

In Confidence

Office of the Minister for the Environment

Office of the Minister of Agriculture

Chair, Cabinet Economic Development Committee

ACTION FOR HEALTHY WATERWAYS – DECISIONS ON NATIONAL DIRECTION AND REGULATIONS FOR FRESHWATER MANAGEMENT

Proposal

1. This paper seeks agreement to an *Action for healthy waterways* package, including:
 - 1.1. a new National Policy Statement for Freshwater Management (new NPS-FM) to replace the current NPS-FM 2014 (amended 2017). This will require regional councils to finalise long-term objectives in their freshwater planning instruments by 31 December 2026, to put the country on a path to restoring our waterways in a generation; and
 - 1.2. new National Environmental Standards for Freshwater (NES) and regulations under section 360 of the Resource Management Act 1991 (RMA). These will have more immediate effect and will prevent further loss and degradation of freshwater habitats, introduce controls on high risk activities, and require real-time reporting for water takes data.
2. This paper also seeks agreement for a Supplementary Order Paper (SOP) to the Resource Management Amendment Bill 2019 (RM Bill). The SOP will:
 - 2.1. enable mandatory and enforceable freshwater modules¹ of farm plans (FW-FPs), which are an integral part of the *Action for healthy waterways* package and support our long-term and nearer-term objectives. The FW-FP aspect of the SOP is attached as Appendix 2, and
 - 2.2. extend the date by which councils must notify freshwater planning instruments that implement the new NPS-FM from 31 December 2023, to 31 December 2024².
3. In June 2018 Cabinet approved the *Essential Freshwater – Healthy Water, Fairly Allocated* work programme in order to:
 - 3.1. 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 Freshwater modules of farm plans are the first anticipated component of what could be a multi-module farm planning system for environmental outcomes.

² The rules in these freshwater planning instruments, ie regional plans, have legal effect as soon as they are notified. The instruments then go through a hearing process and will be open to an appeal on limited grounds. The hearing process must be finalised by 31 December 2026. In certain circumstances, an extension to this timeframe of up to 12 months may be granted, with finalisation of the plan then required by 31 December 2027.

- 3.2. reverse past damage to bring New Zealand's freshwater resources, waterways and ecosystems to a healthy state within a generation, and
 - 3.3. address water allocation issues, by working to achieve efficient and fair allocation of freshwater resources, having regard to all interests including Māori, and existing and potential new users [CAB-18-MIN-0296 refers].
4. Detailed policies were then developed to implement the first two of these objectives, and were published in an *Action for healthy waterways* discussion document in September 2019. This was accompanied by drafts of a new NPS-FM, an NES, and section 360 regulations. The freshwater package subsequently agreed, following public consultation, and described in this Cabinet paper focuses on delivering the first two objectives successfully. Water allocation will be addressed next [ENV-18-MIN-0032 refers].

Relationship to government priorities

5. This Government has made a commitment to New Zealanders to clean up our waterways and received a mandate to do this when it was elected in 2017. The New Zealand public expect decisive action. Higher standards for freshwater are a priority in both the Coalition agreement and the Confidence and Supply agreement.
6. The Prime Minister highlighted the need to protect and restore our lakes and rivers in the Speech from the Throne and in the opening speech to Parliament this year.
7. The Government is focused on COVID-19 and its unprecedented effects on New Zealanders' wellbeing as well as our economy as the Treasury indicates we are heading into a major recession. However, we are now ready to progress the freshwater proposals, albeit in a manner modified to reflect current realities.
8. The full effects of COVID-19 on the global economy are still uncertain, but will be very significant and sustained, including for New Zealand. As we look towards the recovery, the primary sector will have the chance to help stimulate and rebuild New Zealand's economy.
9. The primary sector's environmental credentials are an important part of overall sector resilience and play a valuable role in ensuring global demand for our exports. It will therefore be important that we work during the recovery to create a more resilient and sustainable operating model. This is a unique situation for the primary industries, and with sufficient support it could create an opportunity where both economic and environmental benefits are simultaneously achieved into the future.
10. Therefore, there are opportunities for the *Action for healthy waterways package* to help position the primary sector and tourism positively for the future and, depending on how implementation is supported, alleviate negative employment impacts of COVID-19 and the costs of the package. We propose that officials provide us with options for this support.
11. It is still necessary to restore our waterways and the ecosystems they support. Changes made after consultation and in light of COVID-19 have significantly reduced the costs of the package, without compromising the attainment of major environmental benefits. The changes will delay immediate costs to farmers and growers to help with the COVID-19 response and recovery, and will allow councils longer timeframes to develop freshwater planning instruments.

12. Most regional council leaders and primary sector leaders are calling for certainty and asking the Government to make decisions on water reforms now. We therefore recommend proceeding with decisions on this amended *Action for healthy waterways* package.

Executive summary

Background

13. New Zealanders have known about damage to our waterways since at least 2004 when the Parliamentary Commissioner for the Environment released the *Growing for good* report, which highlighted that New Zealand's economy relies on our natural capital, and identified decreasing water quality arising from increasingly intensive farming.
14. Continued land use intensification and population growth have placed our freshwater, and the ecosystems it sustains, under severe threat. For example, synthetic nitrogen fertiliser use increased 772% from 1990 to 2018, 94% of urban streams and 82% of streams in pastoral areas are not suitable for swimming at least some of the time, 76% of native fish are threatened with or at risk of extinction, and New Zealand has lost more than 90% of our wetlands. These negative impacts on freshwater have contributed to major degradation of estuaries.
15. Regional councils, communities, Māori, the primary sector, and other industries have begun to address these issues, but action across the board has been inconsistent. While many farmers and growers are taking significant steps to improve freshwater in their catchments, the impacts of widespread intensification and some poor performing individuals are reflecting negatively on the sectors and communities as a whole – both in New Zealand and with our trading partners. Restoring our waterways is an intergenerational task that Government needs to lay the foundations for now.

Action for healthy waterways proposals

16. We are proposing a comprehensive package of policies³ that deliver on the Government's commitment to stop further degradation, make immediate improvements, and restore waterways within a generation. Experts from Māori, the primary sector, scientists, environmental groups, and local government, as well as members of the public, have all had a hand in bringing this package together.
17. The proposals align with these objectives, as described below:
 - 17.1. **Stop further degradation:**
 - 17.1.1. immediate protection for wetlands, streams, and fish passage
 - 17.1.2. controlling poor practice in intensive winter grazing
 - 17.1.3. minimum standards for feedlots and stock holding areas, and
 - 17.1.4. interim intensification controls – refined following consultation and in light of COVID-19 to focus on the riskiest activities and to allow more flexibility.

³ This paper uses "policies" to refer to specific requirements in the new NPS-FM, NES, and section 360 regulations.

17.2. Make a material improvement in five years:

- 17.2.1. require stock exclusion in low-slope areas (impact deferred for two years to recognise COVID-19 impact)
- 17.2.2. require minimum setbacks from rivers and streams
- 17.2.3. reduce excessive nitrogen use through a cap on synthetic fertiliser
- 17.2.4. implement the at-risk catchment programme funded via Budget 19⁴ , and
- 17.2.5. farmer support programme and support for catchment groups (and there is potential to expand from the Budget 19 package as part of a fiscal stimulus programme)⁴.

17.3. Put us on a path to restore our waterways in a generation:

- 17.3.1. new NPS-FM – including Te Mana o te Wai, new values, and new attributes
- 17.3.2. new planning process – faster and nationally consistent regional plans
- 17.3.3. mandatory and enforceable FW-FPs
- 17.3.4. require real-time measuring and reporting of data on water use, and
- 17.3.5. invest in new technologies and decision-support tools to assist landowners with systems design and compliance efficiency⁴.

Public consultation on Action for healthy waterways and the Independent Advisory Panel

- 18. The multi-agency Water Taskforce developed these proposals over a period of 18 months working with four specialist advisory groups: the Freshwater Leaders Group (FLG), Te Kāhui Wai Māori (KWM), the Science and Technical Advisory Group (STAG), and the Regional Sector Water Subgroup (RSWS). Last year, Cabinet agreed to undertake public consultation on a new NPS-FM⁵, NES⁶, and regulations under section 360 of the RMA [CAB-19-MIN-0414 refers].
- 19. Consultation occurred from 5 September to 31 October 2019 and included an extensive roadshow. Over 17,500 submissions on the proposals were received, more than any other public consultation process the Ministry for the Environment (MfE) has run.
- 20. An Independent Advisory Panel (IAP) chaired by former Principal Environment Court Judge David Sheppard assessed the submissions and recommended detailed refinements to the package to address submitter feedback. The four advisory groups also provided further advice on refinements.

⁴ Not part of this regulatory package – funded by the Budget 19 Productive and Sustainable Land Use package

⁵ National policy statements are regulations that must be given effect to through the content of regional plans and policy statements, and they must be considered in any consenting decision. They direct regional councils in how they should regulate resource use within a region, but they do not immediately impact on what resource users can or cannot do.

⁶ National environmental standards are regulations that can set activity status, rules, and technical standards that apply directly to resource users. They are a mechanism for government to regulate activities immediately.

21. The IAP, advisory groups, and officials were in broad agreement about policy direction and modifications to the proposals following consultation. This consensus reflects the solid support for the Government's objectives that consultation highlighted.

Changes in response to submissions, the IAP, and COVID-19

22. We propose a number of changes to address feedback provided during consultation and from the IAP, as well as in response to COVID-19. Key changes include:

- 22.1. in respect of managing nitrogen:

- 22.1.1. strengthening the nitrogen toxicity attributes and bottom lines to provide protection for 95% of species (up from 80%)

- 22.1.2. establishing a cap on the use of synthetic nitrogen fertiliser set initially at 190 kilograms of nitrogen/ha/year with a review required by 2023⁷, and

- 22.1.3. delaying consideration of a dissolved inorganic nitrogen (DIN) bottom line for 12 months, but specifying that DIN levels will still have to be maintained or improved and increasing oversight of councils' implementation of requirements⁸.

- 22.2. existing permanent fences when the regulation comes into force will not need to move to comply with riparian setback requirements, and the riparian setback has been reduced from an average of five metres to a minimum of three metres; FW-FPs and regional rules may, however, contain more stringent requirements to address issues specific to waterways – and consideration based on risks to waterways will be given in FW-FPs as to whether existing permanent fences will be required to move over time

- 22.3. some of the proposed stock exclusion requirements in hill country will be managed through FW-FPs rather than centrally set rules in order to reflect the diversity of landscapes, farm systems, and freshwater ecosystems

- 22.4. the process for developing mandatory and enforceable FW-FP regimes has been further developed, and their introduction will be phased in with a focus on early and targeted rollout of FW-FPs to highly nitrogen-impacted catchments

- 22.5. interim intensification controls will include a 2024 sunset clause, greater flexibility in catchments that create headroom, will not apply to vegetable production and will not apply to irrigation except where irrigation is for dairy, and

- 22.6. the phosphorus attribute will not have a bottom line because of high natural variation, and other attributes will have exceptions for situations in which high levels of contaminants are due to natural sources.

Impacts of Action for healthy waterways

⁷ Unless otherwise noted, when policy-relevant dates are provided, they refer to 31 December of that year.

⁸ Over 95% of New Zealand's rivers and streams are estimated to have median DIN levels of 1 mg/l or less. The proposals generally require DIN levels to be at least maintained at current state, or improved where they exceed water quality bottom lines or contribute to the exceedance of other attribute bottom lines (such as for periphyton, macroinvertebrates, or dissolved oxygen). If a DIN bottom line were adopted later, it would most likely be with exceptions and would be incorporated in regional planning processes before, or during, the proposed freshwater panel hearings process.

