart 3 – Freshwater module of farm plans

198. Forest & Bird is concerned that farm plans are proposed to be used in a way that will undermine the intentions of the NPS and NES, and is not consistent with RMA requirements for NESs.

199. The farm plan proposal would make farming a permitted activity even where water is degraded and significant change is needed. It devolves responsibility for ensuring that land is appropriately managed to external certifiers and auditors. This is a core regional council function which should not be passed to consultants.

200. The link between farm plans and freshwater outcomes is tenuous. Farm plans are required to address a range of on-farm conditions and risks, and to set out actions to avoid remedy or mitigate loss of contaminants plus timeframes for those actions (Regulation 38). Farm plans are certified by farm environment planners as accurately identifying risks and setting out actions to address them, being consistent with good farming practice[31] and being "consistent with relevant RPSs and plans" (Regulation 41). In circumstances where significant reductions in contaminant losses are required, determining whether each farm plan is consistent with the environmental outcomes set in RPSs and plans requires that the cumulative effort/change required from baseline to future state is understood. This will not be achieved by individual decisions made by individual farm environment planners.

201. Farm plans may be an acceptable regulatory response where waterbodies are meeting environmental outcomes but should not be used in place of resource consents where fresh water is degraded. Where fresh water is degraded and significant changes in land use are required to meet targets, farming and other contributing land uses should require a resource consent. That approach is consistent with the RMA requirement that a NES must not permit an activity having significant adverse effects on the environment.[32]

202. If the regulatory farm plan proposal is applied to land use in degraded catchments (not supported by Forest & Bird), it should be strengthened by requiring certification that actions will achieve limits on resource use and that cumulatively all contributing land uses will achieve the environmental outcomes specified in regional plans within the timeframes within regional plans. This requires that regional councils include methods in plans to determine individual landowners' contributions to cumulative contaminant reduction goals.

203. The Good Farming Practice: Action Plan for Water Quality 2018 contains one page (21 principles) of good farming practice. It is a good start by industry, but is not sufficiently directive or certain to be a standard against which farm plans are assessed. Principles of good farming practice should be determined by all stakeholders and included in the NES.

204. Farm plans only need to be provided to regional councils on request. This means that there is no regular oversight of farm plans by the regulator, and no ability for the public to know what is being required of land managers. If the farm plan proposal is adopted, regulation 39 should require that all farm plans are submitted to the relevant regional council. A decision on certification should also be provided to council, and should identify the reasons for certifying that the farm plan meets the regulatory standards.

[31] As set out in the Good Farming Practice: Action Plan for Water Quality 2018
[32] Section 43A(3).

Additional proposal for the management of nitrogen in Schedule 1 catchments

205. The proposal for additional regulatory oversight to drive nitrogen reduction in Schedule 1 catchments is supported in principle.

206. The proposed approach (set out in the NES) involves dairy farmers providing their current or recent nitrogen loss figures to councils, who then set a threshold for nitrogen loss based on the lowest 70-90 per cent of those figures. Farms with "higher than threshold" losses would require a resource consent, either as a controlled activity where their farm plan shows they will reach the threshold within 5 years, or as a discretionary activity where this is not met. Discretionary consents may be granted on conditions requiring "a specified percentage" nitrogen loss reduction over 5 years using best practicable options, and a requirement for evidence of having achieved half of the specified percentage reduction within 3 years.

207. Forest & Bird's reservations about this proposal are that:

    a. Farm plans are not a necessary regulatory tool in this process, as the outcome can equally be achieved by resource consent conditions.

    b. The provision enabling discretionary consents where any percentage reduction is specified will not drive short-term reductions. This is likely to lead to a proliferation of discretionary activity consents within minimal reductions specified. This should be a non-complying activity so that it can only be granted if not contrary to the regional plan objectives and policies.

    c. As it is linked to current nitrogen loss, not the cumulative nitrogen loss reduction needed to achieve in-stream environmental outcomes and protect receiving environments, further reductions may well be required beyond those envisaged by this proposal.

208. Subject to those comments, the concept of additional methods to achieve short term reductions in N in problem catchments is a good one, and the approach may assist in achieving short term reductions. However, an effective mechanism will be critical.

