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Ministry for the Environment
Wellington
Via email: naturalhazardRMA@mfe.govt.nz

Tēnā koutou katoa

National Policy Statement for Natural Hazard Decision-making Consultation

Water New Zealand (Water NZ) welcomes the opportunity to provide comment on the National Policy Statement for Natural Hazard Decision Making (NPS-NHD) consultation.

Water NZ is a national not-for-profit organisation which promotes the sustainable management and development of New Zealand's three waters (drinking water, wastewater and stormwater). Water NZ is the country's largest water industry body, providing leadership and support in the water sector through advocacy, collaboration and professional development. Its ~3,100 members are drawn from all areas of the water management industry including regional councils and territorial authorities, consultants, suppliers, government agencies, academia and scientists.

Introduction

Water NZ supportive of the intent behind the NPS-NHD. Climate change will exacerbate the risk that natural hazards pose to communities, infrastructure and the natural environment, and there is a need to avoid new development, and supporting infrastructure, in high-risk areas.

There is a need for consistent natural hazards assessment and associated decision-making. The NPS-NHD provides needed direction, and it appears consistent with other government programmes and policies.

However, a much stronger statement is needed. One which outlines meaningful, outcome focused direction to local government, provides national consistency, and thresholds and clear definitions of risk exposure and tolerance.

Our high-level comments include:

- Taking a precautionary approach is supported. It should apply wherever risks are uncertain, unknown or little understood.
- The scope of the NPS-NHD should encompass not just new development, but all planning decisions, including for infill and greyfield development.
- There should be no carve out from the NPS-NHD for the National Policy Statement on Urban Development (NPS-UD).
- The NPS-NHD should specify a time-horizon of 100 years for risk assessment, aligning with other national direction and asset lifecycles.
- The NPS-NHD should specifically refer to ISO 31000:2018 which provides principles and guidelines on understanding and managing risks.
- 'Tolerable' risk or 'intolerable' risk, and national thresholds or trigger levels for risk tolerance should be defined.

- Policy 5, NPS-NHD should be strengthened to ensure that decisions “must not” allow development in high hazard areas, rather than require “avoidance”.

Issues with identification of risk: Policies 1, 2 and 3

Policy 1 requires decision-makers to determine the level of natural hazard risk as high, medium or low.

Water New Zealand submits this approach of classifying risks is vague and not directive enough.

There is also potential misalignment and uncertainty about its application. Section 6 of the RMA refers to managing “significant” risks (which can be a qualifying matter under the NPS-UD and limit intensification), while the NPS-NHD refers to avoiding “high” risk (which cannot be used as a qualifying matter).

Risk management is the process of identifying, assessing, managing and monitoring risk that may disrupt the achievement of objectives. Management of risks can help determine what actions will most effectively and efficiently, mitigate the risks to delivering on the objectives.

ISO 31000 Risk Management is a family of standards relating to risk management codified by the International Organization for Standardization. ISO 31000:2018 provides principles and guidelines on understanding and managing risks. A consistent ISO 31000 risk approach applied across the country and communities will enable comparison of risks.

We **recommend** risk assessments are carried out by risk professionals with input from iwi, community, water service providers and other stakeholders to provide a structured approach to a risk-based decision making.

Water NZ **submits** that the terms “high”, “moderate” and “low” in the NPS-NHD are aligned with the terms from ISO 31000.

Furthermore, there is no direction as to the planning horizons involved in assessing high, moderate or low risk under Policy 2 of the NPSNH (only “likelihood” in generic terms). There should be some indication in the NPS-NHD of the timeframe over which risk should be assessed. The NPS-NHD should specify a time-horizon of 100 years for risk assessment, aligning with other national direction and asset lifecycles.

