6th August 2025

New Zealand Infrastructure Commission Te Waihanga
Wellington
Via portal

New Zealand Rivers Group / Manatiaki Kōawa submission on the draft National Infrastructure Plan

Introduction

1. The Executive Committee of Manatiaki Kōawa, the New Zealand Rivers Group, make this submission on the Infrastructure Commission Te Waihanga's (Te Waihanga) draft National Infrastructure Plan (the Plan) consultation on behalf of our members.

2. The Rivers Group is a technical interest group of Engineering New Zealand and Water NZ. The group focuses on rivers, flood risk management, and the operational and environmental issues of catchments and river systems. Our members include engineers, geomorphologists, hydrologists, ecologists, scientists, planners, managers, and others. Many of our members, including several of the executive committee, are involved as experts in the infrastructure planning and business case processes.

3. The NZ Rivers Group objectives are:
    - To provide a national focus for all matters relating to rivers in New Zealand;
    - To promote best practice and the sharing of technical knowledge in all aspects of catchment management, flood risk management and river engineering throughout New Zealand.
    - Promote relevant science and research, disseminate information, hold events and otherwise promote leadership and best practice in river, catchment and flood risk management among professionals, academics, decision makers and the general public.
    - Provide political and industry leadership towards achieving national consistency in government policies and programmes affecting catchment and river management and flood risk.
    - To facilitate cross-disciplinary discussion with other professionals involved in catchment management, flood risk management and river management.
    - To conduct all such lawful activities as are incidental, or conducive to the attainment of the objectives of the Rivers Group and to conduct all the affairs of the Rivers Group in a businesslike manner.
    - To give effect to the principles of the Treaty of Waitangi.

Submission approach

4. Due to competing consultations and members time availability our submission does not provide commentary on all parts of the Plan or answer the questions raised in the discussion document.

5. We make overarching comment and suggestions.

6. We support the submissions of our parent organisations Engineering New Zealand and Water New Zealand.

Points we'd like to highlight -

River control and flood protection must be represented in the Plan

7. Floods are New Zealand's most frequent and most significant natural hazard. Climate change will exacerbate the risk that river flooding and coastal inundation poses to communities and the natural environment.

8. Together, river control, flood protection schemes and urban stormwater underpin the integrity of public and private assets and provide resilience and security to communities and their investments.

9. The Plan includes river control and flood protection within the water and waste sector definition, but this is the only mention of flood protection or river control in the Plan. We find this concerning.

10. Failing to explicitly consider river control and flood protection infrastructure in the Plan may have unintended consequences of increased flood risk, heightened risk of infrastructure damage or failure, and potential risk to life to communities. Furthermore, it can hinder effective emergency response and recovery efforts.

11. We do acknowledge in the recent amendments to the Local Government Water Services Bill and Resource Management Act 1991 the defintion of stormwater encompasses green infrastructure, overland flow paths, watercourses and streams, with infrastructure activities including regeneration and restoration.

12. Inclusion of green infrastructure is incredibly important as practitioners in river and floodplain management are increasingly adopting the approach to nature-based approaches to flood management, such as 'making room for rivers'. These approaches keep communities out of harm's way and retain (or make) space for rivers to flood safely and for ecosystems to function more naturally. This has win-win outcomes for rivers and communities.

13. We note river managers are moving away from the term 'river control' to reflect more integrated approaches to river management and a river's natural behavior and the broader environment.

14. Future Plans, the Infrastructure Priorities Programme and the Pipeline must include river control and flood protection schemes, including rain radars and flow and rain gauge monitoring networks.

The nation's flood protection schemes

15. The total replacement value of the 367 flood protection schemes throughout New Zealand is estimated to be $2.3 billion. **I**n total, river and flood protection schemes protect around 1.5 million hectares of land or 5% of New Zealand's land area[1].