Draft stock exclusion section 360 regulations

209. Forest & Bird is pleased to see that Government is proposing to make stock exclusion regulations.

210. We are concerned that the regulations do not apply to rivers/streams less than 1 metre wide. Research has shown that contaminant loads from first and second-order small streams (often times less than 1 metre wide, 30 cm deep, and in flat catchments dominated by pasture) account for an average of 77 per cent of the national load (varying from 73 per cent for total nitrogen to 84 per cent for dissolved reactive phosphorus). [33] The researchers recommended that to substantially reduce contaminant losses, other mitigations should be investigated in small streams, particularly where fencing of larger streams has low efficacy. When they focussed on catchments dominated by pastoral land cover, the researchers found that large proportions of the total load were from "exempt"[34] catchments in Canterbury (68%), Southland (71%), Nelson (88%), and Hawkes Bay (72%) regions. These

[33] McDowell et al *Assessing the Yield and Load of Contaminants with Stream Order: Would Policy Requiring Livestock to Be Fenced Out of High-Order Streams Decrease Catchment Contaminant Loads?* (2017) J. Environ. Qual. 46:1038-1047. doi:10.2134/jeq2017.05.0212

[34] i.e. not requiring fencing due to stream size.

regions "have significant downstream rivers that are used for recreation and tourism". Their findings suggested that "not requiring fencing [of small streams] may significantly delay or reduce the ability to mitigate water quality impairment unless other measures are taken". They said:

> We therefore hypothesize that focusing on contaminant delivery to headwaters, which are not currently required to be fenced (i.e., narrow, shallow, or sloping streams), may be more cost-effective than trying to mitigate delivery or their impact farther downstream. But further work is required to confirm this. Not fencing these streams will likely delay or impair our ability to meet catchment load objectives where fencing of larger, deeper streams in flat areas of the catchment is not effective.[35]

211. On that basis, Forest & Bird considers that timeframes for fencing smaller streams should be set in regulations, rather than left to land managers to describe in farm plans[36] (which means the time frame could be "never").

212. We recognise the significant cost to land managers of fencing requirements. Forest & Bird supports Government investment in alternative technology such as virtual fencing to reduce the cost of excluding stock from waterways.

213. We also support provisions enabling councils to grant exemptions but the circumstances where exemptions may be granted should be specified. This should relate to practical difficulties with installing fencing. Longer timeframes for complying with the 5 metre setback where a fence is already in place are also reasonable.

214. We are pleased to see that the proposal includes a setback from streams. The effectiveness of setbacks from streams depends on their width and vegetated cover.[37] A minimum of 5 metres should be adopted, but in some areas this will be insufficient to protect sensitive freshwater environments. We propose that where councils have identified a freshwater body as significant habitat, a 10 m setback is required.

215. Critical source areas are small areas which contribute disproportionately greater amounts of sediment, phosphorus, and nitrogen from a catchment. Some critical source areas can be managed by intervening along the pollutant pathways to prevent, capture, eliminate, or transform pollutants such as reducing pollution inputs or fencing to exclude stock, and we recommend that critical source areas are included in the regulations.

216. The stock exclusion regulations should be part of a package of stream restoration measures (regulatory and non-regulatory) to improve ecosystem health. Streams and rivers are connected ecosystems. Restoration needs to happen across whole catchments, otherwise the anticipated environmental outcomes from fencing may not be seen.[38]

Discussion document questions

1. *Do you think the proposals set out in this document will stop further degradation of New Zealand's freshwater resources, with water quality materially improving within five years?*

   The policy intention is clearly aimed at achieving that outcome. Maintaining the proposed new attributes, especially the dissolved inorganic nitrogen and sediment, as well as changes to

[35] Ibid.
[36] As proposed in the consultation document.
[37] Parkyn, Stephanie. (2004) Review of Riparian Buffer Zone Effectiveness.
[38] Doehring, Katharina & Clapcott, Joanne & Young, Roger *Assessing the Functional Response to Streamside Fencing of Pastoral Waikato Streams, New Zealand.* (2019) Water. 11:1347. 10.3390/w11071347.

existing attributes (e.g. MCI) will be critical in achieving desired improvements. However, changes to the provisions as described above in this submission are needed to ensure the policy achieves this intent.

2. *Do you think the proposals will bring New Zealand's freshwater resources, waterways and ecosystems to a healthy state within a generation?*

   As above. Additionally, it will depend greatly on the allocation process which has yet to occur. It is well understood scientifically that water quality and quantity are intrinsically linked. If we are expected to see a healthy state within a generation we must deal to the foreseeable impacts of climate change in direct relation to the allocation outcomes and this policy focusing on quality.

3. *What difference do you think these proposals would make to your local waterways, and your contact with them?*

   If they are effective, the proposals will help to ensure our rivers, streams, wetlands, groundwater, estuaries to be healthy, functioning environments for native plants and animals, and for people.

4. *What actions do you think you, your business, or your organisation would take in response to the proposed measures?*

   Forest & Bird will continue to advocate for robust freshwater policy and effective monitoring and enforcement. Forest & Bird branch members will continue to be a voice for nature in stakeholder processes as well as contributing across the country to restoration projects to provide habitat for native flora and fauna that are being threatened by stresses caused by poorly managed land use.

5. *What support or information could the Government provide to help you, your business, or your organisation to implement the proposals?*

   Assistance with community funding to restore waterways as Forest & Bird has 50 branches, most of which have active habitat restoration and pest management projects.

6. *Can you think of any unintended consequences from these policies that would get in the way of protection and/or restoration of ecosystem health?*

   Farm plans over effective policy and action plans which are not contained within the regional plan stand to dilute the strength of what is proposed in the NPS and NES Freshwater.

