

In Confidence

Office of the Minister for the Environment

Office of the Minister of Agriculture

Chair, Cabinet Business Committee

ESSENTIAL FRESHWATER – PUBLIC CONSULTATION ON NATIONAL DIRECTION FOR FRESHWATER MANAGEMENT

Proposal

1. This paper seeks agreement to publicly consult on proposals to stop the further degradation and loss of New Zealand's freshwater resources, and to reverse past damage. The *Essential Freshwater* package to be consulted on includes proposals to:
 - introduce a new National Policy Statement for Freshwater Management (NPS-FM) to replace the NPS-FM 2014 (amended 2017)
 - create a new freshwater National Environmental Standard (NES) and regulation under section 360 (regulation) of the Resource Management Act 1991 (the RMA), and
 - amend the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010.
2. These are intended to integrate with, and transition to, greater reliance on farm planning. Support mechanisms for the development of farm plans, implementation support for regional councils, and work in at-risk or exemplar catchments were funded in this year's Budget. This transition is expected to take at least five years.

Executive Summary

3. On 25 June 2018, Cabinet agreed to progress the '*Essential Freshwater – Healthy Water, Fairly Allocated*' work programme [CAB-18-MIN-0296 refers] to:
 - stop further degradation of New Zealand's freshwater resources and start making immediate improvements so that water quality is materially improving within five years
 - reverse past damage to bring New Zealand's freshwater resources, waterways and ecosystems to a healthy state within a generation, and
 - address water allocation issues.
4. We are prioritising water quality solutions that are enduring and practical. A network of advisory groups has informed the policy proposals developed as part of the *Essential Freshwater* programme:
 - the Freshwater Leaders Group (FLG), which brings together expertise and input from leaders across the primary sector and agribusiness, environmental non-government organisations, and cross membership from the other advisory groups

- te Kāhui Wai Māori (KWM), the Māori Freshwater Forum, which brings a broad range of Māori perspectives
 - the Regional Sector Water Subgroup (RSWS), which brings the voice and views of regional councils, and
 - the Science and Technical Advisory Group (STAG), which has advised on the technical and scientific basis for proposals.
5. The reports of these advisory groups will sit alongside the Government's consultation document, and summaries of the advisory groups' positions are inserted in the relevant sections of the consultation document itself. There is agreement across the four groups in respect of most, but not all issues.
6. The *Essential Freshwater* package will be progressed alongside reforms to the Three Waters regulatory system [CAB-19-MIN-0332 refers].
7. We now seek agreement to publicly consult on the following:
- A **new NPS-FM** which strengthens Te Mana o te Wai, and raises water quality standards in both urban and rural areas. Changes would include new national bottom lines for water quality and ecosystem health measures, better monitoring of ecosystem health, and a requirement to act where degradation is occurring. The proposed changes include solutions to problems the Government has identified with the existing policy statement, including:
 - a higher water quality standard for swimming at the times of the year and in the places people want to swim
 - faster implementation of the necessary changes to plans by councils
 - making mahinga kai a compulsory value
 - better integration with urban planning to make sure territorial authorities manage the effects of land use and urban development on freshwater bodies and the receiving marine environment
 - making sure the NPS-FM is clearly drafted to avoid misinterpretation and make it more understandable.

Councils would be required to ensure freshwater quality is maintained and enhanced as measured by a wider range of ecosystem measures, in both rural and urban areas. The new NPS-FM would need to be integrated into council plans by 2025.

- **Rules in a new NES, and regulation under section 360 of the RMA**, to stop further loss of urban and rural wetland and stream habitat, and better manage the effects of specific farming activities (including through farm planning).
 - **Amendments to the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010**, to require the provision of real-time telemetered data on significant water takes. This use of modern technology is needed to set and monitor sustainable limits, which will better support regional planning.
8. Over the longer term, we believe it will become possible to reduce reliance on national regulation, and make greater use of bespoke farm planning to drive improved practices.

9. To support proposed changes, an alternative planning process under the RMA has been approved by Cabinet via a Resource Management Amendment Bill [CAB-19-MIN-0037.01 refers]. This will ensure sustainable limits are in place within a reasonable period. Currently, many councils will not have their regional water plans for the 2017 NPS-FM in place until 2030. This amendment to the RMA will create a new, mandatory, freshwater planning process to ensure effective plans are in place for all regions by 2025.
10. An overview of package components is included as Appendix 1 of this paper.
11. Proposed changes would be challenging to implement for some in the primary sector. The changes will require significant additional work for councils within tight timeframes. There is a risk that councils will not be able to implement the new requirements effectively without strong support from central government. This is why the package (along with climate change implementation) is supported by significant investment of \$229 million through the sustainable land use package in Budget 2019. This will be used to develop the capacity and capability to certify and audit farm plans and, more broadly, assist the primary sector to transition to more sustainable land-use practices. In the meantime, regulations are needed to stop the degradation accelerating, which will also signal the need to improve poor practice.
12. We see great benefit in working with the primary sector to deliver on a common vision for sustainable farming in New Zealand. There is broad agreement amongst primary sector leaders on this vision. Prior to release of the *Essential Freshwater* package for public consultation, it is intended to meet with a broad group of primary sector leaders to discuss their commitments to delivering on this vision.
13. We propose to publicly consult on all proposals from 5 September 2019 for a minimum of six weeks. Submissions will be summarised and provided to an independent advisory panel, which will also be invited to attend regional events throughout the consultation when possible. The panel will then prepare a report and recommendations to Ministers on the issues consulted on under s46A(4)(c) of the RMA (a formal process requirement for creating or amending national direction). Officials will also give Ministers advice.
14. Cabinet will make final decisions on the content of the NPS-FM, NES, and section 360 regulations. Implementation of changes would follow, with this legal framework being in force by mid-2020.
15. The following supporting documentation is attached to this Cabinet paper:
 - a draft Discussion Document (attached as Appendix 2)
 - exposure drafts of the new NPS-FM and NES, and policies to be included in section 360 regulations once drafted (attached as Appendix 3, 4, and 5 respectively).
 - a summary of the Interim Regulatory Impact Statement (attached as Appendix 6).
16. The final reports from the FLG, KWM, the STAG, and the RSWS were provided as part of Ministerial and cross-party consultation, and will be available to the public consultation process.

17. It is inherently difficult to monetise impacts on the environment, and it is not always necessary or helpful to do this to justify its protection. Nevertheless, regulatory impact analysis can assist in evaluating the cost of alternative options. Analysis to date has included modelling of the environmental effectiveness of key policies; catchment and farm-scale modelling of new practice standards; comprehensive modelling of the proposed sediment attribute; working with councils and industry sector groups; extensive reviews of both international and local studies; and substantial interaction with the four expert advisory groups.
18. We recognise the impacts of the package may be significant, and we are committed to understanding them as fully as possible before seeking final decisions on any new rules and requirements in February 2020. Additional impact analysis will continue alongside public consultation and provide a fuller understanding of costs and benefits for the package as a whole. This will include continuing targeted engagement through to final decisions, as well as additional analysis of environmental, social, cultural and economic impacts. We will also look further at the combined impact of freshwater reform and other government initiatives in more detail, including climate change and biodiversity policy changes.
19. It is important to understand that the costs of not acting are not zero. The environmental issues currently facing New Zealand have immediate significant costs (e.g. the costs of ongoing funding to remediate degraded waterways and the cost of not supporting access to natural environments) as well as future costs (e.g. decreased productivity due to soil erosion). In addition to improving our environment, one of the major benefits of the *Essential Freshwater* package is avoiding greater future costs – generally, environmental interventions are cheaper and more cost-effective the sooner they are implemented.

Background

State of Freshwater

20. Freshwater is a precious and limited resource. Iwi and hapū have a kinship relationship with it through shared whakapapa, recognise its importance in supporting healthy ecosystems and human health, and have a reciprocal obligation as kaitiaki to protect it. We all depend on it for clean safe drinking water, swimming, and gathering food. Freshwater's ability to support life is critical for our threatened indigenous species and ecosystem health in both freshwater and the receiving marine environment. It underpins our agricultural, electricity and tourism sectors. Despite its value, freshwater and its ecosystems are under increasing pressure from urban growth and agricultural intensification. We are continuing to lose habitat and pollute it with excess sediment, nutrients and pathogens.
21. In 2017, 76 per cent of our native freshwater fish, more than 25 per cent of native freshwater invertebrates and almost 33 per cent of the plant species that depend on freshwater were threatened with or at risk of extinction. Almost two-thirds of our rare ecosystems are threatened with collapse, including rare braided river systems. Wetland areas continue to shrink, with at least 1,247 hectares lost between 2001 and 2016. The annual rate of degradation in these precious ecosystems can be substantial (e.g. on average, 157 hectares of wetland were lost per year in Southland between 1990 and 2012).
22. Urban growth has historically led to the loss of waterways due to culverting, diversions and infilling. Earthworks can also pollute streams with sediment, making them unliveable for many indigenous plants and animals. Large areas of impervious surfaces such as roofs, roads and pavements can create extreme changes in flow conditions, which affect the habitats of freshwater species and can contribute to flooding. Stormwater run-off from towns and cities carries contaminants such as pesticides, heavy metals and litter into the waterways.

23. Farming brings other challenges. Land use conversion to more intensive farming and growing can significantly increase nutrient pollution and pathogen indicators like *E. coli*. Where farm animals access waterways they can directly pollute them with their faeces and trample stream banks, which increases sediment problems and destroys habitat for freshwater plants and animals. Other agricultural activities have high impacts on waterways if not managed in line with good practice, including intensive winter grazing on forage crops, stock holding areas and feedlots.
24. New Zealanders have become increasingly aware of the impact they are having on the environment and understand the consequences of degraded ecosystems. The *Growing for Good* report of the Parliamentary Commissioner for the Environment in 2004 showed the link between intensification and nutrient pollution. *Environment Aotearoa 2019* demonstrates that human activities in rural and urban environments are polluting waterways through intensification and growth¹. While regional planning is beginning to address these issues, it is not sufficient or fast enough to stop further degradation of freshwater and its ecosystems.