16. As a succession of recent significant storms has highlighted, regional council's flood protection schemes are vital to protect economic, environmental and social wellbeing. During Cyclone Gabrielle, an estimated 3-5 km of cumulative breach of flood control stopbanks inundated homes, property and livelihoods.

17. Crown-owned and related assets (rail, state highways, communication and electricity transmission, hospitals and education facilities) all receive flood protection at a cost to regional and targeted local ratepayers, with little contribution from the Crown. The benefits of protection to central government assets vastly exceed their costs.

18. Regional councils' current annual maintenance and capital investments in flood protection schemes total close to $200 million. However, the estimated annual capital cost of building further resilience into flood protection schemes would be at least $150m beyond their current budgets. Communities are struggling to pay for the maintenance of current flood protection infrastructure. Regional councils have frequently requested co-investment from central government of approximately $150m per annum to support programmed investment from regional councils.

19. Flood hazard is able to be mitigated through proactive, well-proven protection schemes, and it is also the natural hazard that has provided the best return on investment from active 'risk reduction' measures.

20. Meeting future flood resilience service levels is beyond the reasonable capacity of ratepayers alone. We recommend the Plan is clear on the level of central government investment required to maintain current infrastructure, and capital works to meet the challenges of more frequent and higher magnitude weather events.

21. While policy might assist, we recommend the priority focus for central government should be on a new funding model to support councils in operating and upgrading critical flood protection infrastructure, including through nature-based solutions (e.g., making room for rivers) and planned relocation / managed retreat, which will significantly reduce future costs and the need for 'built' infrastructure.

Nature-based solutions are increasingly used as alternatives to conventional engineering.

22. Traditionally, the focus has been on preventing flooding by building protection infrastructure, such as stopbanks and dams, and channeling flood flows quickly. These measures have resulted in increases in flood height, velocity, changes in sedimentation regimes and damage to ecological habitat.

[1] Te Uru Kahika. (2023). *Before the Deluge 2.0: Updated case for co-investment in flood management infrastructure following Cyclones Hale and Gabrielle*. https://www.gw.govt.nz/document/21784/before-the-deluge-2-0

23. Making Room for Rivers is a nature-based solution to flooding that involves allowing rivers to naturally flood in designated floodplains areas to reduce flood risk in other areas. It's a strategy that focuses on working with the river's natural behavior rather than trying to control it through purely engineering solutions. This approach offers several benefits, including flood protection, environmental restoration, and increased community well-being.

24. Both the resource management reform and the Local Water Done Well legislation incorporates green infrastructure into the definition of stormwater.

25. Business cases for developing green infrastructure, nature-based solutions and Making Room for Rivers / Space for Water[2] programmes should be given the same weight of consideration as those for traditional, hard infrastructure solutions.

Land use policies must improve the management of natural hazard risk.

26. We acknowledge the Plan grappling with the present challenging and difficult issues. Climate change will exacerbate the risk that natural hazards pose to communities, infrastructure, and the natural environment. There is a critical need to avoid new development, and supporting infrastructure, in high- risk areas.

27. We note the proposed National Direction for Natural Hazards does not apply to primary production or infrastructure. This risks commercial development, infrastructure and property being constructed in high hazard areas. This will result in significant costs in the long run.

28. Avoiding new development, and supporting infrastructure, in high-risk areas is the cheapest and most effective method for saving lives and livelihoods.

29. Infrastructure is one of the main and most expensive assets hit during flooding. For example, during Cyclone Gabrielle in Napier, the Redclyffe substation flooded (cutting off power to most of Napier), the Ravensdown fertiliser factory flooded (polluting aquatic environments), and the Awatoto wastewater treatment plant was submerged and bypassed for months. When it became inoperable on February 14, every household and business in Napier was affected.

30. We also note that primary production assets are severely impacted by flood events. Again, while some of these assets may be appropriate to place in at-risk areas, others may not be. For example, if an orchard pack-house, dairy farm effluent pond, or dairy farm milking she can be placed in a way that reduces risk to them, then this should be done. Simply leaving these assets out of the NPS will not lead to responsible long-term decision making that reduces risk, disruption, and cost.