23. Comprehensive impact analysis supports our recommendations on *Action for healthy waterways*. Officials assessed the impacts of individual policies, as well as the cumulative impacts of policies, that will have significant environmental and economic effects. This includes numerous major analyses undertaken in response to feedback during consultation.
24. This package will have significant benefits for freshwater outcomes, and taking action now will avoid higher costs in the future. *Action for healthy waterways* will enable protection of the critical environments remaining, and uphold Te Mana o te Wai.
25. Improving freshwater provides major economic benefits. For example, New Zealand's \$46+ billion per year in primary industry exports is contingent on the sector's relationship with the environment. Although COVID-19 hit the tourism industry very hard, it will come back and continue to be an important part of our economy. New Zealand's clean, green image is every bit as important for tourism as it is for the primary sector.
26. New Zealanders place great importance on the environment. It is not possible to monetise or quantify many of the values New Zealanders derive from the environment – such as the value of protecting taonga, providing for mahinga kai in freshwater and estuaries, ensuring endangered species do not become extinct, or protecting the habitat of trout and salmon – but some can be, and officials have estimated these to the extent possible using the best methods and data available.
27. Realising these benefits will incur costs that will be unevenly distributed across New Zealand. It will be important to identify communities most affected, and ensure adequate support is provided to them, if the desired outcomes are to be achieved equitably.
28. The package will require significant council expenditure with the highest costs expected to fall on Canterbury, Waikato and Otago. The costs to landowners and resource users will eventuate over different timescales with the new regulations causing costs sooner but the majority of costs occurring after 2024 incrementally as a result of new NPS-FM direction.
29. Costs for farmers will be highest in areas that have experienced more agricultural intensification in recent years such as Canterbury, Waikato, and Southland. Economic modelling suggests that the primary costs to resource users are the stock exclusion proposals, the strengthened nitrogen toxicity attributes, and delivery of auditable FW-FPs.
30. Officials estimate the net benefits of the proposals – that is the benefits minus the costs – to be \$193 million per annum over 30 years (\$3.8 billion Present Value, PV)⁹. To put this in context, annual GDP is approximately \$300 billion.
31. Estimated benefits are approximately \$359 million per annum (about \$7.0 billion PV) and primarily stem from improved swimmability and reduced health risks, retention of ecosystem services from wetlands such as flood attenuation and water storage, and improved ecosystem health outcomes.
32. Estimated costs are approximately \$166 million per annum (about \$3.2 billion PV). Of this, about \$124 million per annum (\$1.8 billion PV), will be borne by the primary sector, stemming mainly from proposals on stock exclusion, FW-FPs, and strengthened nitrogen attributes, and the remainder will be borne by local government and ratepayers.

⁹ The PV assumes constant annual impact (in constant values) and a 3% discount rate, and it is measured in today's values over 30 years.

33. Changes made to the package since consultation and in light of COVID-19 have reduced the costs of the package by an estimated \$3.4 billion (PV).
34. The land use change resulting from this package is estimated at 6,600 hectares in reduced dairy area to reduce nitrogen pollution, some amount of afforestation in hill country pasture to reduce erosion and sediment entering waterways, and land in setbacks from rivers related to the stock exclusion requirements.

Māori involvement in freshwater

35. Freshwater is a precious and limited resource, a taonga of huge significance, and is of particular importance to Māori. Officials collaborated on the development of particular policies with Kāhui Wai Māori (KWM) and held targeted hui with iwi and a workshop with Māori technical experts during consultation. Iwi and hapū submissions expressed general support for the overall package but raised concerns about rights and interests concerns.
36. The 2019 Wai 2358 Waitangi Tribunal report provided recommendations to government about transforming New Zealand's freshwater management system. *Action for healthy waterways* aligns with a number of the recommendations. The package recognises the kaitiaki role of iwi/Māori, and the important relationships that iwi, hapū and whānau have with freshwater. The package incorporates Te Ao Māori into future freshwater management and planning processes.
37. The *Action for healthy waterways* package is not intended to affect Treaty settlements and arrangements. Officials' analysis has not identified inconsistencies between the policies and Treaty settlements. Councils will still need to comply with their Treaty settlement obligations when implementing these policies, and the Crown needs to engage with iwi to assess if impacts may arise during implementation, and if so, manage them.

What's left to do?

38. This package is a major step in a larger work programme to address freshwater issues. Some key issues for future work include:
 - 38.1. supporting the implementation of these proposals, and considering the proposal from FLG and KWM to establish a Freshwater Commission / Te Mana o te Wai Commission
 - 38.2. considering in 12 months' time whether there should be a DIN bottom line in the NPS-FM, and by 2023 reviewing the cap on the use of synthetic nitrogen fertiliser
 - 38.3. addressing fair allocation and Māori rights and interests in freshwater. Many submitters raised a lack of action on this as a significant issue
 - 38.4. developing the operational regulations for and requirements of FW-FPs
 - 38.5. developing greater central oversight of the performance of the freshwater management system and council performance, and

38.6. making improvements to Overseer¹⁰.

Next Steps

39. If Cabinet agrees to this *Action for healthy waterways* package, the Minister for the Environment will take to Cabinet amended drafts of a new NPS-FM, an NES, and section 360 regulations – giving effect to the decisions by Cabinet – for approval by July 2020.

Background

Environmental and policy context

40. *Environment Aotearoa 2019* and *Our Freshwater 2020* make clear that intensification and extension of human activities in rural and urban environments are polluting waterways and harming ecosystems¹¹. While regional planning is beginning to address these issues, it is not sufficient or fast enough to stop further degradation of freshwater.
41. In recent periods, 94% of urban streams and 82% of streams in pastoral areas posed very high risks to human health for swimming at least some of the time. In 2017, 76% of native freshwater fish were threatened with or at risk of extinction. About 66% of our rare ecosystems are threatened with collapse, including rare braided river systems. Less than 10% of our historic wetlands remain, and wetland areas continue to shrink, with at least 1,247 hectares being lost between 2001 and 2016.
42. The NPS-FM has been in effect since 2011. The government of the day amended the NPS-FM in 2014 and again in 2017. Yet councils have made slow progress in implementing it, and it has not succeeded in halting the decline of our freshwater ecosystems; and, moreover, has gaps in key areas such as sediment.

Government's freshwater objectives

43. The Government has made freshwater reforms a key priority of its agenda. On 25 June 2018, Cabinet approved an *Essential Freshwater – Healthy Water, Fairly Allocated* work programme in order to:
- 43.1. stop further degradation of New Zealand's freshwater resources and start making immediate improvements so that water quality is materially improving within five years
 - 43.2. reverse past damage to bring New Zealand's freshwater resources, waterways and ecosystems to a healthy state within a generation, and
 - 43.3. address water allocation issues, by working to achieve efficient and fair allocation of freshwater resources, having regard to all interests including Māori, and existing and potential new users[CAB-18-MIN-0296 refers].
44. The resulting *Action for healthy waterways* package, following public consultation, focuses on delivering the first two objectives successfully, around ecosystem health and

¹⁰ The Ministry for Primary Industries (MPI) is taking responsibility for implementing changes stemming from the 2018 report on Overseer by the Parliamentary Commissioner for the Environment. Overseer is a model that can be used to estimate nitrogen and phosphorus discharges and greenhouse gas emissions from farms.

¹¹ *New Zealand's environmental reporting series: Environment Aotearoa 2019* and *Our Freshwater 2020* present information on the state of New Zealand's environment. Published jointly by StatsNZ and MfE.

water quality aspects¹². Water allocation will be addressed next [ENV-18-MIN-0032 refers].

45. Meeting these objectives requires an integrated package of legislative changes and new national direction and regulation. Much of the effect of these measures will take a generation to achieve, but it is important to start making improvements now and provide councils and businesses with certainty about the long- term direction.
46. Because of the time it will take for councils to implement a new NPS-FM (by 2026) and roll out FW-FPs, immediate regulation is needed to stop things getting worse. The proposed NES and stock exclusion regulations (section 360 regulations) accomplish this through rules on specific activities that pose high risks to water bodies.

Next steps

47. The September 2019 *Action for healthy waterways* consultation document was accompanied by drafts of a new NPS-FM, an NES, and section 360 regulations. Subject to Cabinet's agreement to the recommendations in this paper, officials will refine these drafts and we will seek Cabinet approval of them by July 2020. We recommend that you delegate authority to the Minister for the Environment and the Minister of Agriculture to make policy decisions and drafting changes as needed, provided the changes are consistent with the recommendations in this paper.
48. If Cabinet agrees, the Minister for the Environment proposes to introduce an SOP to the RM Bill at the Committee of the whole House, which would enable the development of mandatory, enforceable FW-FPs; and in response to COVID-19, move the date by which councils must notify freshwater plans from 31 December 2023 to 31 December 2024.
49. The FW-FP SOP text is attached as Appendix 2. The freshwater planning process aspects of the SOP will be provided for Cabinet approval ahead of the Committee of the whole House stage of the RM Bill.

Action for healthy waterways proposals

Overview of the Action for healthy waterways package

50. The *Action for healthy waterways* package includes discrete policies and rules across instruments that interact coherently to achieve the Government's objectives. Table 1 below, subsequent sections, and Appendix 1 provide an overview of the policies.

¹² This paper refers primarily to "freshwater" to reflect the proposals' focus beyond water quality, which is just one aspect of freshwater ecosystem

Table 1 – Action for healthy waterways themes and major policy bundles

Preventing further loss and degradation of key freshwater habitats (new NPS-FM and NES)	Stopping further loss of natural wetlands and streams
	Preserving connectivity of fish habitat
Taking action on high risk farming activities (NES and s360 regulation)	Stock exclusion from waterways
	Controls on high-risk feedlots and stockholding areas ¹³
	Controls on high-risk intensive winter grazing practices
	Interim restrictions on major agricultural intensification
	Managing excessive nitrogen discharges through a cap on fertiliser application
Setting up the system to restore waterways over a generation (RM Bill, new NPS-FM, s360 regulations)	Amend planning processes so regional freshwater planning instruments will be developed more quickly
	Enable development of mandatory and enforceable FW-FPs in the future
	Move to real-time measuring and reporting data on water use
	Amend requirements for councils to maintain or improve freshwater ¹³
	Preserve hydro-electricity flexibility and output to maintain security of supply
	Other technical clarifications ¹³
	Strengthen and clarify Te Mana o te Wai as the basis for the new NPS-FM
	Add mahinga kai as a mandatory value
	Broaden the focus of national direction and planning to manage all aspects of ecosystem health
	New and amended ecosystem health attributes ¹³
	Phosphorus attribute
	Sediment attributes
	A higher standard where and when people want to swim
	Strengthened nitrogen attributes

¹³ Described only in Appendix 1.

51. We have amended the proposals as a result of consultation to improve the workability of the package as a whole and to delay short-term costs to the primary sector while the economy is impacted by COVID-19.
52. The package presented here broadly aligns with IAP recommendations, advisory group recommendations, and submitter feedback. Appendix 1 provides more detail on the policies and includes the detailed recommendations for Cabinet that, following approval, will serve as the basis for drafting the instruments. Appendix 1, therefore, is an integral part of this paper.

Preventing further loss and degradation

Stopping further loss of natural wetlands and streams

53. The NES will lead to consenting requirements and conditions on activities such as infilling and diversions that lead to the loss of wetlands, including coastal wetlands, and streams. Policies in the new NPS-FM will direct consenting decisions and require regional planning to avoid further loss of these habitats (except coastal wetlands¹⁴) and maintain their condition into the future.

Preserving connectivity of fish habitat

54. The NES will create standards and requirements for in-stream structures to provide for fish passage, and the new NPS-FM will require councils to monitor fish abundance, diversity and passage, and to establish work programmes to address barriers to fish passage over time where it is needed.