The Essential Freshwater response

25. It is our goal to develop a fair and enduring system for managing New Zealand's precious freshwater resource for the benefit of current and future generations. In 2018 Cabinet agreed to establish the '*Essential Freshwater – Healthy Water, Fairly Allocated*' work programme [CAB-18-MIN-0296 refers], comprising three key parts:
 - *stopping further degradation and loss* – taking a series of actions now to stop the state of New Zealand's freshwater resources, waterways and ecosystems getting worse (i.e. to stop adding to their degradation and loss), and to start making immediate improvements so that water quality is materially improving within five years
 - *reversing past damage* – promoting restoration activity to bring New Zealand's freshwater resources, waterways and ecosystems to a healthy state within a generation, including through a new NPS-FM and other legal instruments
 - *addressing water allocation issues* – working to achieve efficient and fair allocation of freshwater resources, having regard to all interests (including Māori) and existing and potential new users.
26. We want all freshwater bodies to be healthy and resilient, so they can continue to provide for the needs of our communities and future generations. However, these issues have been generations in the making.
27. Many people, including farmers, are already doing the right thing and making changes to reduce their impact on freshwater. However, their efforts are undermined by those that do not. We want to acknowledge positive efforts and follow their example wherever we can, while making sure everybody contributes.
28. To this end, we have identified a set of approaches as steps we can take now to stop further degradation and loss and begin reversing past damage.
29. We are now seeking your agreement to publicly consult on these approaches from 5 September 2019 for a minimum of six weeks. Proposals will be supported by investment through Budget 2019 of \$229 million, the majority of which will contribute to efforts that will stop further degradation of freshwater and reverse past damage, including significant help for farmers to transition to more sustainable land-use practices.

¹ *New Zealand's environmental reporting series: Environment Aotearoa 2019* presents information on the state of New Zealand's environment. Published jointly by StatsNZ and the Ministry for the Environment.

Related reforms

30. The Government is also currently reforming the regulation, delivery and funding of the Three Waters system (drinking water, wastewater and stormwater) [CAB-18-MIN-0545 refers]. The Three Waters programme is proceeding in tandem with the *Essential Freshwater* work programme, and together they are designed to create a cohesive system to better manage urban and rural water issues.
31. This work is also part of a broader programme of reform transitioning us to a sustainable, low emissions economy. This will include:
- public discussion on proposals to reduce agricultural emissions, which has significant overlaps with this package – particularly in terms of farm planning
 - initial public discussion on a system for the management of nitrogen discharge allowances, which will be separate from the water quality consultation proposed here
 - the initial impact of significant investment in the Te Uru Rakau's One Billion Trees programme, which will reduce erosion, improve freshwater quality and promote diversity of land use and biodiversity [CAB-18-MIN-0379]
 - national policy statements on urban development and on highly productive land (subject to forthcoming Cabinet decisions)
 - a national policy statement on indigenous biodiversity (subject to forthcoming Cabinet decisions) and a new Biodiversity Strategy
 - the already approved changes to the RMA to improve its operation, including to speed up freshwater planning
 - a comprehensive review of the resource management system focused on the RMA, building on current work across climate change, urban development, and freshwater – the review is likely to consider legislative parameters for allocating environmental uses such as freshwater takes
 - an intended legislative commitment to reduce New Zealand's greenhouse gas emissions and transition to a low carbon, climate resilient New Zealand, including improvements to the Emissions Trading Scheme.
32. The next stage of *Essential Freshwater* will look at how to allocate discharges to water. Regional councils across New Zealand are required to work with their communities to set limits for water takes and discharges to water (such as nitrogen discharges) through their regional plans. The closer a catchment comes to these limits, the scarcer the resource is and the more critical it is to resolve questions around allocation. Nitrogen levels are a significant issue in many catchments and reports, including *Environment Aotearoa 2019*, show that this is getting worse in many places.
33. Once limits have been set, there needs to be a system to allow people to acquire, and for the ongoing management of, nitrogen discharge allowances. Reducing discharges as far as possible is critical, but a fair allocation system also has to provide for new entrants and the development of underdeveloped land, which is disproportionately owned by Māori. We propose to look at nitrogen discharges first because many councils are already making decisions on allocating nitrogen discharge allowances. Any legislative changes will be included in the next stage of reforms to the RMA.

Setting a common vision for the primary sector

34. There is broad agreement amongst primary sector leaders on an overarching vision for sustainable farming in New Zealand. A number of senior primary sector leaders have stated they seek to move their sector to good management practice in five years. We share this vision. Delivering on this vision will require effective leadership by industry players and government, along with concerted and consistent action.
35. Prior to release of the *Essential Freshwater* package for public consultation, we intend to meet with a broad group of primary sector leaders to discuss these commitments and identify initial actions to deliver on the vision, and the next steps on the pathway to reaching sustainable bottom lines for freshwater.
36. We envisage this including discussions with primary sector processors about providing financial incentives, such as Synlait and Miraka dairy companies already provide, to encourage good environmental performance. We understand that positive recognition of good performance is needed as well as regulating poor performance.

Proposals to stop further degradation of freshwater and safeguard ecosystem health for future generations

37. The *Essential Freshwater* package to be consulted on includes proposals which fall into four categories, as outlined in Table 1 below.

Table 1: Categories of proposals

1	<p>Setting and clarifying policy direction</p> <ul style="list-style-type: none"> • strengthening and clarifying Te Mana o te Wai as the basis for the NPS-FM • introduction of a compulsory mahinga kai value • faster implementation of the NPS-FM • amending current requirements that leave room for degradation of water quality • preserving hydro-generation flexibility and output to maintain security of supply • other technical clarifications 	NPS-FM
2	<p>Managing land and water for ecosystem health</p> <ul style="list-style-type: none"> • broadening the focus of national direction and planning to manage all aspects of ecosystem health, not just water quality and quantity • new attributes and bottom lines to protect ecosystems and halt degradation • a higher standard for swimming • moving to telemetered data on water use 	

3	Improving ecosystem health by preventing pollution and destruction of habitat from specific activities <ul style="list-style-type: none"> • stopping further loss of urban and rural wetlands and stream habitats • preserving connectivity of habitat to promote healthy fish populations 	NPS-FM and NES
4	Improving ecosystem health by establishing practice standards for farms <ul style="list-style-type: none"> • interim restrictions on major land use intensification • excluding stock from water bodies in some situations • ensuring feedlots, stock holding areas and winter grazing practices are sustainable • freshwater modules in farm plans (FW-FP) with minimum requirements relating to content and actions to improve practices, certified and audited by suitably qualified and experienced practitioners • options on interim restrictions on extremely high nitrogen discharges or nitrogen good practice standards in FW-FPs 	NES and regulation and FW-FPs

38. There is broad agreement between advisory groups and officials across most of the areas set out in Table 1 above, particularly for the changes to the NPS-FM. There is agreement on the direction of travel required to stop further degradation, that we need to act quickly, and also agreement that changes in some high risk farming activities needs to be incentivised.

Setting and clarifying policy direction – NPS-FM

Strengthening and clarifying Te Mana o te Wai

39. The concept of Te Mana o te Wai is already referred to in the existing NPS-FM. It can be better framed to help capture the essence of our national aspirations for freshwater, and to give those aspirations better effect in local planning decisions. It refers to the essential value of water, and the importance of sustaining the integrity and health of the water before providing for human uses through a three-tiered hierarchy of obligations:

- the first obligation is to the water itself, to protect its health and its mauri
- the second obligation is providing for essential human needs, such as drinking water
- the third is for other uses.

40. The replacement of the existing NPS-FM with a new policy statement is a significant opportunity for us to strengthen the role of this framework in freshwater management, building on the work previously done by the Iwi Leaders Group. In the context of the NPS-FM, we are proposing to:

- clarify what Te Mana o te Wai means and reframe it in the NPS-FM so it more clearly underpins the whole framework of the policy statement
- clarify the relationships between Te Mana o te Wai and other parts of the NPS-FM
- re-design the structure of the NPS-FM to give councils greater direction on Te Mana o te Wai and the outcomes that the Government expects.

41. Additional amendments would require regional councils to work with communities, including tangata whenua, to determine and understand the history and current pressures facing freshwater bodies in their region, and to set a long-term trajectory (inter-generational) for what their waterbodies should look like in the future. Regional councils would then be required to report on how the state of their waterbodies are moving towards this long-term trajectory.
42. We expect application of Te Mana o te Wai to vary locally. Broadly, it may mean setting desired outcomes and limiting resource use to help protect values that relate to the health and wellbeing of the waterbody (such as ecosystem health or mahinga kai).
43. We anticipate this approach can result in long-term cultural, environmental and social benefits, including civic engagement and subjective well-being, as well as making community aspirations clearer and highlighting where freshwater management decisions are inconsistent with these aspirations. This may impose additional costs on regional councils and regulated parties if long-term aspirations for freshwater bodies require more environmentally conservative freshwater management approaches. Additional analysis of this impact will continue alongside consultation to inform final decisions.
44. KWM has advised that the concept of Te Mana o te Wai is broader than the protection of water. It provides a set of principles for managing freshwater: mana whakahaere (governance), manaakitanga (care and respect), and kaitiakitanga (stewardship). We acknowledge that further embedding the full scope of Te Mana o te Wai in the freshwater system is a longer term issue that will require discussions between the Crown and iwi/hapū on roles and responsibilities for freshwater management. These changes to the NPS-FM are an important step.

Introduction of a compulsory mahinga kai value

45. Māori values and attributes of freshwater health are not currently adequately identified, reflected or incorporated by regional councils in regional freshwater planning processes. This is due to the lack of national direction and support, implementation issues at a local level, and limited capacity and capability for both councils and iwi/hapū (more so hapū).
46. KWM's report, *Te Mana o te Wai: The Health of our Wai, The Health of our Nation* calls for the development of mandatory Māori measures of wellbeing in the NPS-FM, as part of requirements for councils to establish values and desired outcomes, and then to limit resource use to achieve these.
47. We propose to publicly consult on two options that respond to this recommendation – these are not mutually exclusive:
 - **Option 1 (preferred by the KWM):** making mahinga kai a new compulsory value in the NPS-FM. This option is in line with KWM's recommendations, and at this stage we support this recommendation.

This option would require regional councils to manage for that value everywhere, including by identifying attributes locally.
 - **Option 2:** strengthen the process for identifying and incorporating tangata whenua values in freshwater planning, through building on current requirements.
48. During public consultation we would seek feedback on the impacts and practicalities of implementation of the two options, but indicate that at this stage the Government prefers

KWM's preferred approach. Additional impact analysis would continue during and after consultation.