31. The Plan must ensure future-proofed decision-making. It must deter the problematic placement of infrastructure and proactively mitigate the risk of significant future costs as well as potential public and environmental health risks.

32. Risk based decision making and emergency preparedness must be considered in business-as-usual activities such as land use planning controls and decisions. Similarly, the progression of water-

[2] Making Space for Water - Auckland Council
https://www.aucklandcouncil.govt.nz/environment/looking-after-aucklands-water/Pages/making-space-for-water.aspx#:~:text=.Making Space for Water,risks in our stormwater systems.

sensitive design, nature-based solutions and Making Room for Rivers / Space for Water programmes are an absolute priority in risk mitigation.

Embracing the wisdom of tikanga Māori and concept of oranga is essential

33. Under the proposed resource management reforms there is substantially more opportunity for iwi (via Māori trusts and incorporations) to operate in infrastructure and an ability to do so as operators or in partnership. However, the Plan does not address the role of iwi in infrastructure – or the infrastructure needs of Māori communities.

34. Projects developed in collaboration with iwi, using mātauranga Māori, can result in better outcomes not only for the environment but also for quality design that delivers for local communities. The Otiria–Moerewa Flood Mitigation Project[3], a collaborative partnership, between Northland Regional Council and Ngāti Hine Iwi, Ngati Kopaki and Ngati Te Ara, worked with iwi and whanua to restore the natural flood flow of the awa – restoring te Mana o te Wai- whilst substantially reducing the flood risk to the townships.

35. Co-design, co-delivery and monitoring of Māori interests and knowledge in infrastructure provision should be promoted in the Plan.

36. Te Waihanga must promote building capacity within hapū and iwi to design, deliver, articulate and evaluate, and to partner with Infrastructure providers that enable intergenerational outcomes for Māori.

Recognition of subject matter expertise, data and science

37. There is a national need for consistent natural hazards assessment and to inform decision-making. As one of the most vulnerable countries to natural disasters, we need strong research to better understand our risk exposure, mitigation options and that we can be confident about the right solutions.

38. A much stronger recognition, engagement and coordination (and funding) of subject matter expertise and intelligence, data and science is needed. Our Public Research Organisations (PROs) should be mandated - and engaged - to inform our land use planning. This includes preparation of hazard information, ensuring national consistency, and development of data/mapping standards to support data and information sharing as well as thresholds and clear definitions of risk exposure and tolerance.

Policy and pricing should encourage efficient and appropriate use

39. The Plan recommends that users or direct beneficiaries pay the full cost of network infrastructure. These pricing practices should incentivise conservation, water efficiency including reuse, conservation, and demand management.

40. Recent research[4] shows that the widening of riverbeds in the Wairau and, Ngaruroro, and Selwyn Rivers back to historic extents could significantly increase natural groundwater recharge, providing

[3] https://www.resilientrivers.nz/projects/northland/otiria-spillway-project
[4] https://lincolnagritech.co.nz/braided-river-management-can-limit-aquifer-recharge/

for more resilient and sustainable groundwater takes for irrigation in these areas, thereby negating the need to construct new storage.

41. We would like to see the Government invest in more resilient landscapes and landuses. For example, implementing nature-based solutions such as replanting forests and restoring wetlands can help increase the capacity of a landscape to hold water during dry periods, as well as reducing flood risk during wet periods.

In conclusion

42. Infrastructure provision must balance environmental impacts. Managing infrastructure development and landuse planning on a catchment basis for economic and environmental and water health outcomes is needed.

43. Te Waihanga advice to the Government must restrict floodplain and coastal fringe development.

44. The Plan presents to the opportunity to create a blueprint of how to apply a risk-based, mokopuna decision approach to infrastructure development.

[redacted]
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