   The proposals put forward, with regards to freshwater farm plans, approved farm environment planners, and approved auditors, risks outsourcing the responsibilities of regional councils and central government to third party agencies. We expect that by creating this parallel system, inefficiencies will result. It is Forest & Birds view that preferencing farm plans over effective policy and action plans (which are not contained within the regional plan) will dilute the strength of what is proposed in the NPS and NES Freshwater and further outsource the problem rather than address the current system's inefficiencies. Farm plans are discussed further at paragraphs 194, 198- 204, 207 and 211.

7. *Do you think it would be a good idea to have an independent national body to provide oversight of freshwater management implementation, as recommended by KWM and FLG?*

   Forest & Bird understands the risks associated with an inefficient or lacking systems of environmental management, however we believe that the responsibility lies with regional

councils and central government. In that regard we agree with the Regional Sector Water Subgroup in its recommendations to conduct a review of the current system and consider how the current system can work better, rather than creating a new institution, and that the ability of existing institutions such as the Ministry for the Environment, the Parliamentary Commissioner for the Environment, and the Office of the Auditor General to undertake review and corrective functions where regional councils' are not adequately discharging their obligations need to be strengthened.

We would like to comment further on compliance monitoring and enforcement. At the first budget of this Government's term, a budget line was awarded to address the inadequacies of compliance monitoring and enforcement (CME) at regional and district council levels. This was welcomed by Forest & Bird, especially after releasing our report: Cleaning Up: Fixing Compliance, Monitoring and Enforcement in the dairy sector[39]. This line of work originally sat with the Ministry for the Environment and the bulk of it has been shifted to the Environmental Protection Agency. It has recently come to our attention that the 'Oversight Unit' at the EPA will no longer be performing oversight of the councils. This is a major disappointment as this "Unit" was tasked with establishing 'consistency, efficiency and transparency' among councils with respects to CME. It appears that this Unit has been underfunded to the point that they are unlikely to be more than assisting councils from time to time on tasks such as completing evidence collection or uptake of prosecutions when the council does not have resources or political will to follow through. Some in the industry are dubbing this Unit as the "17th regional council", doomed to fall into the same traps. Forest & Bird recognises that there was political goodwill at the outset of this Unit and is concerned that it is the antithesis to that which motivated its creation – in other words, we do not think that in its current form it will be fit for purpose (original purpose or revised purpose).

Further it seems that the desired creation of the freshwater commission is to address inadequacies at the council level and create a body responsible with oversight of the councils. Forest & Bird strongly believes that these inadequacies, inefficiencies and lack of oversight can be resourced and remedied within the existing government agencies.

8. *Do you have any other comments?*

9. *Do you support the Te Mana o te Wai hierarchy of obligations, that the first priority is the health of the water, the second priority is providing for essential human health needs, such as drinking water, and third is other consumption and use?*

   Yes with amendments as set out above.

10. *Do you think the proposals will have the desired effect of putting the health of the water first?*

    As discussed above

11. *Is it clear what regional councils have to do to manage freshwater in a way consistent with Te Mana o te Wai?*

    No, but this is a developing area and clarity can best be achieved by supporting tangata whenua to determine what Te Mana o te Wai means in different places, and enabling them to work with councils to ensure plans represent a management approach that is consistent with Te Mana o te Wai.

[39] http://bit.ly/DairyCME

12. *Will creating a long-term vision change how councils and communities manage freshwater and contribute to upholding Te Mana o te Wai?*

    Forest & Bird supports the intention of developing a long-term vision with communities and tangata whenua which takes into account the history, the current pressures and the future aspirations for places. We are unsure how the geography - both natural and political - will affect the granularity and application of the long-term vision.

New Māori value

13. *Do you think either or both of these proposals will be effective in improving the incorporation of Māori values in regional freshwater planning?*

    Mahinga kai is an important value that should be compulsory. We do not understand what the alternative Tangata Whenua value is intended to cover sufficiently to comment. The two proposals are not necessarily mutually exclusive. Freshwater processes should always support and enable tangata whenua to identify their freshwater values.

14. *Do you foresee any implementation issues associated with either approach?*

15. *What are the benefits and impacts of either of these approaches?*

16. *What implementation support will need to be provided?*

New planning process for freshwater

17. *Do you support the proposal for a faster freshwater planning process? Note that there will be opportunity to comment on this proposal in detail through the select committee process on the Resource Management Amendment Bill later this year.*

    Yes, in principle.