Faster implementation of the NPS-FM in planning documents

49. Currently, regional councils must implement the NPS-FM as soon as is practicable and no later than 2025, or 2030 if the council considers earlier implementation is impractical or will lead to lower quality planning. There is widespread concern from the public and our advisory groups that most regional councils expect to take until 2030 to set desired outcomes and only then begin limiting resource use to protect ecosystem health.
50. The new NPS-FM would need to be implemented through regional plans by 2025 (i.e. desired outcomes and limits on resource use set). To support this change and ensure the implementation date is met an alternative planning process under the RMA is proposed in relation to freshwater planning [CAB-19-MIN-0037.01 refers]. This will ensure sustainable limits are in place as soon as possible; councils will still have discretion over how long plans will take to meet these limits.

Amending requirements that currently leave room for degradation

51. The current NPS-FM has a core objective to maintain or improve water quality. However, a combination of policy direction and the definitions used means that regional councils could still permit water quality to decline within defined attribute bands (defined ranges) and lock in any declines that occur prior to implementing the NPS-FM.
52. We propose that the new NPS-FM require regional councils to set more specific desired outcomes (i.e. for measures of ecosystem health and other values) to at least maintain water quality at its current state (rather than within a range). Current water quality would be assessed as at the time these proposals go out for consultation, over a time period and scale that allow for natural variation and for future transfer of allowances, thereby ruling out the risk of slow implementation of the NPS-FM locking in declines.
53. The long term goal is to enhance degraded water bodies as well as halting further degradation. The proposed amendments would mean regional plans cannot allow degradation and over time would ensure regional councils provide their communities with fuller information about whether water quality has been maintained or improved in a meaningful way. There would be an associated reduction in headroom for intensification of land use and discharges unless practice improves in other parts of the catchment. The changes would also have an impact on councils, which will need to comply with additional reporting requirements as to whether water quality has been maintained or improved.

Preserving hydro generation output

54. Hydroelectric generation currently provides the majority of our electricity and has a critical role in the wider electricity system due to its size, flexibility and the potential of some schemes to store large amounts of energy. Due to its ability to alter flows, hydroelectricity generation storage can have significant effects on downstream environments and freshwater ecosystems. The current NPS-FM has included an exceptions mechanism – regional councils can maintain water quality below a national bottom line if it is necessary to secure the benefits of hydroelectricity infrastructure listed in its Appendix 3. This appendix has never been populated, and hydro-generators remain deeply concerned over the regulatory risk and uncertainty this creates for them when renewing resource consents (beginning in 2025), and the risk to national security of supply.

55. We propose to list the six largest hydroelectricity schemes in the new NPSFM – that is the Waikato; Waikaremoana; Tongariro; Waitaki; Manapouri and Clutha schemes. This would ensure that about 90 per cent of New Zealand’s hydroelectricity capacity is subject to the exceptions mechanism to provide for security of supply, and regional councils would have clear direction on how to approach other existing schemes.
56. Regional councils would be required, when making plans or setting limits, to have regard to the importance of not adversely impacting on the generation capacity and responsiveness of a scheme.
57. While other hydroelectricity generation schemes are significant in their own right, we believe there is a need for pragmatism – a general exception would allow too many rivers and lakes to be exempt from national bottom lines. Climate change and water quality are both priorities for this Government and a careful balance needs to be achieved. A carve out for 90 per cent is sufficient.
58. The proposed change would mean that waterbodies containing infrastructure outside of the six largest schemes will have to meet national bottom lines under the NPS-FM. The Ministry for Business, Innovation and Employment (MBIE), small generators, Trustpower (the fifth largest generator in New Zealand), the Independent Electricity Generators Association and the Electricity Authority have argued against this proposal. MBIE considers that it elevates the NPS-FM above the National Policy Statement for Renewable Electricity Generation 2011 (NPS-REG) and contradicts the NPS-REG, where the NPS-REG states that renewable electricity is important regardless of scale. These parties advocate that all hydroelectric generation be exempted.
59. The six largest schemes are built on water bodies that are, or are likely to be, seen as taonga to local iwi, and are subject to various obligations in existing Treaty of Waitangi settlements. An assessment of this proposal, and others, against existing settlements will be critical and completed prior to final decisions in February 2020. The proposals would not impact on the settlement legislation that creates specific regimes for the Waikato and Whanganui Rivers as the settlement legislation means those regimes prevail if the NPS-FM is inconsistent.
60. Regional councils will still be required to maintain or improve water quality within all waterbodies including, to the extent possible, those captured by this proposed change. All hydroelectricity schemes would remain subject to the RMA and resource consent requirements. Their consents typically include flow regimes and complex conditions designed to manage their environmental impacts, and the proposed exceptions will not lead to declines in water quality. Any future infrastructure would have to be built and operated in a way that manages adverse effects on the environment and would not benefit from the exception.

Other technical clarifications

61. We propose to consult on technical amendments to the NPS-FM to provide additional clarity and aid implementation. These amendments would not change the substantive obligations of regional councils and resource users, but would:
 - clarify what limits are, how they should be set and expressed within regional plans and what to do if information is limited
 - make existing requirements clearer on setting desired outcomes

- require desired outcomes for water quantity to state the ecosystem health outcome they are seeking, with the minimum flows and take limits they set clearly related to achieving those outcomes
- clarify that territorial authorities have a role in supporting integrated management of land and water, by requiring them to have provisions in their district plans to manage the effects of land use for urban development on freshwater bodies and the receiving marine environment
- broadly restructure the NPS-FM aimed at recognising the whole freshwater ecosystem. This is also an opportunity to fix what has become an unclear structure (with unnecessary repetition, redundant terminology and lack of clear directions to councils) from extensive amendment over time.

Managing land and water for ecosystem health – NPS-FM

Broadening the focus of national direction and planning to manage all aspects of ecosystem health

62. To date, national direction has tended to focus on the quality of the water itself. However, ecosystem health is also affected by physical habitat (including water levels and flows), the presence (or absence) of aquatic life and the interaction between all these components. All of these components are necessary to provide for a healthy functioning ecosystem and the benefits we derive from it. This narrow focus is evident in the current NPS-FM, where there is extensive direction on water quality, some direction on quantity, and relatively little (if any) direction to manage habitat or aquatic life. We believe this is contributing to a lack of focus on other components in regional planning, with the risk it will fail to safeguard ecosystem health for future generations.
63. To address this, we propose to amend definitions and policy direction in the NPS-FM to make it clear that all components of ecosystem health must be managed (not just water quality and quantity). This would also include new requirements to report on overall ecosystem health (taking all relevant information into account) and consider the habitat needs of threatened species (a key part of freshwater ecosystems that often have their own needs).
64. In practice, changes would mean regional councils have to measure and manage a broader range of matters through their regional plans. We will be working closely with regional councils throughout consultation to fully understand the cost implications and ensure they have the necessary capability and capacity.

New attributes and bottom lines

65. What regional councils measure and manage will, in large part, determine whether they are successful at protecting ecosystem health. We propose to define new attributes with national bottom lines, to ensure they include key measures of ecosystem health.
66. Sediment is one of the most severe stressors of freshwater (and ultimately coastal) ecosystems. Its management to date has been inadequate in preventing degradation, with levels of suspended sediment above what would be the proposed national bottom line in parts of most of New Zealand's catchments.

67. Officials are still examining whether the proposed national bottom line is appropriate in some places, based on the natural state that can be expected, primarily near the Southern Alps. Most catchments have some parts below the proposed national bottom line for suspended sediment and will have to improve to support a healthy ecosystem, while declines in other catchments will need to be prevented. The new bottom line would have an impact on a range of sectors (farming, housing and infrastructure development, forestry, and others).
68. Modelling suggests all major catchments (excluding some smaller low-lying catchments) can meet the national bottom line for suspended sediment through changes to on-farm practices, meaning that land-use change (e.g. whole farms converting to forestry) would not be required.
69. The interventions required, and the resulting reduction in erosion, would have significant benefits aside from the protection of ecosystem health; for example, they would reduce flood damage, protect aquaculture and fisheries' productivity, protect farm soils, and improve the ability of communities to connect with their waterbodies.
70. STAG has advised that other measures are critical to managing ecosystem health. However, some of these measures can respond to multiple stressors, and setting limits on resource use may not be possible or effective (e.g. the reasons for decline may be location specific, complex, or not related to resource use – such as an invasive species).
71. To address this, we propose to introduce new attributes with bottom lines for dissolved oxygen, ecosystem metabolism, fish biotic integrity, macroinvertebrates, macrophytes (lake submerged plant index), and require councils to develop an 'action plan' for achieving desired outcomes – which would not necessarily be a limit on resource use.
72. For these attributes, regional councils would still have to set desired outcomes at or above bottom lines and monitor progress against these. If the outcome is not met, or monitoring observes a decline, regional councils would have to investigate the causes and describe through the 'action plan' how the council will respond, for example, shade may be what is needed.
73. We are proposing that this approach be used to further support the management of sediment, by adding an attribute for deposited sediment, to complement the attribute for suspended sediment. Deposited sediment is a critical measure of habitat quality, and while we do not yet understand the management interventions needed to improve it, we will review its suitability as an attribute in five years once this knowledge has developed further.
74. We also propose to require regional councils to monitor ecosystem metabolism. While this is a useful indicator of ecosystem health, our understanding of the measure is still developing and it is not ready for inclusion as an attribute at this stage.
75. Regional councils would have to monitor these aspects for ecosystem health and, with their communities, set desired outcomes for them and work towards these over time. We intend to work with regional councils and others through consultation to fully understand the resulting costs and benefits. These measures are critical for managing ecosystem health, and we have a responsibility to ensure regional planning makes progress in managing them.