Taking action on high risk farming activities

55. These policies cover several agricultural activities that pose high risks to waterbodies through contaminant loss and degradation of ecosystems. These proposals will halt degradation and deliver improvements over the next five years.
56. These proposals will contribute positively to farmers' social licence to operate and improve their long-term competitiveness in key export markets. They will facilitate long-term and positive behavioural change, and restore rural and coastal waters.
57. Some of these policies would have caused significant impacts on the primary sector and rural areas if implemented as consulted. We have adjusted the proposals in response to submissions to make them more workable and will phase the introduction of regulations to address the additional uncertainty created by COVID-19's effects on markets and supply chains.

Stock exclusion from waterways

58. Cattle, deer, and pigs will be excluded from waterways on low-slope land, and an ungrazed setback will be required from their margins. Sheep are not included in the regulations. In the hill country, we propose requiring dairy cattle and pigs to be excluded from water bodies generally, and we also recommend requiring beef cattle and deer to be excluded in some specific situations, such as when they are grazing fodder crops. Other stock exclusion in hill country would be managed through FW-FPs.

¹⁴ The New Zealand Coastal Policy Statement provides policy direction on coastal wetlands.

59. These regulations will help make New Zealand's rivers swimmable and will help meet environmental bottom lines, especially for sediment. Officials estimate that over 30,000km of streams will require stock exclusion and setbacks. The monetised, long-term benefits of this policy – New Zealanders' willingness-to-pay for more swimmable rivers due to reduced health risks and clearer water – are about \$2.4 billion (PV). Aside from improved swimmability, there are many other benefits of stock exclusion that cannot be monetised, such as improved habitat for endangered species.
60. In response to COVID-19, we have phased the start of these policies to defer costs to farmers for two years. The costs estimated at \$1.1 billion (PV) will primarily be borne by lowland beef farmers, since dairy farmers have already fenced off most streams over one metre in width. Hill country beef farmers will face costs later as FW-FPs are rolled out, with priority catchments first.

Controls on high-risk intensive winter grazing

61. When undertaken on steeper slopes, intensive winter grazing of forage crops can pose severe and largely irreversible risks to water ecosystems, including to estuaries and the species they support. The policies we propose for this practice target risk factors for contaminant loss. We are proposing controls on slope and scale of the activity, as well as practice standards for setbacks and pugging.

Interim restrictions on major agricultural intensification

62. To stop degradation of waterways, we propose interim restrictions on agricultural intensification within certain land uses. This regulation will be in effect until councils notify a freshwater planning instrument that implements the new NPS-FM, or until a 2024 sunset clause date, whichever is the earlier. It controls new dairy conversions and increases in irrigation area on existing dairy farms, increases in intensive winter grazing, and conversions from forestry to pastoral farming.
63. Since consultation, the proposals have been refined significantly to improve their workability, improve targeting of high risk activities, and mitigate the risk of the interim rules applying longer than necessary or anticipated. They no longer affect commercial vegetable growing, and provide flexibility for horticulture and for catchment-level offsetting – but in these cases, intensification would still need to be consistent with the new NPS-FM requirement to maintain or improve waterways.

Managing excessive nitrogen discharges through a cap on fertiliser application

64. Many catchments will require reductions in nitrogen loads to meet the current and new NPS-FM bottom-lines. Early gains can be made by addressing excessive application of fertiliser, which contributes to high nitrogen discharges to streams and aquifers.
65. Use of nitrogen fertiliser¹⁵ has risen almost eight-fold since 1990. Research and dairy industry advice to farmers is that there are diminishing economic returns with nitrogen fertiliser application over 200 kg of nitrogen per hectare (kg N/ha). While the dairy sector's national average is about 150 kg N/ha rate, in some areas it is higher. For instance, the average in Canterbury was 222 kg N/ha in 2017-18.
66. To address this problem, we propose to create a national synthetic nitrogen fertiliser cap of 190 kg N/ha/year¹⁶ that applies to all pastoral sectors (dairy, dairy-support, sheep, beef, and deer). To support compliance monitoring, there will be a requirement

¹⁵ Nitrogen fertiliser meets the RMA definition of a contaminant.

¹⁶ The cap relates to the total N content of the fertiliser rather than the mass of the fertiliser itself.

for dairy farmers to report annually to councils the weight of nitrogen applied per hectare as synthetic fertiliser. In the future, we may need to consider whether intensive beef farming should also have to report synthetic fertiliser use. This proposal includes a review by 2023 of the size of the cap, as part of an overall review of nitrogen management settings, including whether further interventions are required.

67. Though high rates of synthetic nitrogen fertiliser are applied to some arable and horticultural crops, we do not propose to apply the cap to these sectors because they represent a very small portion of agricultural land (about 5%) and thus present a small risk to ecosystems on the national scale. Also, doing so would endanger domestic food security. The 190 kg N/ha/year cap is specifically addressing unjustified over-application in the pastoral sectors. However, over time, FW-FPs will ensure that fertiliser rates applied are appropriate to the crops grown.
68. In addition to setting a cap, the proposals will address excessive nitrogen discharges by prioritising the roll-out of FW-FPs in highly nitrogen-impacted catchments – those within the top 10% of in-stream nitrate levels – when the FW-FP regime is in place. They will not replace the cap, but they will set appropriate, farm-specific requirements for managing nitrogen.
69. Officials estimate that the cost of a fertiliser cap of 190 kg N/ha/year would be about 4% of operating profit for farms currently applying 300 kg N/ha/year at a milk-solids price of \$7.50/kg. Officials estimate that roughly 2,000 of the 11,000 current dairy farms may need to reduce synthetic fertiliser application, with the vast majority of these being in the South Island, especially in Canterbury and Southland.
70. The Lincoln University Dairy Farm study found that reducing nitrogen fertiliser from 313 kg N/ha to 178 kg N/ha (and associated stocking rate changes) reduced nitrogen leaching by over 30%, as well as greenhouse gas emissions by 20%. In some cases, farmers may increase supplementary feed rather than reduce stock numbers, but this is likely to be rare due to financial considerations. Where it occurs, this would reduce the intended benefit of reducing nitrogen leaching. Over time this risk will be managed through the rollout of FW-FPs, which will require good practice across all sources of nitrogen.

Setting up the system to restore waterways over a generation

71. This set of policies will require regional councils to develop and deliver new holistic and cohesive freshwater regional plans to address over allocation¹⁷ and restore waterways. The policies proposed set the long-term vision and outcomes that councils must achieve, but councils and communities will determine how and when to deliver these outcomes.

Amend planning processes so regional freshwater planning instruments will be developed more quickly

72. The RM Bill contains a new freshwater planning process to speed up the finalisation of regional freshwater plans. MfE will also assist councils to develop plans. However, as noted earlier, we propose moving the date by which councils must notify freshwater plans from 31 December 2023 to 31 December 2024 (through an SOP to the RM Bill).

Enable development of mandatory and enforceable FW-FPs in the future

¹⁷ Over allocation refers to areas that need to reduce water takes or contaminant discharges over time to comply with new NPS-FM requirements.

73. FW-FPs enable risk-based, tailored mitigations for a farm based on its unique environmental context. Such mitigations can be more flexible and appropriate than broad resource management regulations. We intend for FW-FPs, over time, to replace some aspects of the regulations provided they adequately address the risks of the activity¹⁸.
74. On 9 March 2020, Cabinet noted that the Minister for the Environment and Minister of Agriculture had determined that an amendment to the RMA was necessary to establish an effective and enforceable FW-FP regime. Cabinet also agreed to us instructing the Parliamentary Counsel Office (PCO) to draft the necessary amendment for inclusion in the RM Bill by way of a SOP [CAB-20-MIN-0091 refers].
75. Consequently, an SOP has been prepared, the draft text of which is attached as Appendix 2. We propose that you approve the SOP and authorise the Minister for the Environment to introduce it at the Committee of the whole House stage of the RM Bill.
76. Industry involvement in the setup of the FW-FP regulatory regime is desirable, as it gives them a chance to step up, take ownership and be a part of the solution. Industry stakeholders have told us that in order to be effective, FW-FPs must be mandated, enforceable and have strong regulatory oversight.

Move to real-time measuring and reporting data on water use

77. This change to the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, would require water users with consents to take more than five litres per second to record water use electronically in real time and transmit this data directly to councils.

Preserve hydro-electricity flexibility and output to maintain security of supply

78. This policy makes an exceptions mechanism available in the new NPS-FM to the five largest existing hydro-electricity schemes in New Zealand, comprising hydro-electricity generation infrastructure associated with the Waikato, Tongariro, Waitaki, Manapouri, and Clutha schemes. These five schemes represent 86% of New Zealand's hydro-electricity generation capacity. Such a policy has been contemplated since 2014 but not developed.
79. The policy requires regional councils to have regard to the importance of not adversely impacting the generation capacity, storage and operational flexibility of a scheme; and was contentious during consultation. We have adjusted it in light of submissions feedback and IAP recommendations to include only the largest existing schemes (ie omitting Waikaremoana). We consider the policy necessary in order to provide New Zealand with security of electricity supply, help meet our climate change obligations, and provide regional councils clear direction on how to treat hydro-electricity generation.
80. However, the policy applies only to *existing structures* within those schemes, ie only to structures that were first operational before 1 August 2019. It does not apply to any subsequent new structures, or provide blanket exceptions to the new NPS-FM, or allow councils to let freshwater degrade further.

¹⁸ For example, we intend for intensive winter grazing to require a resource consent, or an approved FW-FP, if it does not meet permitted activity standards.

81. Rather, the policy *enables* councils to set objectives below bottom lines for waterbodies *to the extent* they are adversely impacted by existing hydro-electricity infrastructure. And at the same time, councils are *required* to set objectives that, to the extent possible, improve any waterbody affected by any scheme. Of course, councils can still set objectives above bottom lines if they choose to do so.
82. Cabinet has agreed to update and strengthen national policy direction around renewable energy – in particular the National Policy Statement for Renewable Energy Generation [CAB-19-MIN-0334 refers]. This can provide further direction on how renewable energy should be considered in freshwater planning and consent decisions.

Strengthen and clarify Te Mana o te Wai as the basis for the new NPS-FM

83. Building on previous work with the Iwi Leaders Group, and through co-design with KWM, Te Mana o te Wai is now reframed as the fundamental concept underpinning the new NPS-FM – which also clarifies how councils are to engage with tangata whenua and give effect to Te Mana o te Wai. KWM broadly support the proposals, including changes proposed as a result of consultation, although they consider that the new NPS-FM should have stronger co-governance provisions.

Māori values in freshwater

84. We propose to elevate the status of mahinga kai to a compulsory value. This will require councils to work with and enable tangata whenua to implement the new NPS-FM in relation to Māori values for their local context.

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

85. The new NPS-FM amends definitions and policies to make explicit that all components of ecosystem health must be managed and reported on in an integrated fashion.
86. Accordingly, we are proposing a range of new and amended ecosystem health attributes and standards. These policies are outlined in more detail in Appendix 1.

Phosphorus attribute

87. The Government consulted on a possible new national bottom line for DRP, as recommended by the STAG (although STAG was not unanimous in this recommendation, and the Government did not express a preference whether or not to include DRP). Submitter feedback was mixed – many were concerned about the consequences for the environment if immediate improvements in phosphorus management are not made. Also, many noted that there is very high natural variation in DRP in rivers and streams.
88. Officials assessed these issues and concluded that while there is a policy gap in management of DRP by councils, an attribute that required limit-setting and included a bottom line would need an environmental classification system, such as that used in the sediment attributes, to reflect the high natural variation in DRP in New Zealand's freshwater environments. We have tasked officials to continue work on this topic with a report back to the Minister for Environment and the Minister of Agriculture within 12 months.
89. On balance, we do not believe we can progress a national bottom line for DRP at this time, but it is critical that the Government take steps now to improve how phosphorus is managed. Our recommendation to include a DRP attribute without a bottom line will

require improvement of DRP, or at least maintenance at current state; likewise, there is new explicit direction for councils to manage DRP to ensure other ecosystem health attributes are maintained or improved.