More integrated management of freshwater

18. *Does the proposal make the roles and responsibilities between regional councils and territorial authorities sufficiently clear?*

    Forest & Bird considers that some roles assigned to territorial authorities are beyond their jurisdiction. In addition, councils' roles are consent authorities are not well provided for in the NPS and NES. The areas of concern are:

    a) Use of farm plan certifiers and auditors to undertake functions that should remain with regulatory authorities.

    b) IP 3.10 of the NPS, which provides that "councils may" impose consent conditions to achieve target attribute states, rather than specifying that councils must only grant consents on terms that ensure target attribute states are not exceeded/are met within defined timeframes where already exceeded.

    c) Provision for "standard conditions" in the NES that purport to leave it to consent holders to determine how to manage (avoid/remedy/mitigate/offset) effects.

Exceptions for major hydro schemes

19. *Does the proposal to allow exceptions for the six largest hydro-electricity schemes effectively balance New Zealand's freshwater health needs and climate change obligations, as well as ensuring a secure supply of affordable electricity?*

No. This is addressed above at paragraphs 125 - 128.

Attributes

20. *Do you think the proposed attributes and management approach will contribute to improving ecosystem health? Why/why not?*

Forest & Bird supports the attributes and target attribute states in the appendices. In particular, we strongly support the additional attributes for ecosystem health, the inclusion of macroinvertebrate attributes, fish, sediment attributes, dissolved nutrients (DIN and DRP) and broader attributes for dissolved oxygen. We note that Wetland Condition Index and Wetland Condition tables were omitted from the proposed NPSFM however was a part of the Science Technical Advisory Group's report recommendation and Forest & Bird supports the inclusion of these attributes in Appendix 2.

We consider that attributes for groundwater should also be included, or a work programme to develop these should get underway urgently if there is not sufficient information to define these at present.

We do not see sufficient prominence given to downstream receiving environments in the NPS and NES.

Our concerns about the management approach are described in relation to the proposed NPS policies and IPs.

21. *If we are managing for macroinvertebrates, fish, and periphyton, do we also need to have attributes for nutrients that have been developed based on relationships with aquatic life?*

Yes. Multiple attributes will tell a complete story with regards to ecosystem health. No one attribute can stand alone to represent the health of a waterway or abundance of the native flora and fauna which is inhabited there. Generally speaking, proxies or indicator values such as MCI or fish index take into account many data points, however the data points themselves represent the individual values which are necessary in understanding what chemical and biological processes are happening.

Threatened indigenous species

22. *Do you support the new compulsory national value? Why/why not?*

Forest & Bird strongly supports the new compulsory national value for Threatened indigenous species, and seeks that it be extended to include At Risk species. We would like to see a compulsory value for all indigenous freshwater fish spawning habitat. With such a large portion of native fish threatened or at risk of extinction, protection of their spawning habitat is critical.

Fish passage

23. *Do you support the proposed fish passage requirements? Why/why not?*

Yes, however we support the recommended adjustments put forward by the Fish Passage Advisory Group. We also support the Group's comments that the minimum standards in the proposed Freshwater NES fail to adequately ensure that all structures are monitored and maintained throughout their lifetime to ensure they do not become barriers to the movement of aquatic organisms.

Additionally, there are three issues that have not been addressed in the policy:

- An attribute is needed to track whether a stream is sufficiently achieving free fish access and passage both up and down stream. In this regard we recommend the addition of a 'Connectivity' attribute as a means of characterizing and tracking progress towards achieving the fish passage objectives – providing a consistent methodology for reporting on fish passage pressure and river connectivity state metrics. This needs to be developed and inserted into the next iteration of the NPS, noting that the Fish Passage Assessment Tool can be used to offer a standardized means of collecting data on in-stream structures and assessing their risk to fish passage.

- Currently there is no reference to temporary structures in the proposed Freshwater NES. We suggest that temporary stream diversions/crossings used for various works in waterways (even for fish passage remediation) need to allow for fish passage and where fish passage cannot be achieved, that the works are authorised by councils. As part of this authorisation process, an ecological assessment should be provided to councils so that they are aware of the ecological risks. Temporary is defined as for less than four weeks.

- Bridges are not referenced in the policies. Bridges are generally preferred over other in-stream structure types as they have the least impact on fish passage and instream habitats, though not all bridges allow for a natural stream bottom underneath. Forest & Bird recommends a policy in the NES which regulate how bridges might be managed by regional councils and a preference to be indicated for bridges over other structures in the wording of the NPS policies.

24. *Should fish passage requirements also apply to existing instream structures that are potentially barriers to fish passage, and if so, how long would it take for these to structures to be modified and/or consented?*

    Yes, we would strongly support applying fish passage requirements to existing structures. Failing to address the impacts on aquatic biodiversity caused by existing in-stream structures will result in failure to achieve ecosystem health objectives. This includes larger in-stream structures, e.g. hydro dams, including the proposed excepted hydro schemes.

Wetlands

25. *Do you support the proposal to protect remaining wetlands? Why/why not?*

    Yes, Forest & Bird strongly supports the proposal to protect remaining wetlands for the reasons discussed above, but the NPS and NES provisions will not achieve that outcome. We have suggested changes to definitions and some of the policy direction to ensure remaining wetlands are actually protected.