New attribute tables for nutrients

76. High nutrient levels promote algal growth, put pressure on the health of macroinvertebrates and fish, and are toxic at higher concentrations. There is concern that existing attributes to manage algal growth and toxicity may be insufficient. While the existing periphyton attribute table restricts nutrients in stony and gravel-based rivers where periphyton grows, not all waterways support periphyton growth. The STAG has proposed new attribute tables for nutrients (nitrogen and phosphorus) that would apply in all rivers, and this will likely help limit mangrove expansion. These tables would replace the current nitrate and ammonia toxicity attribute tables. These attributes are supported by the FLG and KWM. The RSWS does not support inclusion of the attribute tables at this time, and would prefer to see further analysis.
77. We note that new information indicates that the scale of mitigation and land use change to meet the existing periphyton bottom line is significantly greater than previously estimated. Substantial nitrogen load reductions will be required across much of New Zealand, particularly agricultural areas such as Canterbury, Southland and Waikato. Some of this can be achieved by best management practice but in some areas will require significant change. The NPS-FM requires regional plans to mandate improvements so that the trend is assured. The NPS-FM does not set the timeframe for achieving the target, which is left to regional councils. This will take decades to put right in some places.
78. We are proposing that the periphyton attribute table remain unchanged and continue to apply in those waterways that support periphyton growth. Approximately 27 per cent of the length of streams and rivers in New Zealand are soft-bottomed and unlikely to support periphyton growth, meaning the new nutrient bottom lines would be more stringent in these cases. The new nutrient bottom lines would also apply in hard-bottomed streams and rivers where the existing periphyton bottom line can be met with less stringent nutrient concentrations.
79. Nutrient enrichment of fresh and marine waters can impose economic costs through effects on ecosystems, recreational and amenity benefits, and recreational and commercial fisheries. Drinking water contaminated with nitrogen is more costly to treat to a drinkable standard, and untreated water can have health impacts. It is more cost effective to prevent degradation of waterways than to restore them after degradation has occurred, particularly in systems that have passed ecological 'tipping points' due to ongoing degradation.
80. We have limited information on the impacts of these new nutrient attribute tables. However, the STAG proposed a bottom line for nitrogen that requires stricter outcomes in some lowland agriculturally-dominated areas. The most affected regions would be Waikato, Canterbury and Southland, with large load reductions also required in some catchments in Manawatū-Whanganui. Currently, the most stringent nitrogen reductions planned through regional processes are less than what would be required if these new proposals take effect. The proposed phosphorus bottom line would have limited impact (approximately 0.1 per cent of rivers, largely in Taranaki) when excluding the rivers that would be naturally high in dissolved reactive phosphorus.
81. We are proposing to include the nutrient attribute tables in the discussion document, with feedback sought on whether to include the nutrient attribute tables in the NPS-FM. It is important to understand what ecological benefits would be generated from limiting nutrients, whether this varies by waterbodies, and what impacts this would have on individuals and communities. In light of this, the discussion document will note that further analysis is required, and final decisions will not be taken until this analysis is available. Meanwhile, including the tables in the discussion document allows wider public discussion.

82. Budget 2019 has committed \$43 million to upgrade relevant decision support tools, like the Overseer farm management tool – this will significantly improve users', including councils', confidence in the use and outputs of Overseer.

A higher water quality standard for swimming

83. The NPS-FM currently requires the state of freshwater in terms of *E. coli* (an indicator of faecal contamination and risk of infection) to be improved everywhere and for all regional councils to set a target for swimmable rivers and lakes. However, there is public concern that the 'swimmable' threshold used in the NPS-FM was lowered through amendments in 2017 below the widely accepted threshold used in the *2003 Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas* (the 2003 guidelines). The 2017 amendments were complex, and not well understood. We propose amendments to strengthen and clarify the standard for sites where people swim most often.
84. We believe all New Zealanders should be able to swim in their local river without fear of getting sick. We propose to include an additional attribute and national bottom line for *E. coli*, which would apply to primary contact sites during the bathing season. The attribute is based on the 2003 guidelines, with the national bottom line set at 540 *E. coli* per 100ml 95% of the time. Councils must develop action plans to ensure that the *E. coli* levels do not exceed this bottom line.
85. This requires additional analysis on the likely impact of the bottom line. It is possible the analysis will identify that, at some swimming sites, the bottom line may not be achievable. We therefore recommend that the discussion document note that further analysis is required.
86. The STAG has noted that there is an urgent need to review and update the 2003 Microbiological guidelines to bring them in to line with current science, monitoring and modelling approaches, and management practices. Officials advise this will be completed by 2023, at which point it would be timely to review the *E. coli* attributes in the NPS-FM.
87. Regional councils would still be required to improve freshwater everywhere in terms of *E. coli* and set desired outcomes and limit resource use through their regional plans to achieve that over time. But the bar would be higher in places where people want to swim and during the bathing season. In practice, this change would mean efforts to improve *E. coli* will be increased for swimming sites, for example, by improving upstream discharges of wastewater or reducing overland flows from pasture.
88. The benefits of reducing illness associated with unsafe recreational water are high – water borne diseases impose a considerable cost in terms of both medical treatment, lost employment, and social cost. Additionally, high-quality rivers and lakes contribute to New Zealanders' sense of wellbeing, and help New Zealand's tourism reputation. It is likely that the most significant cost would be one-off fencing costs for stock farmers, as well as treating urban wastewater and upgrading infrastructure to reduce overflow events that are all too common in heavy rain. However, a considerable amount of fencing has already been done, is already required in regional plans, or potentially required by national stock exclusion regulations. Good management practice on farms around critical source areas will also assist.

Moving to telemetered data on water use

89. The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 established requirements for measuring water use. Consented takes over five litres per second are required to have an appropriate, independently verified, measuring device and provide a continuous record of water use data to their regional council at least annually. This feeds into NPS-FM requirements to account for all takes and sources of contaminants – a task that is critical to inform regional planning and setting limits.
90. Since its implementation, data quality and timeliness have proven to be problematic, reducing councils' ability to use the data effectively for planning or compliance, monitoring and enforcement. To address this, we propose to amend the regulations, making real-time reporting (telemetry) of water use to councils mandatory.
91. This would require water users with consent to take more than five litres per second to install a telemetry unit on their water meters to electronically record water use and then transmit this data directly to councils. We estimate this would have a cost impact on users (\$600-1800 per telemetry unit, plus transmission costs), but these costs would be largely offset by the removal of the current manual reporting requirement.

Improving ecosystem health by preventing pollution and destruction of habitat from specific activities – NPS-FM and NES

92. Some activities and land uses pose a particularly high risk for habitat loss and pollution, and are not well regulated by regional councils. There is an opportunity to control these activities at the national level to make a difference for ecosystem health within the next year – these controls can take effect as soon as the national direction is gazetted in the second quarter of 2020.

Stopping further loss of wetland and stream habitat

93. Infilling, drainage, diversions, vegetation clearance and piping lead to the loss of wetlands (including coastal wetlands) and streams. This represents a significant and ongoing issue to ecosystem health and the benefits we derive from it:
 - Wetlands are one of our most valuable ecosystems. The services they provide (e.g. habitat, filtering contaminants, buffering floods, etc) are estimated to be worth over \$5 billion per year. Today, less than 10 per cent of New Zealand's original wetlands remain, with recent studies suggesting loss and degradation is continuing (between 2001 and 2016, a further 214 wetlands, or nearly 1,250 ha, were lost).

These figures do not take into account constructed wetlands and planting that has occurred over the same period. While we do not have data on the extent of this kind of restoration, many farmers are doing the right thing in this regard.

 - Infilling, piping, straightening and other modification of streams is still commonplace and lead to a loss of stream length and habitat. This occurs in both urban and rural areas, but the impact is particularly significant in urban environments due to development. Urban streams are a uniquely important habitat – these are the water bodies most of us live next to and have the greatest connection to, and are often the last refuges for biodiversity in these highly modified environments.
94. We propose to restrict the above activities that lead to loss of natural wetland and stream habitat through a combination of the NPS-FM (to direct consent decision and plan making) and the NES (to prohibit the activity or impose consenting requirements).

- For natural wetlands over 500 m², no further loss would be permitted and any activities that contribute to the loss and degradation would be deemed non-complying, for example, drainage or vegetation clearance in close proximity to the wetland. Regional councils would also be directed to identify wetlands, avoid their loss and degradation, monitor their health and promote restoration. There would be provision for nationally significant infrastructure, such as state highways, allowing these to go ahead provided adverse effects are offset where they cannot be avoided, remedied or mitigated.
 - For streams, infilling that contributes to loss would also be restricted. Regional councils would be directed to ensure that the extent and ecosystem health of streams are maintained, ensure adverse effects are offset where they cannot be avoided, remedied, or mitigated, and collect information on the gains and losses of habitat over time.
95. The proposals would impose some costs on councils, and limit some activities (for example, further drainage around wetlands, or infilling of streams). Wetlands also provide important ecosystem services including bird and fish habitat, natural hazard resilience, nutrient cycling, and biodiversity and amenity values.
96. For streams, while the proposal applies to both urban and rural areas, we anticipate that the impact on rural users would be minimal. Preventing urban stream loss can result in a wide range of impacts based on the specific nature of the site. Retaining streams may reduce the amount of land available within some new urban developments, which could affect the supply of land and in some cases add to the cost of the development. In these cases, increased costs would likely be passed on to property purchasers.
97. Some of these development costs can be reduced through careful design. Retaining natural stream channel form can reduce the need for expensive stormwater infrastructure and earthworks which has created cost savings in a number of recent development cases. Incorporating stream corridors into green open space networks and reserves, and providing a mix of denser housing and smaller lot sizes can also offset costs while making these units more attractive. These types of approaches are consistent with the aims of the National Policy Statement for Urban Development to provide quality urban environments as well as with industry trends toward best practice in water sensitive and low impact design.
98. While design-based mitigations are not always practicable, applying water-sensitive and low impact design techniques typically create only slight increases in housing costs, which is not expected to have a significant impact on overall affordability. Where infilling cannot practicably be avoided, the policy allows for it to occur provided the effects are mitigated, offset or compensated for.
99. The benefits of preserving streams include creating shared space for recreation and active transport, improved resilience to natural hazard risk, reduced pressure on stormwater infrastructure outside of the development, improved water quality in downstream receiving environments, improved biodiversity and ecosystem health, opportunities for people to connect to the natural environment and express kaitiakitanga, and general amenity. Some of these benefits can even be linked to wider social and community benefits such as improved mental and physical wellbeing. It is difficult to quantify the environmental, social and community benefits in relation to development costs, but the proposed policy shifts the focus towards these wider community and environmental benefits.

Preserving connectivity of habitat

100. While the existence and quality of habitat is critical, so too is connectivity. Around one third of New Zealand's indigenous freshwater fish species need access to the sea, and both indigenous and sports fish require access between and within habitats to complete their life

cycles. Unless provided for by infrastructure design and maintenance, structures such as culverts, dams and tide gates can delay or prevent fish movement and stop them from accessing critical habitats.