Sediment attributes

90. We propose new sediment attributes as a major step for New Zealand water management. At present, about 31% of monitored sites do not meet the proposed bottom lines and will require improvements. Environment Aotearoa 2019 and the Parliamentary Commissioner for the Environment describe sediment as one of the “big three” environmental stressors for rivers and estuaries; and until now it has not been addressed adequately in national direction. We are filling this gap in order to ensure our rivers and estuaries do not continue to degrade due to sedimentation.

A higher standard for swimming

91. We believe all New Zealanders should be able to swim in their local river without fear of getting sick. The additional *E. coli* attribute will apply to primary contact sites during the swimming season and will require councils to reduce those risks substantially.
92. In practice, councils will increase efforts to reduce *E. coli* levels at popular recreation sites, for example, by requiring improvements to wastewater treatment or infrastructure upstream, and/or reducing runoff from pasture.

Strengthened nitrogen attributes

93. High nitrogen levels can damage ecosystems by contributing to algal growth and putting pressure on the health of macroinvertebrates and fish¹⁹. They can also be toxic at high concentrations. Nitrogen policies in the current NPS-FM, and councils’ implementation of them, are insufficient to provide for ecosystem health, especially in soft-bottomed rivers that do not support the growth of periphyton (algae attached to rocks).
94. The Government consulted on a possible new national bottom line for dissolved inorganic nitrogen (DIN), as recommended by the STAG (although STAG was not unanimous in this recommendation, and the Government did not express a preference whether or not to include DIN). Submitter feedback was mixed – many had concerns about the costs for rural communities, and many were concerned about the consequences for the environment if immediate improvements in nitrogen management are not made. Also, there is uncertainty as to whether the national bottom line is appropriate in some river types that may not be as sensitive to nitrogen.
95. On balance, we do not believe we can progress a national bottom line for DIN at this time, but it is critical that the Government take steps now to improve how nitrogen is managed. We will re-assess the appropriateness of a DIN bottom line in 12 months, with the benefit of a thorough review of the environmental and economic implications. If such a bottom line were to be adopted, it would most likely be with exceptions; and would be incorporated in regional planning processes before, or during, the proposed freshwater panel hearings process.
96. Still, the new NPS-FM requires maintenance of freshwater. Therefore, nitrogen levels cannot degrade anywhere – including where they are better than 1mg/l, which is more than 95% of New Zealand’s rivers and streams – and where nitrogen levels are worse

¹⁹ Also, a Ministry of Health-led taskforce is researching linkages between nitrogen levels in drinking water (primarily from groundwater) and human health impacts, and it is due to report back by 31 August 2020.

than bottom lines for the new toxicity thresholds, periphyton, or total nitrogen in lakes, councils must improve them.

97. As such, we recommend significantly strengthening the existing nitrogen toxicity attributes in the new NPS-FM to protect 95% of species from toxic effects (up from 80%). This will apply everywhere, except in a few vegetable growing areas that are critical for national food security and stability of supply of fresh vegetables through all seasons (see below for more on this).
98. Impact analyses show that increasing the stringency of the toxicity thresholds requires improvement at 5% of monitored river sites, over and above the existing improvements needed to meet the limits for periphyton growth. Detailed costs of this policy, including in relation to costs of implementing the current NPS-FM policy on periphyton, are provided in the impacts section below.

Monitoring the effectiveness of the policy regime for nitrogen

99. As noted above, synthetic nitrogen fertiliser use has increased rapidly, allowing land uses to intensify and creating unacceptable environmental harm in some areas. In the long-term, excessive nitrogen will be addressed through regional councils setting catchment limits on resource use and an allocation regime to allocate who can use those limited resources. The FW-FP regime will complement and support resource use limits and any future allocation regime/s.
100. This is illustrated in Canterbury where water quality limits have been set and farm environment plans are in place: nitrogen fertiliser rates on Canterbury dairy farms (which had been increasing previously) declined over the period 2015/16 to 2017/18²⁰.
101. A cap on excessive use of synthetic nitrogen fertiliser, together with the early and targeted rollout of FW-FPs to highly nitrogen-impacted catchments, will help get longer-term change off to a fast start.
102. Taken together, we are proposing a robust and efficient outcome-based regime for managing nitrogen and excessive use of nitrogen fertiliser. Many stakeholders and submitters, however, wanted the Government to go much further with direct controls on farming inputs, such as a much stricter cap on fertiliser use and limiting stock numbers.
103. While we are confident that the proposed regime is sound, we want to make sure it is implemented in a way that delivers real results. We therefore propose that the Government commits to:
 - 103.1. monitoring and annual reporting on the use of nitrogen fertiliser across New Zealand beyond the requirements under the Climate Change Reporting Act and voluntary measures undertaken by the Fertiliser Association, and
 - 103.2. reviewing the policy settings agreed under this package if there is not a material reduction in nitrogen fertiliser use over time.
104. In addition, we expect MfE to monitor the performance of councils as they develop plans and, in particular, as councils set nutrient load limits to achieve ecosystem health bottom lines such as for periphyton, the Macroinvertebrate Community Index (MCI), dissolved oxygen, and in respect of downstream receiving environments.

²⁰ This is the most recent year for which we have data.

105. In New Zealand we have in principle favoured outputs-based rather than inputs-based regulations. That is because it is outputs (losses) of nutrients that impact the environment; and because the relationship between inputs and outputs can vary considerably depending on soil type and other factors. However, there is considerable scepticism that outputs-based regulation, while attractive in theory, actually works in practice. Over the many years they have been advocated for, nutrient losses have increased markedly with freshwater quality deteriorating accordingly.
106. We want to make clear that this freshwater package is the “last chance saloon” for output controls. As it is, we are introducing a modest input control on nitrogen, which, at 190 kg N/ha, some would consider much too permissive. If we do not see rapid progress in reducing nutrient losses, we will be open to the 190 kg N/ha limit being ratcheted down; and to introducing other blunt input measures such as stocking rates per hectare and limits on supplementary feed.

Preserving domestic vegetable growing capacity

107. Notwithstanding the importance of managing nitrogen for ecosystem health, we recognise that food security and stability of supply for human health, depend on domestic production of adequate and affordable supplies of fresh vegetables. Although the total vegetable growing area is relatively small, the Pukekohe and Lake Horowhenua catchments are major supply areas for domestic fresh vegetable production (particularly of fresh leafy greens through winter) and have nitrogen levels worse than the toxicity bottom lines.
108. Following consultation, we consider that it will not be practicable to reduce nitrogen to meet national bottom lines in the vegetable growing areas of those catchments for a range of attributes without significantly compromising vegetable production.
109. We recommend allowing regional councils to maintain freshwater at a level worse than the national bottom lines for nitrogen in these catchments – to the extent that bottom lines would require nitrogen reductions that compromise vegetable production. We recommend that officials spatially define in the new NPS-FM the areas to which this exception applies, and also direct regional councils to improve water quality in these areas where practicable without compromising vegetable production.
110. However, before making final decisions on this exception policy, further engagement with local iwi is needed to ensure that the policies are compliant with Treaty requirements and existing settlements. We propose to task officials to undertake this engagement, and we seek delegated authority to make final decisions on this policy concurrent with the drafting process.

How these policies link to the wider work this Government is doing

Three Waters Review

111. The Three Waters Review, led by the Minister of Local Government, and the *Action for healthy waterways* package both work towards improving the management of our freshwater resources. While the primary focus of the Three Waters Review is to ensure the safety of drinking water, it will also help improve the environmental performance of wastewater and storm-water networks.
112. Together these two reform programmes will achieve better freshwater outcomes in urban areas and support the provision of safe drinking water, while ensuring that both urban and rural communities are playing their part to improve freshwater.

Forward work programme on freshwater allocation, including engagement with Treaty partners

113. The *Essential Freshwater* work programme includes three objectives, stopping further degradation and loss, reversing past damage and addressing water allocation issues. Policy work to date has focussed on the first two. With the decisions sought through this Cabinet paper, the Government will have reached a point where it can work towards a fairer and more sustainable allocation system for freshwater takes and contaminant discharges.
114. Following decisions on this paper, we intend to provide an update to Cabinet on a forward work programme on allocation including a plan for engaging with Treaty partners and stakeholders.

Climate

115. The *Action for healthy waterways* package and climate policy are broadly complementary. Mitigations to improve water quality and ecosystem health typically reduce greenhouse gas emissions. The Climate Impact of Policy Assessment (CIPA) statement attached as Appendix 5 and summarised below provides more detail on their interactions.

Impact Analysis

116. Our recommendations on *Action for healthy waterways* are supported by comprehensive impact analysis, much of which was undertaken since consultation and in response to submitters' feedback. Officials assessed the impacts of individual policies, as well as the cumulative impacts of policies, that will have significant environmental and economic effects.
117. New Zealand's leading research institutes, universities, and private sector firms contributed to this effort. They produced numerous studies of national as well as catchment- and farm-level policy impacts on key groups (Māori, farmers and regional councils) and analysis of industry, regional and national costs and benefits. Officials commissioned peer reviews of many reports in order to ensure the quality of the data that informed their advice.
118. The package includes both shorter-term regulation and long-term direction for regional planning. As a result, the costs and benefits of different components eventuate over different timescales and in some cases are concentrated in certain regions.
119. Table 2 below shows the main monetised benefits and costs associated with the proposals, and the section beyond provides more detail and characterisation of costs and benefits. The table shows the package is estimated to provide a net cumulative benefit – that is the benefits minus the costs – of \$193 million per annum over 30 years (\$3.8 billion PV)²¹. Estimated benefits are approximately \$359 million per annum (about \$7.0 billion PV), and estimated costs are approximately \$166 million per annum (about \$3.2 billion PV).
120. The table provides figures in annual values and at PV. Annual values are the costs/benefits that can be expected when full compliance occurs in 2050. The annual

²¹ The PV values assume constant annual impact (in constant values) and a 3% discount rate, and it is measured in today's values over 30 years.

approach is simple but does not effectively convey differences in value when costs or benefits arise at different times.

121. The PV approach deals with this challenge through use of discount rates to convert flows of costs and benefits at various points in time into today's equivalent values or PV. This approach is therefore highly sensitive to discount rates. For instance, increasing the discount rate from 3% to 6% reduces the PV of the stock exclusion costs from \$1.092 billion (as reported in Table 2) to \$737 million.
122. Table 2 reports the annual benefits and costs of the proposals, and also their PV, estimated to arise in 2050 when full policy implementation is assumed. However, costs and benefits have been assessed individually and over different timeframes. For instance, stock exclusion costs are assessed to begin in 2023 and be fully internalised by businesses by 2050 and farm plan costs are assessed to begin in 2025 and be fully internalised by businesses by 2035. As a result of the different timeframes, the annual impact values are not additive and one cannot sum the individual cost or benefit values to arise at the net figures bolded in the table.

Table 2: Summary cost-benefit assessment of *Action for healthy waterways*

Monetised impacts	Annual impact by 2050 \$m p.a.	PV of cumulative impact by 2050, \$m	Comments or key assumptions
Monetised benefits			
Swimmability benefits from stock exclusion	138	2,366	Reduced human health risks
Water clarity benefits from stock exclusion	13	104	
Ecosystem health benefits of MCI bottom lines	79	661	Assumes <i>Action for healthy waterways</i> provides 50% of total benefits, with the current NPS-FM providing the rest; assumes achievement of MCI bottom lines by successfully implementing the costed policies. This has not been modelled
Wetland ecosystem services	450	3,900	Assumes that replacing lost wetlands with infrastructure like flood barriers and dams would cost about \$50,000 per hectare of wetlands lost per year
Monetised benefits attributable to the package \$m	359²²	7,031	These are the marginal benefits of the package
Monetised costs			

²² The annual impact reported in the highlighted figures is the implied annual average benefit (or cost) if marginal benefits (or costs) were received equally through time, based on the total PV being received over 30 years using a 3% discount rate. For example, the net benefit of \$193 million per annum is the implied annual average net benefit if net benefits were received equally through time, based on a PV of \$3,783 million being received over 30 years using a 3% discount rate. The annual impact is not the sum of the individual benefit (or cost) values.