26. If this proposal was implemented, what would you have to do differently?

Streams

27. *Do you support the proposal to limit stream loss? Why/why not?*

    Yes in principle, as discussed above. However, Forest & Bird is concerned that 'no net loss' and the wording of the regulation may result in trade-offs which would reduce the integrity of available habitat and spawning locations for native fish species. Achieving no net loss should not enable loss of habitat quality or extent.

28. *If this proposal was implemented, what would you have to do differently?*

29. *Do the 'offsetting' components adequately make up for habitat loss?*

    No. We do not support provision for some activities to infill (reclaim) rivers and streams. There should be limits when offsetting may be used to address loss of stream extent. Loss of habitat should not be provided for.

New bottom line for nutrient pollution

30. *Do you support introducing new bottom lines for nitrogen and phosphorus? Why/why not?*

    Yes, as discussed above at paragraph 141 onwards

31. *If this proposal was implemented, what would you have to do differently?*

32. *Do you have a view on the STAG's recommendation to remove the 'productive class' definition for the periphyton attribute?*

    Yes, the STAG report points out that since the introduction of the periphyton attribute table for the NPSFM there has been much more data obtained allowing for the development of the default table as presented on page 26 of the STAG report. This default table relates DIN and DRP thresholds by river class. The Group recommended that this be used to strengthen the note to the current periphyton table. Further it appears that since data has been collected and there is a better scientific understanding of these relationships, there is no longer a need to allow for 8 and 17% exceedance criteria as this creates unnecessary exemptions where potentially not applicable. Given that data has allowed for more detailed assessment of the state of freshwater chemistry, it is best to use the latest and most up-to-date science available. We echo the additional comments on peer reviewing the table prior to introduction into regulation – though we would not want the need for a peer review to delay the adoption of these advancements by any more than one year.

Reducing sediment

33. *For deposited sediment, should there be a rule that if, after a period (say five years), the amount of sediment being deposited in an estuary is not significantly reducing, then the regional council must implement further measures each and every year? If so, what should the rule say?*

    Forest & Bird would support direction requiring councils to monitor the effectiveness of all methods, and to adjust them if they are not shown to be effective. This is discussed above.

34. *Do you have any comments on the proposed suspended sediment attribute?*

    We support the proposed suspended sediment attribute. Given that suspended sediment can be dangerous for native freshwater fish and increase the likelihood of algal blooms, a monitoring of suspended sediments is important for tracking ecosystem health in rivers and streams.

35. *If this proposal was implemented, what would you have to do differently?*

Higher standard for swimming

36. *Do you agree with the recommended approach to improving water quality at swimming sites using action plans that can be targeted at specific sources of faecal contamination? Why/why not?*

    This is supported provided that bottom lines to protect human health apply to all waterbodies.

Minimum flows

37. *Is any further direction, information, or support needed for regional council management of ecological flows and levels?*

The NPS refers to environmental flows not ecological flows. A definition of environmental/ecological flow is needed, and changes to IP 3.11 are proposed. Completion of the NES on Environmental Flows is strongly supported (see paragraph 80 - 83 above).

Reporting water use

38. *Do you have any comment on proposed telemetry requirements?*

Forest & Bird supports amending the regulation to include mandatory telemetry for water permit holders for every consumptive consented water take. We agree that a two year period for regulations to come into force is reasonable for 20 litres per second or higher water take. We disagree that lower rates of water take should be given a longer period to meet the requirements, as per suggested (up to 6 years). We believe that in order to capture the information necessary to determine an appropriate water allocation regime, a full picture of how much water is taken, when or what time of year the water takes occur and what effects this has on the freshwater ecology. We also believe this should include the cumulative effect of slower rates of water take. Therefore we agree with the recommendation of KWM and FLG that requirements to monitor water takes through telemetry should also apply to large volume consumptive use, regardless of rate of take.

We agree that 2 years is a reasonable time period for investment in the new infrastructure though we are concerned that this is will conflict with the water allocation process that is expected to happen in the next two years. This would mean that prior to having all telemetry data for all major users (by volume or rate) understood water volumes and systems for allocation would be processed without up-to-date accurate data. Additionally, to best interpret the reliability of the data and its effects on freshwater ecology it would be wise to have more than one year of data available. The classic tale of water being allocated without full knowledge of water use and availability has led to the Colorado River Delta drying up at the California of Gulf between Baja California and Mexico, leaving the wildlife and the users downstream with a trickle where a rich freshwater ecosystem once was. This historic gaffe is taught at universities when training future water scientists, managers and hydrologist about the consequences of bad practice.