101. We propose to direct regional councils in how they manage new and existing structures through a combination of the NPS-FM (to direct plan making and consenting considerations), and the NES (to impose design requirements on some types of new in-stream structures less than 4 metres high):
- weirs, culverts and tide flap gates would be required to meet minimum design standards based on the New Zealand Fish Passage guidelines
 - regional councils would be directed to monitor the abundance, diversity and passage of fish species and identify and work towards desired outcomes over time. This includes implementing a strategy to improve the performance of existing in-stream structures
 - new consents for existing structures would need to be assessed against the provisions of regional plans, in a way that works towards desired outcomes (e.g. considers practicable mitigations) and collects necessary information to manage the risk they pose.
102. Changes would preserve the ability of fish species to move between habitats and begin restoring lost connectivity – something that is critical for our indigenous threatened species. Although we anticipate this would lead to some additional costs when building new structures, we consider this is outweighed by the need to preserve connectivity. A greater challenge would be mitigating existing structures, as in many cases there are no records of their existence despite their impact on connectivity.
103. While this proposal is aimed at providing for the particular needs of our indigenous species, it will benefit all fish. We note that the protection of the habitat of trout and salmon is a matter of particular regard under the Part 2 of the RMA, and that halting declines in water quality and further loss of habitat (and the NPSFM more generally) will benefit both indigenous species and sport species equally.

Improving ecosystem health by establishing practice standards for farms – NES and regulations

Interim restrictions on land use intensification and improving practice on nitrogen discharges

104. Nitrogen contamination of water is a pervasive issue and has been for over two decades. Concentrations have increased in 55 per cent of monitored river sites with the most significant increases in Waikato, Canterbury, Otago and Southland. Livestock waste is the primary source, followed by fertiliser use. This issue was one of the main drivers for proposing the original NPS-FM in 2008. It remains one of the most significant impacts of agriculture on our freshwater ecosystems. Intensification of agricultural land uses only adds to this pressure. As farm inputs like irrigation, stock units, fertiliser use, and cropping area increase, so too can the contaminant discharges.
105. The current NPS-FM requires regional councils to establish limits which will eventually prevent intensification where it is not appropriate, and wind back nitrogen discharges that are unsustainable.
106. While nitrate limits are in place in Canterbury, Horizons, soon in the Waikato region, and in parts of some other regions, it is unclear if this will be sufficient and we anticipate the process will take until at least 2025 to complete elsewhere. Until then, unsustainable

intensification could continue, as could high levels of nitrogen discharges due to poor practice. This makes the eventual clean up harder and more expensive, adding to the burden faced by land users.

107. We propose to introduce interim measures to restrict land-use intensification. These restrictions would apply until regional councils have fully implemented the new NPS-FM and limits are in place, preventing further degradation and reducing the scale of improvement needed once plans are in place.
108. This provision lay at the heart of the draft NPS-FM recommended by the Board of Inquiry in 2009. The provision was not implemented, and so failed to constrain large increases in dairy cow numbers and further freshwater degradation in some areas. This experience highlights the importance of effective incentives to restrict further intensification now while councils continue to develop regional plans. We need to take care not to create an incentive to increase pollution in the short term as that would increase the cost and difficulty of remediation for all farmers in the future.
109. Restrictions on substantial further intensification would prevent land use changes that would result in additional pressure on freshwater ecosystems through increased contaminant discharges – specifically, expansion of irrigation, expansion of intensive winter grazing, and land-use changes to higher intensity uses (e.g. converting from sheep and beef to dairy). We propose to require resource consent for these high-risk intensification activities. This would help avoid potentially significant increases in contaminant discharges until limits on resource use are set. However, the restrictions would have an opportunity cost for farms that previously could intensify (noting that this likely does not account for the environmental costs of doing so), but would not be able to do so in the interim without increasing contaminant discharges.
110. The opportunity cost of reduced intensification and discharges for a few in the short-term, will be much less than the eventual cost to all if we fail to halt the decline in water quality at this time.
111. We propose to consult on two options to address excessive nitrogen discharges through national regulation as put forward by the advisory groups:
 - **Option 1:** Catchment specific per-hectare caps on discharges targeting excessively high polluters in catchments with high nitrogen levels.
 - **Option 2:** A national per-hectare cap on fertiliser application.
112. Either approach would require land managers above the cap to change to lower-discharging practices, including more careful fertiliser use. However, we have some concerns about the practicality of both these options and want to consult on an additional third option:
 - **Option 3:** Managing nitrogen loss through freshwater modules in farm plans (FW-FP), which would be required as a priority in catchments with high nitrogen levels.
113. Further changes, such as a reduction in the intensity of stock numbers or crops grown may also be required in the most degraded catchments under the proposal targeting excessively high discharges. We expect this to significantly reduce nitrogen discharges in the affected catchments. In some cases more efficient farm practices may increase farm profitability while reducing nitrogen leaching. However, farms that require more substantive changes to meet the caps may face a reduction in profitability.

Excluding stock from water

114. Keeping livestock out of water bodies is a clear and direct way to protect freshwater from the adverse effects of animal agriculture. Excluding stock reduces erosion and destruction of habitat through trampling, as well as faecal contamination and its associated risks to human health. Setbacks and buffer zones can build on these benefits by maintaining habitat and shading, and by capturing contaminants carried by overland flows. Despite good progress on voluntary fencing of streams across dairy farms in recent years (about 36,000km), there remain many tens of thousands of kilometres of unfenced streams across New Zealand.
115. We propose to require dairy and beef cattle, deer and pigs to be excluded from lakes, rivers (greater or equal to one metre wide), and wetlands through national regulation (see Appendix 5).
116. The impact of low density farming on rivers and lakes is lower, and the national regulation exclusion requirements would not apply to sheep, or to lower intensity beef cattle and deer on hill country, or small streams (less than one metre wide) and drains because the costs of fencing those streams can be high. For lower intensity hill country beef cattle and deer, and small streams and drains, there would be a mandatory requirement for FW-FPs to determine what fencing and setbacks are required, and by when. FW-FP standards would be developed to ensure stock are being excluded wherever it is appropriate. This provides more flexibility to take account of individual farm conditions and the best value investment to improve the health of waterways.
117. Exclusion requirements would be phased in over a number of years, varying by water body and stock type. Not all land would be included (with the focus on lowlands). In practice, stock exclusion would mean fencing, but the requirements would be broad enough to allow the use of other technology (e.g. virtual fencing and 'smart' stock collars).

Ensuring feedlots, stock holding areas and winter grazing practices are sustainable

118. Feedlots, stock holding areas and intensive winter grazing on forage crops pose a high risk of sediment, pathogens and nutrients entering water, putting ecosystem health under unnecessary pressure. These activities are mostly recent developments in farm management systems, or have increased in extent on some farms, and are not generally regulated by regional councils.
119. We propose to consult on specifying minimum requirements for these practices through the NES. This would mean individuals who want to undertake these activities would have to comply with specific requirements and obtain a resource consent if they are above a certain threshold. For example, sacrifice paddocks will have to be at least 50 metres from a waterbody or a resource consent will be required.

120. We also propose to consult on two options for regulating winter grazing on forage crops:
- **Option 1:** Require the following existing industry standards to be met or a resource consent will be required:
 - No grazing on slopes greater than 20 degrees.
 - Pugging no greater than the depth of the ankle joint of stock (which farmers say is more practical than other measures).
 - Minimum setbacks from water bodies of 5m.

This would be supplemented by good practice standards for issues such as strip grazing, critical source areas, and crop cover as part of FW-FPs.

- **Option 2:** Require the following minimum standards to be met or a resource consent will be required (with some thresholds having options for consultation):
 - No grazing on slopes greater than (10 or 15 degrees).
 - No more than (5 or 10%) of a farm being winter grazed, or (30 or 50ha) being grazed, whichever is larger.
 - Pugging no greater than (10 to 20cm) deep over no more than half the paddock.
 - Minimum setbacks from water bodies of (5 to 20m).
 - Grazing to be carried out progressively from the top to bottom of slopes.
 - Stock to be excluded from critical source areas.
 - Land to be re-sown as soon as possible.

121. There are currently only about five feedlots in New Zealand, all of which would require resource consent. The number of consents required for other stock holding areas is not yet known but will be quantified before final decisions are taken.

122. Changes would ensure unsustainable practices cannot continue without mitigating their effects on ecosystem health. The minimum standards will build on the existing work of councils and industry in developing good practice, and individuals already applying good practice will not be unduly impacted. Where minimum standards cannot be met, individuals would still be able to seek resource consents that impose alternative mitigations. Regional councils would also be able to impose more stringent requirements where the level of risk justifies it.

Options on the role of farm planning to drive improved practices to protect ecosystem health

123. Mitigating adverse effects of farming often requires location-specific responses tailored to farm type (e.g. stock, crops), soils, climate and topography and the catchment. Farmers, industry bodies and councils are increasingly using farm plans to develop and implement these responses – but uptake is patchy. We believe there is a significant opportunity for FW-FPs to deliver improved outcomes for freshwater. Modelling in Canterbury has shown that introducing an FW-FP regime can reduce dairy farm nitrogen losses by 22 percent and phosphorus losses by 15 percent; sheep, beef and deer farm nitrogen losses by 16 percent; and cropping farm nitrogen losses by 16 percent.

124. We propose to consult on two options for the role of FW-FPs:
- **Option 1:** Voluntary industry-led FW-FPs. This is generally the status quo, although FW-FPs are required under some regional plans. The FLG and KWM prefer this option, with companion regulation of risky practices.
 - **Option 2:** Mandatory FW-FPs to support implementation of national regulations, regional rules, and resource consents with a role that could evolve over time. Officials prefer this option.

Option 1: Industry-led voluntary plans to support regulatory requirements (preferred by FLG)

125. The FLG supports a voluntary approach to help farmers make sense of and comply with stronger rules and regulations, such as those proposed in this package. The FLG considers nationally set regulation should be the primary means to manage farm practice. A voluntary FW-FP would be similar to the status quo, with potential for Government to support greater uptake. Regions and industries would be able to decide whether to require a FW-FP.
126. To date, a number of primary sector groups have voluntarily signed up to having farm plans for all farmers – NZ Beef+Lamb has a target for all farmers to have plans by 2021, while Fonterra and DairyNZ have a target of 2025. Agricultural sector leaders have also proposed a programme of action to address emissions by 2025, which includes rolling out farm plans covering emissions reductions, offsets and adaptation for all farms by 2025.