Stock exclusion costs ²³	-61	-1,092	Outlays begin in 2023 and marginal impact ceases by 2050
Farm plan costs (amortised purchase price over ten years)	-22	-253	Assumed marginal impact from 2025 to 2035
Mitigation costs from reducing nitrogen pollution due to toxicity policy	-30	-217	Assumes periphyton is managed to 20% spatial exceedance and includes the net opportunity cost of land use change. This is in addition to the cost of reducing nitrogen for the current NPS-FM, estimated to be \$3,579 million
Water measuring and reporting-related costs	-10	-196	
Additional costs for local authorities	-76	-1,490	
Monetised costs attributable to the package (\$m)	166	3,248	These are the marginal costs of the package
Difference between monetised benefits and costs (\$m)	193	3,783	This is the monetised net benefit of the package

123. The impact of the policies is positive, with an average annual net benefit of \$193 million per annum or \$3.8 billion (PV), though there are potentially significant opportunity costs that have not been included and also significant benefits that officials have not been able to quantify.

Benefits of the proposals

124. The proposals will deliver major ongoing economic benefits, improved human health outcomes, and increased recreational opportunities and cultural outcomes. Healthy waterways underpin core sectors of our economy, including agriculture and tourism, as well as our identity.
125. The success of New Zealand's \$46+ billion per year primary industry sector exports is inseparable from the sector's relationship with our environment. A Lincoln University study has shown that some products that go directly to consumers can achieve a premium by demonstrating positive environmental provenance. The impacts on waterways is a significant part of that premium; for example, a study of UK lamb consumers' willingness to pay put the premium for minimising water pollution at 6%.
126. Likewise, our natural landscape and scenery is the top factor influencing visitors' choice to visit New Zealand (46% of visitors). In 2019 there were almost one million visits by international tourists who took part in rafting, canoeing kayaking, jet boating, and/or fishing/hunting. Our clean, green image has been the cornerstone of the tourism industry's success.
127. New Zealanders place great importance on the environment. It is not possible to monetise or quantify many of the values New Zealanders derive from the environment – such as the value of protecting taonga or ensuring endangered species do not become extinct – but some can be, and officials have estimated these to the extent possible using the best methods and data available.

²³ Costs associated with stock exclusion can be broken down into capital expenditure (fencing expenses) and opportunity cost of land that cannot be grazed due to new setbacks from streams and rivers. The capital expenditure component represents \$44 million per annum (\$788 million PV) as amortised over 25 years using a 3% real interest rate, and the opportunity cost component represents \$17 million per annum (\$304 million PV).

128. Officials have assessed benefits of protecting the 30,000 hectares of unprotected inland wetlands on fertile land. These provide ongoing ecosystem services such as flood mitigation, nutrient cycling, and water storage. Based on New Zealand assessments, to replace the services these wetlands provide, for example, with engineering infrastructure like flood barriers and dams, it would cost about \$50,000 per hectare of wetlands lost per year. When capital stocks decrease (wetland area), the flow of benefits received from them are lost forever.
129. New Zealand has lost on average 300 hectares of these valuable ecosystems each year for the last decade. There has been no substantial slowdown since the NPS-FM was introduced in 2011, and in the absence of further regulation, officials see no reason for this trend to change. It is acknowledged that benefits of \$50,000 per hectare per year is substantially higher than many other land uses. However, international research suggests that despite covering only 1.5% of the earth's surface, wetlands provide disproportionately high ecosystem service benefits – roughly 40% of the total.
130. Officials have assessed benefits from improving ecosystem health²⁴. They have used the best available economic techniques to undertake this analysis; still they have needed to make some assumptions as for any economic analysis. Here officials assumed that achieving the MCI bottom line will happen by successfully implementing the costed policies: improvements in sediment, nutrients, stock exclusion, and FW-FPs.
131. We acknowledge that more action may actually be required to achieve this bottom line – aquatic life is complex and responds to multiple stressors – and that drops in income may reduce the value of the benefits presented here. Still, we consider the valuation undertaken to be robust, justifiable, and transparent.
132. Acting now will avoid larger costs in the future. A NIWA report concluded that further delays in reducing nutrient input to waterways will increase the time and cost for rivers, lakes and estuaries to recover. This happens because nutrients can build up in the sediments of poorly flushed estuaries, lakes and to a lesser extent rivers. These nutrients can be released from the sediments long after the other inputs have ceased. Delaying nutrient reductions can also set up feedback mechanisms that lock in degraded ecological states and make it harder to restore an ecosystem.
133. The package will also deliver reductions in agricultural greenhouse gas emissions where the proposals drive reduction in nitrogen fertiliser application, animal excreta, or livestock numbers, and where it contributes to farmers' decisions to increase forest cover (including through space-planting trees within pasture systems).
134. More widely, we must acknowledge the significant social and cultural benefits of improving freshwater and our freshwater ecosystems. This package could have significant benefits on our communities through providing more opportunities for swimming and other recreation in waterways, improving the social licence to operate for the primary sector and improving community cohesion. It is also clear that improved natural environment enhances opportunities to spend time in nature to increase those social connections, people's wellbeing and mental health.
135. We also consider that the package will improve Māori values and Māori involvement in freshwater management. Greater involvement allows for Māori to provide input and inform councils about their values, measures of wellbeing and mātauranga. This involvement is critical to actively protect Māori interests and support intergenerational transfer of knowledge. Further, the framework of Te Mana o te Wai supports the

²⁴ This analysis assessed New Zealanders' willingness to pay for improved environmental outcomes, with the MCI bottom lines used as a proxy for outcomes.

relationship between tangata whenua and the environment by requiring freshwater to be first managed for its inherent qualities before it is shared for other uses.

136. Finally, the policies are expected to spur the development and uptake of new practices and technologies, especially in the agricultural sector. This will improve resilience and could lead to lower than estimated costs as farmers and others innovate and create more cost-effective ways to meet environmental outcomes.

Economic costs of the proposals

137. The package will lead to costs for councils to manage and monitor wider aspects of ecosystem health, costs to resource users for obtaining consents and implementing changes in land use and management.
138. Costs for councils have been estimated at \$76 million per annum, with the highest costs expected to come from river flows policies, enforcing FW-FPs, and water-take measuring and reporting²⁵. Some portion of these costs is probably coming through existing planning processes, and the highest proportion of these costs is expected to fall on Canterbury, Waikato and Otago, where these problems are most acute.
139. Urban and infrastructure developers and operators will face costs to comply with the regulations and long-term policies that emerge from planning processes.
140. A study on the performance of wastewater treatment plants that discharge to freshwater found that there would be no significant additional cost from these proposals. An investment of \$1.4 to \$2.1 billion would be expected to be needed to meet existing requirements of the current NPS-FM.
141. The stream loss and sediment policies will likely increase development costs for greenfield sites in regions that do not already have adequate protection measures. The cost of interventions to meet more stringent sediment reduction requirements has been estimated at approximately \$2,000 per greenfield section in regions without adequate measures.
142. A case study by Wellington Regional Council estimated stream loss requirements could affect developer revenue by up to \$26,700 per section, though this figure is likely an outlier nationally because Wellington has particularly steep and challenging development terrain and the case study site had much greater stream length than most development areas²⁶. Also, the study noted some of the interventions to reduce sediment loss would be the same as to prevent stream loss, the interventions would likely increase the value of sections, and non-greenfield sites will not be affected significantly.
143. Officials modelled costs to the agriculture sector of several key *Action for healthy waterways* policies by assessing effects on farm profits arising from changes in practices and land use to meet the new requirements and assuming full compliance with the current NPS-FM requirements. The results suggest that by 2050 the policies would reduce aggregate dairy farm profits by around 0.7% per annum. The estimated impact of the policies on sheep and beef farms' profitability by 2050 is higher – estimated at around 4.3% per annum. Impacts on dairy are driven by the new nitrogen

²⁵ Estimated costs are based on a report commissioned by MfE together with costs provided by Local Government New Zealand in their submission on the proposals.

²⁶ The site had 73m of stream per hectare compared to an average of 21m stream per hectare in Waikato dairying areas, which are likely comparable to where new developments are taking place in that region.

toxicity bottom lines, and impacts on the sheep and beef sector are driven by stock exclusion and FW-FPs.

144. The new nitrogen toxicity bottom lines will require nitrogen levels to be improved to at least 2.4 mg/l (where they are worse than that) for soft-bottomed streams where periphyton is not an issue. This is expected to cost approximately \$30 million per annum by 2050, which is \$217 million (PV).
145. The current NPS-FM bottom lines for periphyton and total nitrogen in lakes, as well as outcomes for nutrient sensitive downstream receiving environments, require greater reductions in nitrogen in some catchments than the new toxicity bottom lines. Officials estimate the cost of achieving the necessary nitrogen reductions to meet the current NPS-FM requirements to be \$394 million per annum by 2050 (about \$3.6 billion PV) and lead to 7% of dairying area shifting to other land uses (concentrated in some regions)²⁷. The new nitrogen toxicity bottom lines are estimated to add an additional \$30 million per annum by 2050 to this cost.
146. Impacts of the new nitrogen toxicity bottom lines vary by region. For example, the Canterbury region is expected to be most impacted and represents \$25 million per annum of the estimated cost of \$30 million per annum for all regions. These costs represent a 0.9% per annum reduction in Canterbury dairy sector profits by 2050 and around 4,200 hectares changing land use from dairy to arable cropping. Impacts of the new toxicity bottom lines are also expected in Waikato but to a lesser degree: a reduction in dairy sector profits of 0.3% per annum by 2050 and 2,300 hectares leaving the dairy sector. These costs of the new NPS-FM are in addition to impacts due to the current NPS-FM. Current NPS-FM impacts are estimated at 8.9% per annum reduction in Canterbury dairy sector profits by 2050 and around 40,000 hectares of land use change.
147. There has been a range of modelling undertaken by different entities and stakeholders on the impacts of these policies, for example DairyNZ, the results of which vary significantly. There is a degree of uncertainty with all modelled figures. Assumptions around discount rates, time periods, approaches used by councils, current farm practices and effectiveness of mitigation techniques all have an impact on the final figures being presented.
148. Table 3 below presents officials' analysis of key *Action for healthy waterways* policies' impacts on the agriculture sector.

Table 3: Impact on the agriculture sector of three key *Action for healthy waterways* policies: new nitrogen toxicity bottom lines, stock exclusion, and FW-FPs

Region	Impact on aggregate farm profits \$m per annum	Agriculture sector GDP \$m per annum ²⁸
Northland Region	-5.1	661
Auckland Region	-1.3	318
Waikato Region	-11.3	1,899
Bay of Plenty Region	-1.7	1,076

²⁷ Estimated land use change under current NPS-FM occurs in several regions, for example 16.0% in Canterbury, 14.5% in Taranaki, 10.7% in Manawatu and 9.6% in Southland.

²⁸ The nominal GDP values reported in Table 3 are the most recently available and are for the year ended March 2017 as reported by Statistics NZ. Farm profits are one component of GDP.