Policy 2(b) introduces subjective concepts of “tolerance” into determinations of natural hazard risk, how it is managed is assessed under Policy 5 (what should happen in response). We do not think that the “willingness” of those bearing the risk (one aspect of tolerability) should be a factor in determining whether a high risk exists under Policy 2. If there is a risk, the risk it exists regardless of whether a party considers it tolerable or not. If a decision-maker thinks a risk is tolerable, then a precautionary approach does not have to be taken when identifying the risk. It will also be extremely hard to identify who is “subject to” a risk (a future tenant of a property?) and therefore whether the relevant people are ‘willing’ to bear it or not. In addition, willingness to bear risk can differ significantly between different members of a community and can shift over time - particularly as events become more frequent.

Risk identification and risk assessment are also conflated in Policy 3. When identifying risk level, Policy 3 requires a precautionary approach to be taken only if the risk “could be intolerable”. As indicated above (Policy 2), this is an inappropriate approach to risk identification.

A “precautionary approach” should be defined in the interpretation.

We **recommend** rewriting Policy 2 and 3 as follows;

Policy 2: When determining natural hazard risk, decision-makers are to consider:

(a) first, the likelihood of a natural hazard event occurring (either individually or in combination) **over at least the next 100 years;** and

(b) the consequences of the natural hazard event occurring, including potential loss of life, serious injury, adverse effects on the environment, and potential serious damage to property and infrastructure. ~~and (b) second, tolerance to a natural hazard event, including the willingness and capability of those who are subject to the risk (such as a community, Māori, or the Crown) to bear the risk of that natural hazard (including its cost) and any indirect risks associated with it.~~

Policy 3: Decision-makers must adopt a precautionary approach when determining natural hazard risk if : ~~(a) the natural hazard risk is uncertain, unknown, or little understood; and (b) the natural hazard risk could be intolerable.~~

Much stronger connections with national hazard and climate change risk assessments

Policy 2, 3 and 5 requires avoidance of new development in high hazard areas, but there is no specific direction to identify, map or publicise such areas. This identification is occurring as part of a comprehensive approach to understanding national natural hazards risks.

Action 4.5 of the National Adaptation Plan 2022 (NAP) lays out how agencies should work together to support climate adaptation planning.

There are several proactive All of Government work programmes underway to achieve improvements in natural hazard risk data and consistency of information and national design and policy standards – this includes work by the Department of Internal Affairs, Three waters National Transition Unit (e.g. National Engineering Design Standards and National Urban Stormwater Modelling guide).

Recent changes to the Local Government Official Information and Meetings Act (LGOIMA) incentivising greater sharing of natural hazard and climate risk information. These amendments direct territorial authorities and regional councils to work together to ensure Land Information Memorandums (LIMS) provide holistic and nationally consistent information about natural hazard risks.

The NPS-NHD should direct decision-makers to take into account national guidance on the identification of natural hazard risk, and specifically require regard to be had to national climate change risk assessments prepared under the Climate Change Response Act 2002.

There should be a clearer direction to local and regional authorities to proactively identify, map and publicise high hazard risk areas, for example, by identifying hazard zones on maps in a district plan or regional policy statement.

Responding to risk

Policy 5 is about how decision-makers respond to risks identified under policies 1 to 3.

Water NZ support direction to take a risk based approach to natural hazards to planning decisions for new development. The severe wet weather events in Auckland and elsewhere in the past year highlight the need to stop building and intensifying in high natural hazard risk areas.

The proposed policy states for high-risk areas new development should be avoided unless the level of risk is reduced to at least a tolerable level or:

- (i) the new development is not a new hazard-sensitive development; and
- (ii) there is a functional or operational need for the new development to be located in the area of high natural hazard risk, and
- (iii) there are no practicable alternative locations for the new development; and
- (iv) risk is reduced to as low as reasonably practicable.

Water NZ has concerns with this policy as currently drafted. These are discussed further below.

The direction to “avoid” is insufficient

The NPS-NHD needs to more clearly state that new development is not to be allowed in high natural hazard areas.