Option 2: Mandatory farm plans (preferred by officials)

127. Under a mandatory option, FW-FPs would be required through the NES for farmers above 20 hectares for pastoral farming, and five hectares for horticulture. By 2022, FW-FPs would be required for vegetable growing operations; all farms in at-risk catchments; and where otherwise required under the NES. All other farms would be required to have one by 2025.
128. FW-FPs would have to meet minimum requirements relating to content, including addressing local water quality issues and planning requirements; mapping of water and risks to its quality (e.g. critical source areas); a risk assessment of on-farm activities like irrigation and effluent application; and a schedule of actions to mitigate risks (which would be readily enforceable if linked to a national regulation, regional rule, or resource consent condition). The advantage of the farm plan approach is that all risks applicable to a unique farm can be considered with mitigations put in place.
129. In order to ensure robust and quality FW-FPs, there are several systems that will need to be put in place to support the framework. A suitably qualified and experienced practitioner (SQEP) would need to certify the FW-FP meets all requirements. An independent audit of implementation would also be required. Working in partnership, the farmer and the SQEP would develop a tailored plan for the particular farm. Audits would be undertaken by a separate SQEP. Regional councils would enforce compliance with the NES, including any FW-FPs prepared in accordance with the NES.
130. A certification scheme for suitably qualified and experienced practitioners developing FW-FPs is currently under development and will be launched later this year. Expansion of a suitable workforce would also likely be required over the next three to five years. Funding from Budget 2019 will help implement this scheme.

131. Budget 2019 funding will also go toward a significant programme of work specifically focused on how we extend and support primary industries advisory services, including a focus on attracting a diverse group of individuals into these professions and supporting the development of career pathways. We propose to build the capacity and capability of the advisory services and develop supporting institutional arrangements and data systems as we phase in the FW-FP requirements.
132. Farm plans are already being introduced by several sector bodies and regional councils. Out of a total estimated 29,090 commercial farms in New Zealand, about 16,325 have some form of farm plan. We estimate about 4,000 have a reasonable quality farm plan monitored by regional councils – so this option would require approximately 25,000 additional plans to be developed or improved. Officials estimate this will take at least three to five years depending on the speed with which existing industry programmes can be ramped up to meet new expectations.
133. Existing programmes could be used to deliver the mandatory FW-FP regime, provided they meet specifications in the NES. It will be critical that industry plays a leadership role in rolling out FW-FPs, to keep implementation timeframes achievable, avoid unnecessary costs to councils and support farmers.
134. FW-FPs would integrate easily with other existing requirements (e.g. consents and regional plan rules), so could become a standardised format for recording on-farm actions in one place, helping demonstrate the sustainability of farm practices to the public and consumers.
135. There are costs associated with obtaining a FW-FP (about \$3,500 to develop a plan, depending on the degree of preparedness and complexity), and 25,000 farms would need to obtain a new FW-FP or improve an existing one – a total cost of about \$100 million. We note that the RSWS estimates the cost is higher, at \$5200 per plan. The discussion document will seek feedback on options for meeting this cost.
136. We note that the Department of Conservation administers more than 600 grazing and other farming licences across the country. The Department will not itself be responsible for obtaining FW-FPs unless it is directly responsible for farm management and undertaking the relevant activities.
137. Freshwater modules are part of wider integrated farm planning approach that covers other environmental outcomes such biodiversity, climate change, biosecurity, animal welfare, health and safety as well as financial outcomes. By the end of the year we will have finalised the initial first four priority domains – land and water, biosecurity, people and animals. An online plain English web based tool to assist farmers and growers to understand their regulatory requirements across all relevant regulatory systems – environment, health and safety, biosecurity, animal welfare for example – will also be in the testing phase with farmers and growers.
138. Farm leaders have already committed to partnering with government for the rollout of the climate change module in these farm plans. By 2023 all farmers will have tools to count their own farm emissions, and by 2025 the climate change module will be fully implemented. There is an opportunity to align the freshwater module with this roll-out in order to achieve co-benefits between environmental outcomes.

Achieving improved freshwater quality within five years

139. As stated at the outset of this paper, the Government is committed to stopping further degradation in New Zealand's freshwater resources, and to start making immediate improvements so that water quality is materially improving within five years. Assuming that the five years began in October 2018 (when *Essential Freshwater* was launched), improvements will need to be evident by October 2023. Because every catchment is different, the time required for improvements to show up will be different.
140. The new NPS-FM cannot be relied upon to achieve this. That is because the deadline for new council plans to comply with the NPS-FM will be over two years later, by 31 December 2025 (with notification not required until 31 December 2023). Nor could the current NPS-FM be relied upon, because the majority of councils have indicated that they are unlikely to meet a 31 December 2025 compliance deadline.
141. Aside from any voluntary and educative initiatives, action to ensure water quality improvements by October 2023 will therefore rely on new requirements in the NES. This would have immediate regulatory effect from mid-2020, subject to compliance, monitoring and enforcement.
142. Over the longer term, we believe it will become possible to reduce reliance on national regulation, and make greater use of FW-FPs and bespoke farm planning to drive improved practices.

Publicly consulting on a regulatory response

Engagement to date

143. In developing proposals, we have worked closely with the stakeholder and expert advisory groups established to support the *Essential Freshwater* work programme [CAB-18-MIN-0296/0318]. Their views have informed the proposals contained in this paper. The advisory groups do not support all the options we are proposing to consult on, however we consider it is important that a range of options are put to communities and stakeholders for feedback. The reports of the advisory groups have been provided as part of Ministerial and cross-party consultation.
144. Proposals relating to urban water have also been tested with a sub-group of the independent Urban Water Working Group, made up of urban water practitioners and technical experts.

Public consultation

145. We propose a comprehensive public consultation process, sharing information and seeking feedback across social media, media, face-to-face meetings and hui nationwide and targeted workshops for those with a particular decision-making role or interest (iwi with specific governance/management agreements in Treaty settlements, regional councils, primary sector organisations, and NGOs). We are also developing a detailed plan for engagement, coordinated with other national direction that the Ministries for the Environment and Primary Industries expect to be consulting on in September, including Māori engagement.
146. An independent advisory panel is being established as part of the consultation process. Its role will be to prepare a report and recommendations on the issues consulted on, under s46A(4)(c) of the RMA (a formal requirement to create or amend national direction). This panel will include expertise in planning law, science, and tikanga Māori.

147. We will consider the report and recommendations in making any changes to the proposed national direction. Following additional regulatory impact analysis and an evaluation of the proposed national direction in accordance with s32 of RMA, we will seek Cabinet agreement to final policy decisions in February 2020.

Consultation will include Three Waters reform

148. The *Essential Freshwater* discussion document will include the following Three Waters environmental regulatory proposals as agreed by Cabinet on 1 July 2019 [CAB-19-MIN-0332 refers]:
- amendments to the National Environmental Standards for Sources of Human Drinking Water
 - a new National Environmental Standard for Wastewater Discharges and Overflows
 - national guidelines for the design and regulation of stormwater networks
 - new risk management plan obligations for wastewater and stormwater network operators, and
 - nationally consistent approaches for monitoring the environmental performance on wastewater and stormwater networks.

Evidence of impacts will continue to develop alongside consultation

149. The summary of the Interim Regulatory Impact Statement (Appendix 6) provides the impact analysis which has been done so far. It is focused on the proposals we believe will have the greatest impact on individuals, particularly those requiring changes to rural land-use practices.
150. The approach to this analysis has included:
- modelling of the environmental effectiveness of key policies
 - catchment and farm-scale modelling of the impacts of new practice standards
 - national modelling of the environmental, social and economic impacts of meeting the proposed sediment attribute
 - extensive reviews of both international and local studies, and
 - substantial interaction with the four expert advisory groups.
151. We are committed to fully understanding the impacts of these proposals, including the environmental and economic costs and benefits, before making final decisions. Additional impact analysis and targeted engagement will continue alongside public consultation, and we will have a fuller understanding of costs and benefits before seeking final decisions to create or amend national direction in February 2020. Following consultation and additional impact analysis, it may be desirable to adjust policy proposals to ensure they are both effective and efficient.

152. The purpose of the *Essential Freshwater* consultation is to gather stakeholder views and enhance the overall understanding of the impacts of the policies. In addition to this, further impact analysis is underway to better understand not only the economic and environmental impacts but also the social and cultural costs and benefits of the package. All of this information will then be included in the final regulatory impact analysis that will accompany the Cabinet paper seeking final policy decisions.
153. Impact analysis undertaken during consultation and before final policy decisions will be focused on assessing and quantifying the cumulative impact of the package as a whole. This will include assessment of the environmental, social, economic and cultural impacts. Specific projects are currently being scoped but could include: cultural assessment of whole package, wider economic modelling, more comprehensive assessment of the implementation cost on councils of increased requirements, assessment of the impact on land values of restricting future activities, and assessment of avoided costs from taking action.

Overlap with other National Direction

154. There are other national direction instruments being amended or developed in a similar timeframe.
155. Three other areas of statutory national direction are currently being consulted on between August and November 2019 (highly productive land, urban development and indigenous biodiversity), together with related policy such as a new Biodiversity Strategy. We recognise it will be important to understand the collective impact of all national direction, and we will work to reduce tensions between national policy objectives. The discussion document will outline and seek feedback on the interactions between proposed and existing national direction tools with the *Essential Freshwater* package.
156. There is also a risk that these processes will cause confusion and stretch stakeholder resources. We will mitigate this risk by coordinating these processes as much as possible and developing a consultation summary document to provide an overview of the upcoming policy proposals.

Implementation

157. Whilst these proposals provide the policy and regulatory platform for freshwater improvements, they will not succeed in producing improvements to freshwater unless they can be translated into real actions on the ground. Supporting those parties that will give effect to these changes will be crucial to the success of the proposed new measures. Councils in particular will need significant central government support if they are to implement these new requirements on top of their existing work, and to do so under tighter timeframes. Landowners will need to know what is required of them and how best to achieve any necessary changes. The Ministries for the Environment and Primary Industries will work closely with councils along with other partners and stakeholders to ensure the capability and capacity risks and gaps are well understood and the necessary support is provided in a timely manner.
158. To ensure this can happen, the package will be supported by a significant investment of \$229 million through the sustainable land use package in Budget 2019. In addition to this, there needs to be a joined-up approach across Government to ensure wider implementation needs, such as education and training, are provided in a coherent and planned manner.