Gisborne Region	-1.5	196
Taranaki Region	-3.4	852
Manawatu-Wanganui Region	-8.6	885
Hawke's Bay Region	-4.5	707
Wellington Region	-3.1	213
Tasman/Nelson Region	-0.8	331
Marlborough Region	-1.4	357
West Coast Region	-1.7	326
Canterbury Region	-36.9	2,006
Otago Region	-18.4	621
Southland Region	-13.1	890
All New Zealand agriculture	-113.9	11,338

149. To put these results in a wider context, the New Zealand Institute for Economic Research (NZIER) estimated that larger agriculture sector declines in profits (\$377 million per annum by 2050, not \$113.9 million), would reduce aggregate GDP in New Zealand by just over 0.1%. Hence, the overall impact of the policies described in Table 3 is expected to be less than this.
150. The changes we have made to the proposals as a result of consultation significantly reduce the expected costs of the package and give more time to farmers, councils and communities to implement the policies. The most significant changes from a cost perspective are the proposed nitrogen bottom lines (from the Science and Technical Advisory Group's proposed DIN bottom line of 1mg/l to nitrate toxicity of 2.4mg/l), which reduces costs by over \$2 billion PV, changes to stock exclusion proposals (like dropping the requirement to move existing permanent fences), which reduce costs by almost \$900 million PV, and changes to the phosphorus attribute, which reduce costs by about \$500 million PV.
151. The impacts of the sediment policy are not included in Tables 2 and 3 because they will likely lead to some land use change (hill country pasture to forestry), but amendments to carbon emission-related legislation are incentivising some of this to occur already. Also, there are a range of avenues to meet sediment requirements, which would lead to very different outcomes. In all likelihood, sediment reductions will be met through a mix of these, and other approaches:
- 151.1. Afforestation from existing hill country pasture is profitable with carbon revenue but entails significant land-use change
 - 151.2. Stock exclusion proposals recommended here would lead to at least 11% of the necessary improvement to reach sediment bottom lines, and councils could extend stock exclusion requirements to achieve more, and
 - 151.3. On-farm mitigations through farm plans could achieve the sediment bottom line without changing land use at all, though there would be costs in implementing the mitigations. The more farmers incorporate afforestation within their farming system, the lower the costs of meeting sediment bottom lines.
152. Table 4 shows net benefits of sediment policies if they are considered in isolation from carbon-emissions related policies.

Table 4: Sediment policy net benefits

Monetised impacts	Annual impact by 2050 \$m p.a.	PV of cumulative impact by 2050, 3% discount rate \$m	Comments
Water clarity benefits from sediment policy	46	383	
Savings from reduced dredging	20	392	
Avoided erosion cost	4	68	
Net profit impacts assuming land use change and carbon revenues	253	4,958	
Sediment policy \$m	297	5,801	This is the upper limit of net benefits

Regulatory Impact Assessment

153. A review panel with representatives from Treasury’s Regulatory Quality Team, the Ministry for the Environment, and the Ministry for Primary Industries has reviewed the Regulatory Impact Analysis (RIA) that has been developed by the Ministry for the Environment for the *Action for healthy waterways* package (dated 22 April 2020).
154. This is a complex package with twenty individual RIA corresponding to the sections in the package. An additional summary/synthesis section and implementation section was provided for the package as a whole.
155. The panel considers that overall, the package “partially meets” the quality assurance (QA) criteria. Within the individual RIA, twelve “meet” the QA criteria and eight “partially meet”.
156. The “partially meets” rating for the individual RIA and the overall package, reflects information and data constraints. The Ministry’s approach to the analysis is generally sound and is based on relevant available data.
157. The panel’s view is that the case has been made for change. While the benefits of the preferred options within the package have been clearly demonstrated relative to the status quo, the comparison between some of the preferred options and the alternatives is less clear.
158. Since most regional councils have yet to finalise plans that respond to the current NPS-FM, it is difficult to predict how councils will choose to exercise their discretion (such as where to set objectives above national bottom lines and the timeframes for achieving those objectives). Therefore, the degree to which some of the options in the package are likely to provide marginal benefits over and above expected outcomes under current policies remains unclear.
159. There is also uncertainty about the extent to which the package could impact on freshwater environments due to limits of available scientific analysis imposed by various lag times and soil composition and texture, as well as practical simplifications in the environmental modelling.
160. The ecosystem benefits, while difficult to quantify, appear very large relative to the costs for councils and regulated parties. The economic modelling indicates an impact on farm profitability that is likely to lead to land-use change in some regions. Some of that may

be mitigated by farm specific responses that have not been captured in the modelling, but the economic and social impacts are going to be significant in some regions.

161. The adaptive management approach to implementation proposed in the RIA is key to managing the uncertainty and cumulative impacts of the reforms. It can provide flexible, iterative solutions that help to address implementation issues relating to capacity, capability and differing environmental situations across the country. It also provides for ongoing stakeholder consultation, which is important because there have been changes to some proposals in the package since public consultation occurred in 2019.
162. Given the complexity of the package, the governance arrangements need to be carefully designed and set-up to coordinate and oversee adaptive implementation of the healthy waterways package and linkages with other related government programmes.
163. The Regulatory Impact Analysis has been attached in full in Appendix 3.
164. The Section 32 report will be provided at the LEG committee stage.

Climate Implications of Policy Assessment

165. MfE confirms that the CIPA requirements apply to this package as the threshold for significance is met. The CIPA disclosure is attached as Appendix 5.
166. The *Action for healthy waterways* package has the potential to result in substantial annual net emissions reductions.
167. The majority of emissions reductions are through sequestration and are a result of anticipated land-use change primarily due to the interaction of the sediment proposal and the Emissions Trading Scheme (ETS). It is expected that a portion of hill country pasture will be converted to forestry between 2025 and 2050, as afforestation is a cost-effective option for achieving the sediment bottom line. The maximum amount that could profitably be converted is estimated at 600,000 ha. However, on-farm mitigations through FW-FPs will play a role and contribute to achieving the sediment bottom line without changing land use, so it is uncertain how much contribution land-use change will make. There are already places where plantation forestry for harvest would be more profitable than the current use, but this is not the only driver of land-use decisions.
168. The disclosure includes an estimated emissions impact of the package that excludes any emissions reductions from the sediment policy, as well as three scenarios to reflect a potential range of emissions impact from achieving the sediment policy with substantial afforestation. These scenarios incorporate 25%, 50% and 75% of the upper limit of land-use change (600,000 ha) respectively.
169. Other components of this package will reduce emissions to a lesser extent. The CIPA team have reviewed the calculation of estimates for this proposal and consider the estimates to follow good practice and use reasonable assumptions.

Population Implications

Māori

170. The package promotes greater participation of tangata whenua and the incorporation of Māori values in freshwater management. Greater involvement allows for tangata whenua to provide input and inform councils about their values, measures of wellbeing and mātauranga. This is critical to actively protect Māori interests.

171. Implications for Māori collective landowners in the rural sector are similar to those for rural communities as below. In particular, the package could restrict the ability to change land use for economic benefit. As Māori-owned land has not always been available to develop or suitable for primary production, the negative impact falls disproportionately on this population.
172. Officials assessed the package's impact on development opportunities for Māori-owned land. They concluded that many of the proposals in *Action for healthy waterways* are unlikely to have an additional impact on Māori-owned land beyond those imposed by the current NPS-FM requirements. However, as the interim intensification proposals are likely to impact on all land owners wanting to develop their land, Māori land owners of currently underdeveloped land could be more affected in the short-term.
173. Māori, who disproportionately have lower-skilled jobs or undertake seasonal work, may experience a negative impact in areas where significant land use change occurs over coming decades. This may be mitigated by new lower-skilled jobs related to increases in horticulture land use, on-farm mitigation measures and FW-FP implementation, and programmes to support training and worker relocation if needed.
174. Opportunities for development in high-value crops and tree plantations together with support from MPI (additional funding was provided in Budget 2019) will go some way to mitigate the costs to implement the proposed package.

Rural Communities

175. Overall, *Action for healthy waterways* policies are likely to have substantial benefits for the wellbeing of rural communities, including reduced public health risk, social cohesion, increased access to nature, recreation and mahinga kai, as well as improvements to the primary sector's social licence to operate. These are important benefits for both current and future generations of New Zealanders.
176. Effects on communities will be variable and depend, in part, on local values, on levels of ambition guiding regional planning, and on how fast communities wish to enact changes. The exact nature of change is also hard to predict in a post-COVID 19 economic reality.
177. Over time, proposals will contribute to a transition towards more diverse and profitable land uses across New Zealand, entailing changes in employment and new opportunities in, for example, arable cropping, forestry, tourism, and rural services.
178. The transition may take longer for rural communities in regions such as Canterbury, Otago, Southland and Waikato where proposals are likely to have a negative effect on some rural occupations from 2023. Communities with job losses and fewer alternative employment opportunities may experience a reduction in total population numbers and, over time, in local services available like schools and health services. Providing adequate support will be important for these areas, particularly for those people dealing with land use and occupational change. Through effective implementation, and with adequate support, impacts on rural communities may be mitigated.
179. Alongside the benefits described in paragraph 135, people in farming communities in more affected catchments may experience higher levels of stress and a sense of loss of community, particularly in the first few years of transition. This may result in increased demand for mental health support services in these areas, including Rural Support Trust administered by MPI.

180. The implementation section discusses how support could be provided to rural communities to reduce negative impacts and amplify positive effects of the package.

Pacific and other ethnic communities

181. Workers with lower-skilled jobs and migrant workers, who carry out seasonal and casual work, may experience a negative impact where significant land use change occurs. This may be mitigated by new jobs related to increases in horticulture land use, on-farm mitigation measures and FW-FP implementation, and programmes to support training and worker relocation.

Other populations

182. Proposals in this paper do not have specific implications for children, seniors, disabled people, women, people who are gender diverse, and veterans.

Implementation

183. Councils, iwi/hapū and Māori, and industry may face implementation challenges related to *Action for healthy waterways*. Over the next five years, the Government needs to support these groups to ensure effective policy implementation, and so officials are engaging with them to develop an implementation support plan and work programme. Further consideration will be given in the short-term to the recommendation from FLG and KWM for the establishment of a Freshwater Commission / Te Mana o te Wai Commission to provide focused implementation oversight, including addressing allocation issues.
184. As part of the wider Productive and Sustainable Land Use package in Budget 2019, \$24 million over four years went to support the implementation of these policies directly. KWM and the regional council sector support the development of a national implementation plan and programme that is co-designed by iwi and regional councils. This would likely identify funding requests beyond the \$24 million provided to date.
185. Officials from MfE, MPI, and the Ministry for Business, Innovation, and Employment (MBIE) consider that additional funding will be critical to ensure successful implementation of the package by councils, iwi/hapū and Māori, and industry, particularly the primary sector. The COVID-19 response proposals outlined below would provide significant support to the primary sectors including in relation to the FW-FP systems.
186. However, neither the COVID-19 response proposals outlined below, nor the \$12 million of Budget 19 allocated for council and iwi/hapū and Māori implementation support, completely meet these groups' longer-term support needs to implement the package effectively. If central government does not provide further support, councils, iwi/hapū and Māori will either increase expenditure on planning engagement and development or will likely implement the measures in a sub-par manner.
187. Some central government funds and support mechanisms already exist for primary industry and communities. Farmers and growers have support from programmes such as One Billion Trees and the Hill Country Erosion programme. Additional support through the Provincial Growth Fund, or other mechanisms like the Rural Support Trust, could help mitigate some of the effects in regions that will be most impacted by the package.
188. We acknowledge that landowners and rural communities may need additional support to meet the new environmental regulations and obligations effectively, especially in light

of COVID-19 impacts. Once we move through our response to COVID-19, the Government will need to consider the wider priorities and the timing of work streams at an appropriate time.