Raising the bar on ecosystem health

39. *Do you have any other comments?*

Yes. In addition to preserving the recommendations of the STAG and preserving the DIN national bottom lines, new limits and further incorporating the wetland attributes, Forest & Bird stresses that strong regulation is only one part of the process to restore ecosystem health. Holding the line, as has been stated publicly by the Ministry and the Minister is sufficient at maintaining ecosystems in a degraded state however will not be enough to return ecosystems to health. In that regard, it is important that the policies have regulatory effect as soon as possible to ensure that one part of the process is in train. The other part of the picture is restoration through planting, weeding, re-wetting, trapping, re-introducing species, and so on. This will take decades if not centuries. With climate change exacerbating the difficulty of the work that lie ahead, we cannot stress the urgency and the need for steadfast

determination. There is no room to waver, delay or compromise environmental bottom lines under pressure from industry interests.

Draft NPS-FM

40. *Are the purpose, requirements, and process of the National Objectives Framework clearer now? Are some components still unclear?*

    Addressed above.

41. *What are your thoughts on the proposed technical definitions and parameters of the proposed regulations? Please refer to the specific policy in your response.*

    Addressed above.

42. *What are your thoughts on the timeframes incorporated in the proposed regulations? Please refer to the specific policy in your response.*

    Addressed above.

Questions

43. *Do you agree with the proposed amendments to the Drinking Water NES? Why/why not?*

44. *Are there other issues with the current Drinking Water NES that need to be addressed?*

45. *Do you have any other comments?*

    The Ministry will be aware of a major study in Denmark with a country-wide sample size and data from a 35 year period. This study found a significant correlation between nitrates in drinking water and an increased risk of colorectal cancer.[40] Another population-based study in Spain and Italy also found significant increases in colorectal cancer risk associated with nitrates in drinking water at levels 10 times lower than are currently allowed in New Zealand.[41]

    We would like to draw the Ministry's attention to a large body of epidemiological research that has found an elevated risk of cancer, adverse birth outcomes and other health impacts associated with the presence of nitrates in drinking water. This study, published last year, synthesises more than 30 epidemiologic studies published since 2005 and states that, "considering all studies, the strongest evidence for a relationship between drinking water nitrate ingestion and adverse health outcomes (besides methemoglobinemia [blue baby syndrome]) is for colorectal cancer, thyroid disease, and neural tube defects. Many studies observed increased risk with ingestion of water nitrate levels that were below regulatory limits."[42]

    Residents exposed to excessive nitrate pollution over time are at a greater risk of more than blue baby syndrome and colorectal cancers. They are also in danger of an increased risk of thyroid disease and neural tube defects in utero. These risks to human health occur at levels much lower than is allowed by current regulations in New Zealand. These regulations are based on a World Health Organisation recommendation. The synthesis study notes the

[40] https://www.rnz.co.nz/national/programmes/morningreport/audio/2018699585/environment-canterbury-stands-by-nitrate-limits-in-water

[41] Espejo- Herrera, et al. "Colorectal Cancer Risk and Nitrate Exposure through Drinking Water and Diet." International Journal of Cancer, vol. 139, no. 2, 2016, pp. 334–346.

[42] Ward, Mary H., et al. "Drinking Water Nitrate and Human Health: an Updated Review." International Journal of Environmental Research and Public Health, vol. 15, no. 7, 2018.

World Health Organisation's "recommended regulatory limit for nitrate in public drinking water supplies was set to protect against infant methemoglobinemia (blue baby syndrome), but other health effects were not considered. Risk of specific cancers and birth defects may be increased when nitrate is ingested under conditions that increase formation of N-nitroso compounds."[43]

Numerous studies are saying that nitrates are a risk to human health and at lower levels than are currently present in much of Canterbury.

An epidemiological study published this year involved a country-wide population study in the United States of nitrates in drinking water and assessed the increase in health risk.[44] The study looked at the economic impact finding that the "[h]ealth and economic analyses presented here suggest that lowering exposure to nitrate in drinking water could bring economic benefits by alleviating the impacts of nitrate-associated diseases."

A New Zealand epidemiological study published in 2006 found that Canterbury alone had the highest incidence of Crohn's Disease ever reported in the world at that time.[45] A follow-up study showed the rate of incidence grew from 16.5 to 26 in 100,000 people between 2006 and 2016.[46] Some of the same authors published a study last year that stated "the incidence rate of paediatric inflammatory bowel disease in Canterbury, New Zealand, has dramatically increased between 1996 and 2015" with a four-fold increase in that time.[47] While there is no known cause for inflammatory bowel disease, it is well known that these patients have a higher risk of bowel cancer, even more reason to reduce nitrates in drinking water in order to reduce the increased risk due to increased exposure to vulnerable people.

The World Cancer Research Fund lists New Zealand as the fourteenth nation for colorectal cancer in the world, and ninth for women.[48] Epidemiological evidence from around the world and in New Zealand links nitrates in drinking water with adverse health effects. The evidence suggests that the current nitrate limit does not protect the general population.

The situation is dire, and urgent action is needed. The Minister must take a precautionary approach to regulating sources of nitrates (i.e. land use practices known to be high in nitrates namely irrigation, intensive dairying, fertiliser, etc.) because of the amount of pollution in Canterbury's groundwater and surface water all over the country, especially given the serious risk to human as outlined above and environmental health as is commonly understood.