Treaty of Waitangi implications

Consistency with Treaty of Waitangi settlements

159. The Ministry for the Environment (MfE) will complete an initial analysis to ensure that proposals are consistent with existing Treaty settlement obligations, prior to consultation beginning. The consultation period provides an opportunity for MfE and iwi/hapū to work together to ensure settlement obligations are being met, and work to resolve issues if they arise.
160. In addition to our continuing engagement with KWM, we will engage with iwi and Māori as part of public consultation. Where there are existing legislative or settlement requirements, we will engage with the related iwi directly.
161. Completing analysis of how Māori and their aspirations will be affected, and the extent to which proposals are consistent with existing settlements and the principles of the Treaty of Waitangi, will be a priority before making final decisions in February 2020.

Ongoing Treaty of Waitangi Claims – Wai 2358

162. In February 2012 the New Zealand Māori Council (NZMC) lodged Wai 2358 with the Waitangi Tribunal. This claim concerned the Crown's resource management reforms, which the NZMC argued were proceeding without having first established a regime to recognise and provide for Māori rights and interests in freshwater.
163. One of the Waitangi Tribunal's freshwater inquiry's focus was on whether the current law concerning freshwater and the Crown's freshwater reforms (both completed and proposed) were consistent with the principles of the Treaty of Waitangi. The NZMC argued that the answer on both accounts was 'no'. Although it supported the recent provision for Mana Whakahono-ā-Rohe agreements in the RMA and the strengthening of Te Mana o te Wai in the NPS-FM 2014 (amended 2017), the NZMC submitted that these changes had come too late and did not go far enough.
164. We are expecting the Tribunal to report back late in 2019. We hope to consider the report of the Tribunal alongside submissions as part of public consultation.

Risks with rights and interests issues not addressed

165. It is likely that through the public consultation, iwi/hapū and Māori will continue to raise certain rights and interests issues (such as governance, proprietary interests and allocation) which are outside of the scope of proposals described in this paper. Previous Governments have acknowledged the existence of rights and interests in water, and it is important that we continue to work with Māori to address these issues.

Financial Implications

166. The public consultation process will be funded through baselines, including appointment of the independent advisory panel which will consider submissions and produce a report and recommendations.
167. Budget 2019 delivers practical on-farm transition support to the primary sector. Impacts on local government and resource users are explored in more detail through the summary of the Interim Regulatory Impact Statement attached as Appendix 6.

Legislative Implications

168. We propose to consult on proposed wording of a new NPS-FM and NES. Proposed regulations under section 360 of the Resource Management Act 1991 (i.e. for stock exclusion and metering of water takes) will be drafted by the Parliamentary Counsel Office following consultation and Cabinet agreement to final policy decisions in February 2020.
169. We recommend that you authorise the Minister for the Environment and Minister of Agriculture to make policy decisions, and make changes to the consultation document and exposure drafts prior to public consultation, provided these are consistent with your agreement to recommendations in this paper.

Impact Analysis

170. Best efforts have been made to assess the impacts of proposals through the Interim Regulatory Impact Analysis (IRIA), attached as Appendix 6. The IRIA will support public consultation and will be supplemented by additional impact testing that will occur during and after that consultation.

Relative significance of impacts

171. We estimate that the most significant impacts would arise from changes needed to meet national bottom lines for sediment, nutrients, and *E.coli* (at swimming sites during the bathing season). While changes may be required over a longer period of time, they will eventually require significant and widespread changes to land use practices.
172. In terms of nutrients, some of the most significant impacts already arise from changes needed to meet the existing periphyton national bottom line introduced in the current NPS-FM by the previous Government. New information indicates that the scale of mitigation and land use change to meet the existing periphyton bottom line is significantly greater than previously estimated. Substantial nitrogen load reductions will be required across much of New Zealand, particularly agricultural areas such as Canterbury, Southland and Waikato. Some of this can be achieved by best management practice but in many places it will require a more significant change in land use practices. Councils are already setting actions to achieve the periphyton bottom line, and these actions will have a significant overlap with the proposed nutrient attributes.

Further impact analysis

173. We are committed to understanding as much as possible the impacts of these proposals, including the environmental, cultural, social and economic costs and benefits, before making final decisions. Additional impact analysis and targeted engagement will continue alongside public consultation, and we will have a fuller understanding of costs and benefits before seeking final decisions to create or amend national direction in February 2020. The timeframe to complete the analysis means that it will be limited to re-running existing models against new policy scenarios rather than building new models from scratch.

Resolving allocation issues

174. Once councils set limits on resource use (e.g. the amount of nitrogen that can be discharged in an area in order to meet environmental bottom lines) it will be necessary to allocate allowances as to who gets to use those resources. These issues of allocation are highly contentious but vitally important in terms of allowing new entrants and dynamic land use, addressing Māori Rights and Interests, and economic efficiency. Fair allocation issues will be the subject of a subsequent discussion document, though they are likely to be raised during the upcoming consultation process.

Quality assurance statement (included verbatim)

175. MfE's Regulatory Impact Analysis Panel has reviewed the IRIA developed by MfE, and produced for the *Essential Freshwater* work programme (dated 8 August 2019).
176. Due to the size and complexity of the IRIA, which contained 20 sections with separate analyses outlined in Appendices, the Panel has provided an assessment for each of the separate RIA. The Panel considers that all of the IRIA meet the quality assessment criteria, except - *Appendix 17: Intensive winter grazing on forage crops*. This particular appendix partially meets the assessment criteria. How the issue can be a problem locally is described well. However, the IRIA requires further analysis on the extent of the current situation nationally. We expect the consultation process will help to gather information to address the following issues:
- further detail of how the preferred option will work in practice; and
 - whether the preferred option is the best solution to address the problem.
177. Overall the IRIA are written clearly and concisely, and make the case for the recommended change, with the key elements of the proposal being clear and the most important impacts having been identified. The Panel considers that the IRIA provides sufficiently robust analysis and information to support the proposed public consultation on the *Essential Freshwater* work programme.
178. Some of the individual IRIA require further assessment of the impacts and costs on users and Local Government. However, we understand that this analysis is set to be undertaken during (but also informed by) planned public consultation. A final regulatory impact analysis will be developed following public consultation and when final policy decisions are being sought.
179. Though there is no overarching statement of the overall impacts of the package, we recommend that this be developed through and after consultation and included in the final RIA.

Human Rights

180. Proposals in the paper are consistent with the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993.

Gender Implications

181. Proposals in this paper do not have any gender implications.

Disability Perspective

182. Proposals in this paper do not have any disability implications.

Publicity

183. We are developing a detailed communications plan, including a media conference to formally launch the public consultation process, and media and social media promotion.

Proactive Release

184. The Minister for the Environment will release this paper as part of a comprehensive package of information at the start of the public consultation process, including any redactions as appropriate under the Official Information Act 1982.

Recommendations

The Minister for the Environment and Minister of Agriculture recommend that the Committee:

1. **note** that On 25 June 2018, Cabinet agreed to progress the '*Essential Freshwater – Healthy Water, Fairly Allocated*' work programme [CAB-18-MIN-0296 refers] to:
 - 1.1. stop further degradation of New Zealand's freshwater resources and start making immediate improvements so that water quality is materially improving within five years
 - 1.2. reverse past damage to bring New Zealand's freshwater resources, waterways and ecosystems to a healthy state within a generation, and
 - 1.3. address water allocation issues.
2. **note** that a set of proposals has been developed for consultation that set out choices for improving water quality;
3. **note** that these proposals include:
 - 3.1. a new National Policy Statement for Freshwater Management (NPS-FM), to replace the NPS-FM 2014 (amended 2017), which strengthens Te Mana o te Wai by raising water quality standards and focusing on achieving more integrated freshwater management in urban and rural areas;
 - 3.2. amendments to the Resource Management (Measurement and Reporting of Water Takes) Regulation 2010, to require the provision of real-time telemetered data on significant water takes. This use of modern technology is needed to set and monitor sustainable limits to better support regional planning;
 - 3.3. rules in a new National Environmental Standard for Freshwater Management (NES) and regulations under section 360 of the Resource Management Act 1991 (regulations) to stop further loss of urban and rural wetland and stream habitats, and improve farm practices;

4. **note** that these proposals are intended to integrate with, and transition to, greater reliance upon enforceable farm plans. Support mechanisms for the development of farm plans, regional councils, and work in at-risk catchments were funded in this year's Budget. The development of appropriate farm plans is expected to take at least five years;
5. **note** that public consultation on the NPS-FM, and the NES will include the Three Waters environmental regulatory proposals;
6. **delegate** authority to the Minister for the Environment and Minister of Agriculture to make policy decisions prior to consultation and update draft national direction, regulation, and the discussion document, including to correct unintended changes in drafting, provided changes are consistent with Cabinet agreement to recommendations in this paper;
7. **agree** to release this Cabinet paper and supporting documents as part of a comprehensive package of information at the start of the public consultation process, including any redactions as appropriate under the Official Information Act 1982.

Setting and clarifying policy direction – NPS-FM

Strengthening and clarifying Te Mana o te Wai

8. **agree** to publicly consult on amending the NPS-FM to clarify and strengthen the role of Te Mana o te Wai;

Introduction of a compulsory mahinga kai value

9. **agree** to publicly consult on two alternative options to amend the NPS-FM:
 - 9.1. making mahinga kai a compulsory value in the NPS-FM (preferred);
 - 9.2. strengthening the process for identifying and incorporating tangata whenua values in freshwater planning, through building on current requirements;

Faster implementation of the NPS-FM in planning documents

10. **note** that there is widespread concern from the public and the *Essential Freshwater* advisory groups that regional councils will take until 2030 to set desired outcomes under the existing 2017 NPS-FM and only then begin limiting resource use to protect ecosystem health;
11. **agree** to publicly consult on amendments to the NPS-FM to require regional councils to make final decisions on regional plans and policy statements to implement the NPS-FM no later than 2025;
12. **note** that shortened deadlines for implementation will be supported by a new freshwater planning process, proposed through a Resource Management Amendment Bill, that councils must use;

Amending requirements that currently leave room for degradation

13. **note** that a combination of policy direction and the definitions used means that regional councils could still permit quality to decline within defined attribute bands (defined ranges), and lock in any declines that occur prior to implementing the NPS-FM;
14. **agree** to publicly consult on amendments to the NPS-FM to:
 - 14.1. require regional councils to set more specific desired outcomes (i.e. for measures of ecosystem health and other values) to maintain or improve water quality from its current state (rather than within a range);
 - 14.2. ensure the current state of water quality is assessed as at the date public consultation begins, rather than at some future date;
 - 14.3. expand on reporting requirement to give additional direction to regional councils assessing whether water quality has been maintained or improved;