COVID-19 and implementation support

189. As the COVID-19 situation is rapidly evolving, it is important to be aware of its impact on tourism and the primary industries, especially those which would also be impacted by *Action for healthy waterways* package in the near-term. In March, some sectors reported an easing of logistical constraints as China has re-opened meat and dairy imports, while forestry remains significantly affected. Many farmers and growers (particularly horticulture and viticulture) are also concerned about labour shortages due to the travel restrictions, as some enter key picking and pruning months.
190. Although significant uncertainty remains, officials now consider that New Zealand is moving into a scenario where the economic impacts are likely to be sustained, and very significant. MPI is working with other government agencies to develop a longer-term strategic approach to the response. Councils are also considering how to resource new requirements as their fiscal situation deteriorates.
191. The importance of acting now is reinforced considering COVID-19. Delaying action now will result in further environmental degradation, which will increase costs of remediation in the future. COVID-19 will result in a significant increase in public debt, which would compound the effects of the increase cost of remediation.
192. Likewise, we know unemployment will rise significantly in the near-term. This package will require significant expenditure for interventions that have high labour components for both relatively lower-skilled work (such as fencing streams) and also higher-skilled work (such as farm advisory services). The required interventions may help absorb some of the workforce unemployed due to COVID-19. There is an opportunity for the Government to assist with the capital expenditure requirements. This would also lower the private costs of the reforms, increase provision of public goods (environment benefits), and position the primary and tourism sectors well to capitalise on a sustainable recovery as markets begin to stabilise and recover.
193. Finally, primary sector businesses, and their lenders, desire increased certainty on how environmental regulations, such as those in the *Action for healthy waterways* package, will impact their businesses and future operating conditions. Delaying a decision now would only increase that uncertainty, which may further disrupt lending practices.
194. A range of initiatives to support Covid-19 recovery have been put forward for Budget decisions. Eleven of these initiatives are within the Productive and Sustainable Land Use programme and support COVID-19 recovery through “wave two” proposals. They relate to four key themes:
 - 194.1. Getting to work transforming our environment and land-based sectors: delivering near-term, on the ground actions that will drive improvements in water quality, ecosystem health, and biodiversity
 - 194.2. Regional development through an environmental lens: improving long-term sustainable development and water management
 - 194.3. Establishing the foundations and base systems for sustained improvement in environmental and economic performance: accelerating capacity and capability development for farm planning and catchment groups as well as improving environmental monitoring and mapping, and

- 194.4. Getting the workforce in place where and when it's needed for recovery: supporting alternative employment and addressing long-term skills gaps.
195. These initiatives primarily focus on support for actions to deliver economic stimulus and freshwater, biodiversity, and climate outcomes. They will also reduce the costs of implementing the package for the private sector.
196. The initiatives support waves two and three of the COVID-19 response. In general they are scalable and could be targeted to the regions and specific areas anticipated to face the highest costs due to the package.

Treaty of Waitangi implications

197. The Crown has a duty to protect Treaty settlements. It also has broad responsibilities to protect taonga, the exercise of tino rangatiratanga and kawanatanga, and the principles of the Treaty. We consider that *Action for healthy waterways* is crucial to protect freshwater taonga. Proposals to strengthen Māori values and Te Mana o te Wai may also contribute to upholding Māori and intrinsic values for the water, and increase participation from Māori in the freshwater management system. Iwi and hapū submissions expressed general support for the overall package, but they desired inclusion of co-governance provisions in the package and emphasised the urgent need for the Crown to commit to addressing Māori rights and interests in freshwater.
198. We intend to conduct further engagement with Māori on freshwater policy in line with the Cabinet's agreed Guidelines and Framework for Engaging with Māori.

Treaty of Waitangi Claims – Wai 2358

199. On 28 August 2019, the Waitangi Tribunal issued its report on Stage Two of the Freshwater and Geothermal Resources inquiry (Wai 2358). The Tribunal made a considerable number of recommendations regarding the transformation of New Zealand's freshwater management system.
200. The Government wants to take time to engage fully with the Tribunal's recommendations so that it can provide a robust and well-informed response. However, officials have considered the Tribunal's report and recommendations as part of the broader *Action for healthy waterways* policy process, including when developing the current package. Not every issue in the Tribunal report is addressed in this package and the Government will continue to consider the Tribunal's recommendations in its forward work programme.
201. The report does not comment substantively on the Government's current work programmes, though officials consider the *Action for healthy waterways* package is consistent with Tribunal recommendations on a number of issues. Policies in alignment include requiring regional councils to "give effect to" Te Mana o te Wai, introducing a compulsory mahinga kai value, introducing measures to protect wetlands, taking urgent action on stock exclusion and native fish habitat protection, including more stringent bottom lines, and introducing interim measures to halt degradation of waterbodies.

Consistency with Treaty of Waitangi settlements

202. The *Action for healthy waterways* package is not intended to affect Treaty settlements and arrangements. Officials have not identified any proposed changes that are inconsistent with resource management arrangements or rights established by specific Treaty settlement legislation. However, officials consider further engagement is necessary to establish conclusively that this is the case for the proposed vegetable growing exception.

203. The Crown and councils will need to engage with iwi and hapū who have interests and settlements covering certain areas when implementing policies to ensure that implementation of the policies is not inconsistent with the settlements. MfE is also conscious of its ongoing obligations under relationship redress, relationship agreement, and Deed of Settlement regarding engagement and policy development.
204. As required under settlement legislation, MfE have specifically considered how the policy proposals will impact Te Awa Tupua – The Whanganui River and Ngāti Rangi settlement. Officials consider that the policies will not have direct impacts on these settlements. Two policy areas will require ongoing engagement with iwi by MfE to ensure policy implementation meets settlement obligations: hydro-electricity exceptions and FW-FP provisions. The FW-FP amendments to the RMA may result in delegation of decision-making functions and so Ministers and officials will need to engage with tangata whenua during the future regulation-making process and afterwards to ensure that implementation of the resultant policies does not impact settlement arrangements.
205. Officials have also assessed the policies as consistent with Te Ture Whaimana o te Awa o Waikato – The Vision and Strategy and settlements of the five Waikato and Waipā River Iwi. The Vision and Strategy’s overarching purpose is to restore and protect the health and wellbeing of the Waikato and Waipā Rivers. Te Ture Whaimana prevails over any inconsistent provision in a National Policy Statement and prevails over a National Environmental Standard if it is more stringent than the standard. Therefore, potentially inconsistent provisions, or less stringent standards in the instruments, would not apply to that catchment. Officials intend to engage directly with the Waikato River iwi to ensure the implementation of the policies does not undermine the Strategy.

Not all Māori rights and interests are addressed in this package

206. This package does not address all Māori rights and interests in freshwater discussed in the Wai 2358 report or raised by iwi/hapū and Māori in discussions with government about freshwater management. During public consultation, iwi/hapū and Māori raised a number of issues that were sometimes described as rights and interests (such as governance, proprietary interests and allocation).
207. As discussed above, some or all of the issues framed in those ways may fall outside the scope of proposals described in this paper. Previous governments have acknowledged the need to better recognise Māori rights and interests in water through regulatory reform and Treaty settlements, and it is important that the Government continue to work with Māori to address these issues.

Financial Implications

208. No additional funding is required to progress *Action for healthy waterways*. It will be implemented through existing baseline funding, and funding provided in Budget 19.
209. As described above, officials are developing proposals for initiatives to complement and speed up implementation of this package and provide economic stimulus as part of the Government’s response to COVID-19. These proposals will be considered separately.
210. The costs and benefits of the package are described in the *Impact Analysis* section above.

Legislative Implications

211. We propose a new NPS-FM, NES, and regulations under sections 360(1)(ba), (bb), (bc), (d), (hn), and (ho) of the Resource Management Act 1991. The NES and section

360 regulations will be drafted by the PCO following Cabinet decisions on policies. We will seek Cabinet agreement (LEG) to gazette these instruments in July 2020.

Legislative implications of SOP to enable development of mandatory and enforceable FW-FPs in the future

- 212. Approval of the FW-FP SOP attached as Appendix 2 has legislative implications as detailed below.
- 213. **The principles of the Treaty of Waitangi:** these implications are described in depth above.
- 214. **The rights and freedoms contained in the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993:** No inconsistencies have been identified between the proposals in this SOP and the rights and freedoms contained in the Bill of Rights Act or the Human Rights Act.
- 215. **The Disclosure Statement Requirements:** A Disclosure Statement has been prepared and is attached as Appendix 4. No matters are identified that are not discussed elsewhere in this paper. The PCO will publish this statement when the SOP is introduced at the Committee of the whole House.
- 216. **The principles and guidelines set out in the Privacy Act 1993:** The proposals in this SOP are considered to be consistent with the principles and guidelines in the Privacy Act.
- 217. **Relevant international standards and obligations:** None identified.
- 218. **Legislation Guidelines:** No aspects of the supplementary order paper have been identified that depart from the default approach in the guidelines.
- 219. **Consultation:** Consultation processes for the SOP are described elsewhere in the paper.
- 220. **Binding on the Crown:** The SOP will bind the Crown.
- 221. **Creating new agencies or amending laws relating to existing agencies:** No new agencies are created and no changes are proposed to the coverage of existing agencies and legislation through the SOP.
- 222. **Allocation of decision making powers:** The SOP does not involve the allocation of decision-making powers between the executive, the courts, and tribunals.
- 223. **Associated regulations:** The RMA provides for regulations relating to FW-FPs to be made by the Governor-General by Order in Council on the recommendation of the Minister for the Environment, after consulting the Minister of Agriculture. Further details are provided in the Appendix 1 content related to FW-FPs.

Statutory requirements

- 224. The statutory prerequisites that apply to amend a national policy statement (NPS), create a NES and create regulations under section 360 are detailed in sections 45-54, 43-44A and section 360 of the RMA. The statutory requirements have been met.
- 225. Section 46A outlines a single process for developing an NPS and NES. It requires the Minister for the Environment to choose between using a board of inquiry or an

alternative process. The Minister for the Environment chose an alternative process under section 46A(3)(b) that meets the statutory requirements of sections 46A (4).

226. The *Essential Freshwater* programme was launched in October 2018 and clearly signalled to the public our intention to develop a set of policy proposals. Public consultation occurred between 5 September and 31 October 2019. The Water Taskforce received about 17,500 submissions, substantially more than for any other freshwater consultation.
227. Officials prepared a summary of submissions provided in Appendix 7. Officials also engaged with iwi/Māori, regional councils, environmental groups, and primary sector stakeholders to ask them questions about their submissions and, in the case of regional councils, test the soundness and workability of potential refinements to address the issues raised.
228. Following consultation, the IAP reviewed submissions and prepared a report with recommendations to meet the requirements of section 46A(4)(c) of the RMA. The IAP report is provided in full in Appendix 6. The package presented here largely aligns with the IAP's recommendations.
229. Section 52 of the RMA requires the Minister for the Environment to provide a summary of his decisions on the IAP's recommendations including reasons for not adopting any recommendations. We intend to publish this alongside a full summary of submissions following Cabinet decisions in July 2020.

Human Rights

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

Consultation

231. Public consultation details are provided in the *Statutory Requirements* section above.
232. In addition, we have consulted on the contents of this Cabinet paper with the following agencies and their views have been taken into account where possible: The Ministry of Health, Te Puni Kōkiri, MBIE, The Treasury, The Department of Conservation, The Department of Internal Affairs, Te Arawhiti, Crown Law, The PCO, The Ministry of Housing and Urban Development, and the Department of the Prime Minister and Cabinet.

Communications

233. We have developed a communications and engagement plan to support the release of the *Action for healthy waterways* package while retaining flexibility to respond to the changing priorities and timelines of the current COVID-19 context. We will continue to update it as required.

Proactive Release

234. The Minister for the Environment and Minister of Agriculture will release this paper following Cabinet decisions, including any redactions as appropriate under the Official Information Act 1982.