Questions

46. *Does the proposed Wastewater NES address all the matters that are important when consenting discharges from wastewater networks? Will it lead to better environmental performance, improve and standardise practices, and provide greater certainty when consenting and investing?*

    Forest & Bird supports the proposal to develop minimum treatment standards or limits for wastewater discharges and overflows. Provision should be made for more stringent standards

[43] ibid
[44] Temkin, et al. "Exposure-Based Assessment and Economic Valuation of Adverse Birth Outcomes and Cancer Risk Due to Nitrate in United States Drinking Water." Environmental Research, 2019, p. 108442.
[45] Gearry, Richard B., et al. "High Incidence of Crohn' s Disease in Canterbury, New Zealand: Results of an Epidemiologic Study." Inflammatory Bowel Diseases, vol. 12, no. 10, 2006, pp. 936–943.
[46] https://www.rnz.co.nz/news/national/304231/crohn's-disease-and-colitis-rising-in-canterbury
[47] Lopez, Robert, N., et al. "Rising Incidence of Paediatric Inflammatory Bowel Disease in Canterbury, New Zealand, 1996–2015". Journal of Pediatric Gastroenterology and Nutrition, vol. 66, no. 2, February 2018, pp. e45–e50.
[48] https://www.wcrf.org/dietandcancer/cancer-trends/colorectal-cancer-statistics

to apply where necessary to achieve target attribute states or protect sensitive receiving environments.

47. *Do you agree with the scope of the proposed risk management plans for wastewater and stormwater operators? Are there other aspects that should be included in these plans?*

48. *What specific national level guidance would be useful for supporting best practice in stormwater policy and planning and/or the use of green infrastructure and water sensitive design in stormwater network design and operation?*

49. *What are the most effective metrics for measuring and benchmarking the environmental performance of stormwater and wastewater networks? What measures are most important, relevant and useful to network operators, regional councils, communities, and iwi?*

50. *Do you have any other comments?*

Questions

Restricting further intensification

51. *Do you support interim controls on intensification, until councils have implemented the new NPS-FM? Why/why not?*

    Yes, discussed above.

52. *For land-use change to commercial vegetable growing, do you prefer Option 1: no increase in contaminant discharges OR Option 2: farms must operate above good management practices. What are your reasons for this?*

    Both. Good management practice is poorly defined and is not linked to in-stream outcomes so should not be used on its own. Forest & Bird supports a requirement that there be no increase in contaminant discharges and that farms operate above good management practice. We have concerns about the adequacy of information about baseline vs current contaminant discharges. We do not support the use of farm plans to achieve regulatory outcomes, as discussed above.

53. *How could these regulations account for underdeveloped land, and is there opportunity to create headroom?*

    "Headroom" implies polluting water beyond its current state. The concept is inconsistent with maintenance of water quality and the hierarchy proposed with Te Mana o te Wai.

Farm plan options

54. *Do you prefer mandatory or voluntary farm plans (acknowledging that farm plans may be required by councils or under other parts of the proposed Freshwater NES?) What are your reasons for this?*

55. *What are your thoughts on the proposed minimum content requirements for the freshwater module of farm plans?*

56. *What are your thoughts on the proposed priorities and timeframes for roll out of farm plans, as set out in the proposed Freshwater NES?*

57. *Do you have any comment on what would be required to ensure this proposal could be effectively implemented, including options for meeting the cost of preparing, certifying and auditing of farm plans; and on financing options for other on-the-ground investments to improve water quality?*

    Questions 54-57 are addressed above.

Immediate action to reduce nitrogen loss

58. *Which of the options (or combination of them) would best reduce excessive nitrogen leaching in high nitrate-nitrogen catchments? Why?*

    Forest & Bird does not support Option 3, which relies only on farm plans to reduce nitrogen leaching. Further we find that 'rapidly reduce' is vague and does not incorporate the time sensitive requirements of the at risk and threatened native freshwater species that are effected by the excess nitrogen.

    Option 2 is partially supported in that Forest & Bird supports input controls, however we are concerned about a national cap on fertiliser use that would be a one-size-fits all, and allow for higher use of fertiliser based on land use type. Further, fertiliser is only one input that contributes to excess nitrate-nitrogen in waterways. It is recommended that any cap on fertiliser use is determined by soil type and soil carrying capacity and desired environmental outcomes as well as the state of native flora and fauna locally. Utilising a national average and allowing quantity of fertiliser use based on land use type are broad brush strokes which do not guarantee a healthy freshwater environment. Finally, Forest & Bid would expect that controls on fertiliser application is accompanied by controls on all other activities known to contribute to the national problem of excessive nitrate-nitrogen such as controls on effluent application to land and stocking rates.

    Option 1 is also supported, with amendments as discussed above at paragraphs 205 to 208.