The wording of Policy 5 should be amended as follows:

(f) in areas of **significant** high natural hazard risk, new development **must not occur** ~~is avoided~~

Consistent national thresholds or trigger levels needed for risk tolerance

The NPS-NHD talks about risk tolerance but there is no clear definition of what is ‘tolerable’ risk or ‘intolerable’ risk, apart from relatively vague references to loss of property and/or potential loss of life.

Tolerability of risk (including willingness to bear it) should not form part of the assessment of whether a risk is high, moderate or low.

While it may be a legitimate factor when it comes to how councils respond to such risks, allowing new development to occur in high risk natural hazard areas based on subjective judgements about tolerability, or people’s actual or perceived willingness to bear that risk, is still concerning.

A decision that the risk of new development in a high-risk area is “tolerable” will not be made by the future occupiers of that property. It will be difficult to determine who exactly is bearing a risk (and therefore gets to decide), and this may create questionable social outcomes.

The NPS-NHD refers to risk tolerance but there is no clear definition of what is 'tolerable' risk or 'intolerable' risk, apart from relatively vague references to loss of property and/or potential loss of life. What this means in practice will likely differ substantially amongst decision-makers, and the wider community.

The definition could include a consideration of susceptibility (e.g. older people suffer more by being flooded compared to younger people being flooded to the same degree) and resilience (e.g. ability to prepare for and recover from being flooded).

The NPS-NHD is silent on who will make the risk and tolerance related decisions. Clarity should be provided round which stakeholders would be determining the respective levels of risk with new development.

Water NZ **request** water service, and other utility, providers, amongst others, should be contributors to risk and tolerance related decisions.

Methods to assess tolerance and intolerance

In order to inform decisions, tolerance definitions and thresholds will need to be established. Defining tolerability and the use of thresholds will move to a quantifiable approach rather than a subjective-emotive based approach.

Toka Tū Ake EQC have recently released a 'Risk Tolerance Methodology'¹. Such a method will enable more robust and transparent risk-based decision-making and takes away some of the subjectivity in discussions with the community.

The process must consider and weight the different type and timing of hazards as well as economic, environmental, social and cultural factors. Establishing quantifiable thresholds will be challenging, different hazards will warrant different metrics.

The flood categorisation following the flooding in Auckland, Hawkes Bay and Te Tai Rawhiti has used threat to life as the primary delineator.

Threat to life is rarely the factor for avoiding building in a location. For rivers flooding, internationally accepted measures are depth-velocity threat to life graphs (based on the assumption that if the force of water makes you lose your footing you will die). For urban stormwater flooding is economic damage the key risk.

Flood risk tolerability this comes down to the property owner being able to protect themselves through insurance. The work of Belinda Storey suggests that insurance for events that occur more frequently than 1:20 year will become financially unobtainable. However, frequencies of 1 in 50 and 1 in 100 is a typical design event for most residential dwellings included in the Building Act, the National Engineering Design

¹ <https://www.eqc.govt.nz/resilience-and-research/research/search-all-research-reports/risk-tolerance-methodology/>

Standards, local development codes and average asset life expectancy. Whereas the Australian Geotech Society considers a limit of 1:10,000 year risk to life.²

Water NZ submit that decision-makers in Policy 5(a) are to have regard to guidelines (such as Toka Tū Ake EQC *Risk Tolerance Methodology*) on what tolerability means in different scenarios.

We **recommend** including a definition of tolerable and intolerable risk in the NPS-NHD.

Unintended consequences: residual risk

Despite the proposed NPS-NHD directing decision-makers to develop in lower risk locations, it still provides loopholes to allow development in high-risk locations, potentially creating significant residual risks.

Residual risk is the level of risk remaining after measures to reduce risk have been applied. The remaining risk can have catastrophic consequences.

Stopbanks could be argued to reduce risk to 'as low as reasonably practicable', or to 'a tolerable level' or be considered 'appropriate mitigation measures' in moderate-risk areas. Intensified development behind a stopbank are still at significant risk if the stopbank fails or in an extreme rain event. This happened in the Hawke's Bay Pakowhai, Puketapu, or Taradale communities during Cyclone Gabrielle. Stopbanks that provided protection from most floods, were overtopped and resulted in significant inundation of property, livelihood and infrastructure.