Recommendations

Government objectives for *Action for healthy waterways*

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

1. **note** that on 25 June 2018, Cabinet approved the *Essential Freshwater – Healthy Water, Fairly Allocated* work programme in order 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, by working to achieve efficient and fair allocation of freshwater resources, having regard to all interests including Māori, and existing and potential new users [CAB-18-MIN-0296 refers]
2. **note** that policies were then developed to implement the first two of these objectives, and were published in an *Action for healthy waterways* discussion document in September 2019
3. **note** that consultation sought the public’s views on proposals in the discussion document to progress national direction under the Resource Management Act 1991 (RMA) to deliver the *Action for healthy waterways* package including:
 - 3.1. a new National Policy Statement for Freshwater Management (NPS-FM), to replace the current 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. rules in a new National Environmental Standard for Freshwater Management (NES) and regulations under section 360 of the RMA (regulations) to stop further loss of urban and rural wetland and stream habitats, and improve farm practices
 - 3.3. amendments to the Resource Management (Measurement and Reporting of Water Takes) Regulation 2010, to require the provision of real-time data on significant water takes. This use of modern technology is needed to set and monitor sustainable limits to better support regional planning, and
4. **note** that in light of consultation and COVID-19, the proposals have been refined to:
 - 4.1. delay costs to farmers and growers by phasing the start-date of regulations, and
 - 4.2. provide councils a longer time to develop new freshwater plans
5. **note** that while the Government is focused on COVID-19 and its unprecedented effects on New Zealanders’ wellbeing and economy, the Government is now ready to progress the freshwater proposals, albeit in a manner modified to current realities
6. **note** that the primary sector’s environmental credentials are an important part of overall sector resilience and play a valuable role in ensuring global demand for our exports. It will therefore be important that the Government work during the recovery to ensure we create a more resilient and sustainable operating model

7. **note** that progressing the *Action for healthy waterways* package (*Action for healthy waterways*) now presents opportunities to promote a sustainable recovery to COVID-19, position the primary sector and tourism positively for the future, and, depending on how implementation is supported, help alleviate negative employment impacts of COVID-19 and costs of the package

Action for healthy waterways proposals

8. **note** that the *Action for healthy waterways* proposals include:
 - 8.1. a proposed new NPS-FM
 - 8.2. a proposed new NES
 - 8.3. proposed amendments to the Resource Management (Measuring and Reporting of Water Takes) Regulations 2010
 - 8.4. proposed RMA section 360 Stock Exclusion regulations, and
 - 8.5. a freshwater modules of farm plans (FW-FP) regime and freshwater planning processes being progressed through the Resource Management Amendment Bill 2019 (RM Bill)
9. **note** that the relevant empowering provisions for the proposed instruments are discussed specifically in Appendix 1, but include:
 - 9.1. sections 43 and 43A for National Environmental Standards
 - 9.2. section 45A for National Policy Statements, and
 - 9.3. sections 360(1)(ba), (bb), (bc), (d), (hn), and (ho) for amendments to the Resource Management (Measurement and Reporting of Water Takes) Regulation 2010, the creation of new stock exclusion regulations, and associated infringement offences and penalties
10. **agree** to the drafting of a new NPS-FM to replace the current NPS-FM 2014 (amended 2017) under section 45A of the RMA
11. **agree** to the drafting of a new NES
12. **note** that:
 - 12.1. section 43A(8) of the RMA enables an NES to empower local authorities to charge for monitoring any specific permitted activities in an NES
 - 12.2. section 43B(1) of the RMA enables an NES to specify that rules or resource consents can be more stringent than an NES if the standard expressly says that a rule or consent may be more stringent than it, and
 - 12.3. section 43B(3) of the RMA enables an NES to specify that rules or resource consents can be more lenient than an NES if the standard expressly says that a rule or consent may be more lenient than it
13. **agree** that the NES will allow:

- 13.1. a local authority to charge for monitoring any activity identified in the NES as a permitted activity
- 13.2. regional councils to include rules in their plans that are more stringent than the NES, and
- 13.3. any rule in a regional plan that is more stringent than a standard in the NES to prevail over the NES
14. **agree** that NES regulations for feedlots, stockholding areas, intensive winter grazing, intensification, and the fertiliser cap only apply to:
 - 14.1. pastoral farms of 20 hectares or more
 - 14.2. arable farms of 20 hectares or more, and
 - 14.3. horticultural farms of five hectares or more
15. **note** that on 1 July 2019 [CAB-19-MIN-0337.01 refers], Cabinet:
 - 15.1. delegated policy approval to the Minister for the Environment and the Minister of Agriculture, following advice from officials, to decide whether an amendment to the RMA would be necessary to establish a mandatory FW-FP regime
 - 15.2. authorised the Minister for the Environment and the Minister of Agriculture to issue drafting instructions to the Parliamentary Counsel Office (PCO) if they decide that an amendment is necessary, and
 - 15.3. noted that the Minister for the Environment and the Minister of Agriculture will seek Cabinet policy approval for a farm environmental management regime, including FW-FPs at a later date.
16. **note** that, following advice from officials, the Minister for the Environment and the Minister of Agriculture advise that an amendment to the RMA is necessary to make FW-FPs both mandatory and enforceable
17. **note** that on 9 March 2020 Cabinet confirmed its mandate for the Minister for the Environment and Minister of Agriculture to proceed with preparing an amendment to the RMA to make FW-FPs mandatory and enforceable [CAB-20-MIN-0091 refers]
18. **note** that the Minister for the Environment and the Minister of Agriculture have issued drafting instructions to the PCO to prepare an amendment to the RMA that would make FW-FPs mandatory and enforceable, and that the SOP providing for this amendment is attached to this paper as Appendix 2
19. **note** that the essential features of the FW-FP regime are described in recommendations 103-105 in Appendix 1
20. **agree** to amend the RMA to provide for a FW-FP regime as described in recommendations 103-105 in Appendix 1 and the attached SOP
21. **approve** the attached SOP for introduction to the House of Representatives as part of the Committee of the whole House's consideration of the RM Bill

22. **authorise** PCO to make minor changes to the attached SOP prior to introducing it in the House, provided the changes are consistent with the policy described in recommendations 103-105 in Appendix 1
23. **note** that in accordance with recommendations 103-105 in Appendix 1 it is intended for the NES to recognise the proposed FW-FP regime as and when it is established in law and operational
24. **agree in principle** that compliance with the FW-FP regime, as described in recommendations 103-105 in Appendix 1, will allow for relevant winter grazing and stock holding activities to be permitted
25. **note** that Appendix 1 contains recommendations 26-172 and decisions relating to the instruments referred to in recommendation 8:

Action for healthy waterways links with wider government work programmes

173. **note** that Action for healthy waterways and the Three Waters Review are both contributing to better urban freshwater outcomes and the provision of safe drinking water, and ensuring that rural and urban communities are both playing their part
174. **note** that the Minister for the Environment and the Minister of Agriculture intend to provide an update to Cabinet on a forward work programme for allocation, which will include a plan for engaging with Treaty Partners and stakeholders, following agreement to *Action for healthy waterways*
175. **note** that *Action for healthy waterways* and climate policy are broadly complementary

Public consultation on Action for healthy waterways and the Independent Advisory Panel

176. **note** that the Government consulted on a suite of proposals for the *Action for healthy waterways* package between 5 September and 31 October 2019 and received about 17,500 submissions, substantially more than for any other consultation process the Ministry for the Environment (MfE) has run. The summary of submissions is attached as Appendix 7
177. **note** that an Independent Advisory Panel reviewed submissions and wrote a report including key recommendations for *Action for healthy waterways* (attached as Appendix 6) in response to issues raised in consultation
178. **note** that four advisory groups contributed to policy development for *Action for healthy waterways* and responded to issues raised during consultation
179. **note** that officials also engaged iwi/Māori, regional councils, environmental groups, and primary sector stakeholders following consultation to test policies with them

Impacts of Action for healthy waterways

180. **note** that the package includes both short-term regulation and long-term direction for regional planning that will have different timeframes of impacts
181. **note** that these recommendations on *Action for healthy waterways* are supported by comprehensive impact analysis, much of which was undertaken since consultation and in response to submitters' feedback

182. **note** that the package is estimated to have average annual net benefits of \$193 million per annum once monetised costs and benefits are accounted for
183. **note** that in addition to the environmental benefits the policies are directly targeted to achieve, there will be significant other benefits including:
- 183.1. social benefits such as improved opportunities for recreation, connection to nature, and health outcomes
 - 183.2. cultural benefits such as improved mahinga kai and kaitiakitanga, and
 - 183.3. economic benefits such as flood mitigation and natural hazard resilience, reinforcing and protecting the green premium New Zealand receives for its primary products, and for tourism, which relies on our natural landscapes, our clean green image, and often direct contact with our waterways
184. **note** that costs to farmers from the most impactful policies are anticipated to reach \$124 million per annum, with Canterbury the most affected region
185. **note** that farmers will not be required to act on the main part of this package until 2023, and primarily and incrementally after 2024 when new freshwater planning instruments are notified

Implementation of *Action for healthy waterways*

186. **note** that officials are currently engaging with councils, iwi/hapū and Māori, and industry groups and are working on an implementation approach to support these groups ahead of the regulations coming into effect
187. **note** that officials from MfE, MPI, and the Ministry for Business, Innovation, and Employment consider that additional funding beyond the Sustainable Land Use package in Budget 2019 will be critical to ensure successful implementation of the package
188. **agree** that officials will prepare a detailed analysis of options for additional funding that would help ensure the effective implementation of the package and delivery of our objectives
189. **agree** that officials develop governance arrangements to ensure adaptive management of the implementation of the package, to reduce uncertainty and cumulative impacts, and to make linkages with other related government programmes
190. **note** that further consideration will be given to the establishment of a Freshwater Commission / Te Mana o te Wai Commission to provide focused implementation oversight, and support

COVID-19 and implementation support

191. **note** that officials from MfE, MPI, and the Department of Conservation have identified 11 initiatives within the Productive and Sustainable Land Use programme to support COVID-19 recovery through Budget 2020
192. **note** that these initiatives primarily focus on actions to deliver economic stimulus and freshwater, biodiversity, and climate outcomes, and they will reduce the costs of the proposals for the primary sector

193. **note** that these COVID-19 response proposals are insufficient to meet longer-term Actions for healthy waterways implementation needs of councils and iwi/hapū and Maori in and of themselves
194. **note** that a range of initiatives to support Covid-19 recovery have been put forward for Budget decisions

Māori involvement in freshwater

195. **note** that freshwater is a precious and limited resource, a taonga of huge significance, and is of particular importance to Māori and that the Crown has a duty to protect Treaty settlements and has broad responsibilities to uphold the principles of the Treaty
196. **note** that *Action for healthy waterways* aligns with a number of recommendations from the Wai 2358 Tribunal report, but not every issue identified in the report was addressed in this package
197. **note** that *Action for healthy waterways* is not intended to affect Treaty settlements and arrangements, that officials' analysis has not identified inconsistencies between policies and Treaty settlements, and that the Crown and regional councils must engage with iwi and hapū to ensure policy implementation is compliant with settlements
198. **note** that when giving effect to the new NPS-FM, local authorities will still need to comply with all relevant treaty settlement obligations that apply in their regions, including when considering setting a target attribute state below a national bottom line (for the purpose of an exemption)
199. **note** that this package does not address how the Government will move to a fairer, more efficient and sustainable water allocation system, and how Māori rights and interests can be better provided for within the allocation system
200. **note** that the Crown intends to conduct further engagement with Māori on freshwater policy in line with Cabinet's agreed Guidelines and Framework for Engaging with Māori

Next steps

201. **delegate** authority to the Minister for the Environment and Minister of Agriculture to make final policy decisions and drafting changes as needed, including in respect of a possible exemption for vegetable growing areas, provided changes are consistent with the broad objectives of the proposals as set out in the recommendations in this paper
202. **note** that the Minister for the Environment will be seeking Cabinet agreement to gazette national direction once drafted, by July 2020
203. **agree** to release this Cabinet paper and supporting documents as part of a comprehensive package of information, including any redactions as appropriate under the Official Information Act 1982.

Authorised for lodgement

Hon David Parker
Minister for the Environment

Hon Damien O'Connor
Minister of Agriculture