59. *If you are in a high nitrate-nitrogen catchment, what would you have to do differently under these options?*

60. *In addition to those already identified, are there other high nitrate-nitrogen catchments that should be subject to these options?*

61. *Do you think the action already underway in five regions (identified in section 8.4) will be effective in reducing excessive nitrogen leaching in those high nitrate-nitrogen catchments?*

    We do not support the proposal to exempt catchments with only good management practice-based caps from the proposal to require immediate action to reduce nitrogen loss, because it is unlikely to be effective.

    Before other high nitrogen catchments are excluded, a review of whether their provisions are effective is required. The Tukituki catchment currently has a rule requiring that resource consent is obtained where a farm contributes to an exceedance of the in-stream DIN target of 0.8 mg/L. However, the mechanism to ensure such farms reduce their leaching so that the DIN target is achieved within the specified timeframe is uncertain, as it is the subject of a Procedural Guideline that is currently being written.

    In the Manawatū catchment, Horizons is currently progressing a plan change[49] that attempts to introduce a 'pathway to consent' for intensive land uses that exceed limits in their nitrogen allocation framework. In those circumstances, exempting the Manawatū catchment from the rapid N reduction provisions is not justified as the regional framework is seeking to undermine the limit-setting process.

62. *Should there be higher thresholds for farms that produce food products in winter, and if so, which food products?*

[49] Plan Change 2

Regardless of the season or the food produce, it is expected that land users meet the requirements as indicated in the NPSFM, NES and applicable regional plan. It is a red herring to address tailored regulatory requirements based on food product and climatic season. To this point, it is expected that land users will be able to farm to the environmental limits even as those limits are changing with the climate.

63. *What alternative or additional policies could contribute to reducing nitrogen loss?*

Input controls that restrict synthetic fertiliser and irrigation are warranted. Irrigation accelerates the spread of nitrogen through land to groundwater and through runoff into surface water.

There is very little direction and guidance in the NPS/NES on how to manage nitrates in groundwater. We consider further work in this area is required.

Lastly, compliance needs significant additional resourcing and attention. Forest & Bird produced a report on dairy effluent compliance in 2018, in which we evaluated regional councils' performances. What was revealed through that exercise of data collection and analysis is that there are major inconsistencies across the country with respects to monitoring and enforcement of dairy effluent - even when errors occurred which resulted in environmental damage, and on farms that had been seriously non-compliant in the past. Forest & Bird would like regional councils to be required to report on their compliance monitoring and enforcement policies, procedures and yearly results to an authority overseeing efficacy and providing accountability to councils performance. Currently the National Monitoring System does not provide oversight, efficacy or accountability standards for regional councils.

64. *Do you have any comment on what would be required to ensure this proposal could be effectively implemented?*

Excluding stock from waterways

65. *Do you support excluding stock from waterways? Why/why not?*

66. *Do you have any comment on the proposed different approach for larger and smaller waterbodies?*

67. *Do you have any comment on the proposed five metre setback, or where it should be measured from?*

68. *Are there any circumstances that are appropriate for allowing exemptions to the stock exclusion regulations? If so, please give examples.*

Questions 65 – 69 are addressed above.

Controlling intensive winter grazing

69. *Do you prefer Option 1: Nationally-set standards or Option 2: Industry-set standards? Why?*

70. *For the proposed nationally-set standards, which options do you prefer for the area threshold, slope, setback, and pugging depth components of the policy?*

Forest & Bird supports nationally-set standards for intensive winter grazing. We have made additional comments on Option 1 above at 181 to 188.

Restricting Feedlots

71. *Do you have any comment on the proposal to restrict feedlots?*

Reducing pollution from stock holding areas

72. *Do you support the proposal relating to stock holding areas? Why/why not?*

73. *Do you think sacrifice paddocks should be included?*

74. *What would you have to do differently if this proposal was implemented?*

75. *Do you have any comment on what would be required to ensure this proposal could be effectively implemented?*

Draft proposed National Environmental Standards for Freshwater

76. *Are the definitions used in the policies accurate, and if not, how do you suggest improving them?*

77. *What are your thoughts on the proposed technical definitions and parameters of the proposed regulations? Please refer to the specific policy in your response.*

78. *What are your thoughts on the timeframes incorporated in the proposed regulations? Please refer to the specific policy in your response.*

    The proposed NES is addressed above.

Questions

79. *Do you think there are potential areas of tension or confusion between the proposals in this document and other national direction? If so, how could these be addressed?*

    The proposal in the NES would allow the NES on plantation forestry to prevail over freshwater with respects to wetland management. We do not think this is appropriate and would expect that the two Environmental Standards would align.

    We also consider that there is confusion between the effects management approach to wetlands (avoid vs effects management hierarchy).

80. *Do you think a planning standard is needed to support the consistent implementation of some proposals in this document? If so, what specific provisions do you consider would be effectively delivered through a planning standard tool?*