Preserving hydro-generation output

15. **note** that we want to protect the flexibility of most existing hydroelectricity generation, needed to achieve our greenhouse gas emissions reductions targets and maintain security of supply, and that since 2014 the NPS-FM has included an exceptions mechanism that has not been used;
16. **agree** to publicly consult on amendments to the NPS-FM to enable regional councils to maintain water quality below national bottom lines if it is necessary to secure the benefits of the Waikato; Waikaremoana; Tongariro; Waitaki; Manapouri and Clutha hydroelectricity generation schemes (which collectively represent 90 per cent of hydro capacity);
17. **note** that new and other smaller hydroelectricity schemes would not be exempted from the NPS-FM;

Other technical clarifications

18. **agree** to publicly consult on amendments to the NPS-FM to:
 - 18.1. clarify what limits are, how they should be set and expressed within regional plans, and what to do if information is limited;
 - 18.2. include specific direction about setting desired outcomes and limits on resource use for quantity and flows to make existing requirements clearer;
 - 18.3. clarify that territorial authorities have a role in supporting integrated management of land and water;

Managing land and water for ecosystem health – NPS-FM

Broadening the focus of national direction and planning to manage all aspects of ecosystem health

19. **note** that to date national direction has tended to focus on the quality of the water itself rather than physical habitat (including water levels and flows), the presence (or absence) of aquatic life, and the interaction between all these components;

- 20. agree** to publicly consult on amendments to the NPS-FM to:
- 20.1. amend existing definitions and policies to make it clear that all components of ecosystem health must be managed (not just water quality and quantity);
 - 20.2. require regional councils to report on overall ecosystem health, taking all relevant information into account;
 - 20.3. require regional councils to consider the needs of threatened species;
 - 20.4. restructure the NPS-FM to recognise the whole freshwater ecosystem and improve its clarity more generally;

New attributes and bottom lines

- 21. note** that how regional councils measure and manage attributes will, in large part, determine whether they are successful at protecting ecosystem health;
- 22. agree** to publicly consult on amendments to the NPS-FM that could introduce new attribute tables and bottom lines for:
- 22.1. suspended sediment (turbidity);
 - 22.2. nutrients (nitrogen and phosphorus);

- 23. agree** to publicly consult on amendments to the NPS-FM to:
- 23.1. include new attributes requiring an action plan (not necessarily a limit on resource use) for:
 - 23.1.1. deposited sediment;
 - 23.1.2. macroinvertebrates;
 - 23.1.3. fish presence and diversity;
 - 23.1.4. plant life;
 - 23.1.5. dissolved oxygen in rivers and lakes;
 - 23.2. require regional councils to monitor ecosystem metabolism;

A higher standard for swimming

- 24. note** that there is confusion about what swimmable means and concern about the risk posed to swimmers;
- 25. agree** to publicly consult on amendments to the NPS-FM to include an additional attribute and national bottom line for *E. coli*, which would apply to primary contact sites during the bathing season;

Moving to telemetered data on water use

26. **note** that quality and timeliness of water use data have proven to be issues, reducing councils' ability to use data effectively for planning or compliance, monitoring and enforcement;
27. **agree** to publicly consult on amendments to the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 to make real-time reporting (telemetry) of water use to councils mandatory;

Improving ecosystem health by preventing pollution and destruction of habitat from specific activities – NPS-FM and NES

Stopping further loss of wetland and stream habitat

28. **note** that infilling, drainage, diversions, and piping lead to the loss of natural wetlands (including coastal wetlands) and streams;
29. **agree** to publicly consult on a NES to restrict activities that lead to loss of natural wetlands and streams by prohibiting the activity or imposing consenting requirements;
30. **agree** to publicly consult on a NPS-FM to direct consent decisions and regional plan making;
31. **note** that the existing National Environmental Standard for Plantation Forestry will be reviewed and amended to ensure it aligns with the above requirements in the NES.

Preserving connectivity of habitat

32. **note** that while the existence and quality of habitat is critical, so too is connectivity as around one third of New Zealand's indigenous freshwater fish species need access to the sea, and both indigenous and sports fish require access between and within habitats to complete their life cycles;
33. **agree** to publicly consult on a NES to control the construction of new in-stream structures or impose consent conditions on existing structures seeking consent renewal, to meet minimum design standards based on the New Zealand Fish Passage guidelines;
34. **agree** to publicly consult on a NPS-FM to direct regional councils to monitor the abundance, diversity and passage of fish species, and identify and work towards desired outcomes over time;

Improving ecosystem health by establishing practice standards for farms – NES and regulations

Interim restrictions on land use intensification and nitrogen discharges

35. **note** that nitrogen contamination of water is a pervasive issue, and has been for over two decades, with livestock waste as the primary source followed by fertiliser use;
36. **note** that while limits are in place in Canterbury, Horizons, and soon in the Waikato region, we anticipate this process will take until at least 2025 to complete elsewhere, and until then nitrogen discharges and intensification could continue to increase;

- 37. **agree** to publicly consult on restricting further land use intensification through regulations based on increases in irrigated area, winter grazing area, or significant changes in land use above size thresholds;
- 38. **note** the discussion document will seek public input on whether irrigation of low leaching horticulture should be left out of the above interim restrictions on intensification, to provide an option for under developed land;
- 39. **agree** to publicly consult on three alternative options for addressing high nitrogen discharges:
 - 39.1. catchment specific per-hectare caps on discharges that target excessively high pollutants in catchments with high nitrogen levels;
 - 39.2. a national per-hectare cap on fertiliser application;
 - 39.3. managing nitrogen loss through freshwater modules in farm plans (FW-FPs), which would be required as a priority in catchments with high nitrogen levels;

Excluding stock from water

- 40. **note** that keeping livestock out of water bodies is a clear and direct way we can protect freshwater from the adverse effects of animal agriculture, but despite good progress on voluntary fencing of streams across dairy farms in recent years (about 36,000km), there remain many tens of thousands of kilometres of unfenced streams across New Zealand;
- 41. **agree** to publicly consult on options for:
 - 41.1. requiring dairy and beef cattle, deer and pigs to be excluded from lakes, rivers (greater or equal to one metre wide), and wetlands through national regulation which does not apply to sheep, or to low intensity high country farming;
 - 41.2. a mandatory requirement for FW-FPs to determine what fencing and setbacks are required, and by when, for lower intensity hill country beef cattle and deer, and small streams (less than one metre wide) and drains;
 - 41.3. phasing in stock exclusion requirements over a number of years, varying by water body and stock type;
 - 41.4. implementing proposals to exclude stock from water through regulations made under section 360 of the RMA;
- 42. **note** that we aim to develop standards to direct FW-FP development, and ensure stock are being excluded wherever it is appropriate;

Ensuring feedlots, stock holding areas and winter grazing practices are sustainable

- 43. **note** that feedlots, stock holding areas and intensive winter grazing on forage crops pose a high risk of sediment, pathogens and nutrients entering water, putting ecosystem health under pressure;
- 44. **note** that these activities have increased in extent on some farms, and are not generally regulated by regional councils;

- 45. agree** to publicly consult on:
- 45.1. requiring all feedlots to obtain resource consents and comply with minimum standards to manage the permeability of the base area; collect, store and dispose of effluent responsibly; and be situated away from water and any extraction points;
 - 45.2. requiring stock holding areas to obtain resource consent if this activity is carried out over a certain time threshold and comply with minimum standards to manage the permeability of the base area; collect, store and dispose of effluent responsibly; and be situated away from water and any extraction points;
 - 45.3. two alternative options for regulating winter grazing on forage crops:
 - 45.3.1. to meet existing industry standards or obtain a resource consent, supplemented by practice standards for issues such as strip grazing, critical source areas and crop cover as part of FW-FPs;
 - 45.3.2. to meet new specified practice standards or obtain a resource consent, including consultation on a range of thresholds for these standards;
 - 45.4. requiring that sacrifice paddocks must be at least 50 metres from a water body or obtain a resource consent, under either of the above options;
 - 45.5. implementing requirements on feedlots, stock holding areas and winter grazing practices through the NES;

Options on the role of farm planning to drive improved practices to protect ecosystem health

- 46. note** that mitigating adverse effects of farming often requires location-specific responses tailored to farm type (e.g. stock, crops), soils, climate and topography, and the catchment;
- 47. agree** to publicly consult on two alternative options for farm plans:
- 47.1. a voluntary industry-led farm plan approach;
 - 47.2. a mandatory option utilising the existing RMA that would:
 - 47.2.1. require farmers and growers above 20 hectares for pastoral farming and 5 hectares for horticulture to have a farm plan with a freshwater module (FW-FP) in place;
 - 47.2.2. phase in requirements between 2022 and 2025, subject to the capacity of farm environment planners and development of appropriate standards;
- 48. note** there are costs associated with farm planning (about \$3,500 to develop a plan, depending on the degree of preparedness and complexity), and the discussion document will seek feedback on options for meeting this cost;
- 49. note** a certification scheme for farm planners (suitably qualified and experienced practitioners) is currently under development, and a further certification programme for farm plan auditors will also be developed with funding from the 2019 Budget package;

Next steps

50. **note** that we are proposing public consultation occur from 5 September 2019 for a minimum of six weeks;
51. **note** that prior to 5 September 2019, the Minister of Agriculture intends to meet with farm leaders;
52. **note** that prior to September 2019, the Minister for the Environment intends to share these proposals with the Freshwater Iwi Leaders Group and the New Zealand Māori Council, noting the substantial consultation with KWM and others to date;
53. **note** that an independent advisory panel is being established as part of the consultation process, and that its role will be to prepare a report and recommendations for Ministers on the issues consulted on (within the meaning of s46A(4)(c) of the Resource Management Act 1991), and that officials will provide advice to Ministers in parallel to this process;
54. **note** that further work on impact analysis for the proposals will occur over the next six months, including continued targeted engagement, to be available to independent advisory panel and Ministers prior to making final decisions;
55. **note** that the package of proposals will come back to Cabinet for final decisions on national regulation in February 2020.

Authorised for lodgement

Hon David Parker

Minister for the Environment

Hon Damien O'Connor

Minister of Agriculture

Appendix 1: Overview of package components

Appendix 2: Draft discussion document

Appendix 3: Exposure draft of the NPS-FM

Appendix 4: Exposure draft of the NES

Appendix 5: Policies to be included in section 360 regulations once drafted

Appendix 6: Summary of the Interim Regulatory Impact Statement