The proposed NPS – NHD must include direction on managing residual risks.

Reinforce the interdependencies between, and a need for, resilient infrastructure

Policy 2 (a) provides a list of consequences "including potential loss of life, serious injury, adverse effects on the environment, and potential serious damage to property and infrastructure;" but this doesn't include service providers ability to service or access high risk areas.

Policy 5 allows development in areas of "moderate risk", however it ignores the implications and challenges for utility providers to service these areas. For example, a risk to infrastructure may seem low, until a road is not rebuilt following a major flooding event.

The severe weather events of 2023 highlighted the interdependencies within the broader system of infrastructure provision. Flooding, subsidence, fallen trees and downed power lines left utilities and people without power, communications and access, leading to extreme isolation and vulnerability. Flooding and washout of the roading network affected transporting material and responders into an area. Power outages resulted in no communication to many areas and telemetry systems inoperable for some.

Water NZ **request** the risk to infrastructure and provision of service should inform new development decision making in the NPS.

² <https://cdn.boprc.govt.nz/media/741561/2018-02-13-australian-geomechanics-society-2007-landslide-risk-management-australian-geomechanics-vol-42-no-1-march-2007-complete-version-for-notification-web.pdf>

Stronger direction is needed to deter development of all types of infrastructure in high-risk areas

Policy 5 also includes an allowance for development that “is not a new hazard-sensitive development” to occur in high-risk areas. We understand this provides for industrial and commercial development, such as ports, wastewater treatment plants, farm infrastructure, and other industrial activities. This policy will not ensure future-proofed decision-making. Instead, it will continue to allow for problematic placement of infrastructure and create significant future costs. It will also create the potential for significant public and environmental health risks, with potentially serious adverse effects.

There are many types of development that would be allowed through this provision that are extremely vulnerable to natural hazards. 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. All this infrastructure could arguably be consented in their current locations under the NPS-NHD.

The list of new hazard sensitive development is too restricted. The current definition would miss highly flood vulnerable things like campgrounds and sub-stations. It also conflicts with the overall NPS-NHD objective which includes the risks to the environment and infrastructure.

The NPS NHD new hazard-sensitive definition should be expanded and give guidance on what types of use are sensitive. This definition could include a demonstrated functional need for the activity to traverse, locate or operate in a particular high risk area because the activity can only occur in that environment.

We **recommend** stronger policy direction is needed to deter development of all types of infrastructure in high-risk areas. This could be a key determinant in decision making.

Water NZ also **recommends** that a policy be inserted within this NPS-NHD, to ensure that if any development associated infrastructure that is constructed within high, or medium natural hazard risk areas, then any such assets cannot be vested to the council or other utility service providers.

Nature-based solutions are preferred over hard-engineering solutions

Policy 6, which directs decision-makers to adopt nature-based solutions to reduce natural hazard risks in new developments “where possible”. It is unclear what the test for “where possible” is.

Whilst we support the promotion of nature-based solutions, the policy needs to be strengthened to make nature-based solutions, such as making room for rivers, the absolute priority in providing natural hazard mitigation.

The NPS-NHD needs to recognise, provide for, and protect the ability of existing river and floodplains to continue to mitigate natural hazard risk (rather than just prioritising ‘new’ nature-based solutions as per proposed Policy 6(a)).

For example, Canterbury’s braided rivers have enormous flood capacity, but encroachment of them in recent decades continues to reduce that capacity. Where nature-based solutions are in situ, such as existing river, and floodplain capacity, they should be prioritised for protection.

All new development should be in scope of the proposed NPS-NHD

As drafted, the proposed NPS-NHD excludes development under the NPS-UD (section 1.5).

Climate change will exacerbate the risk that natural hazards pose to communities and the natural environment, there is a need to avoid new development in high-risk areas.

Leaving the NPS-UD out increases the risk to people, property and infrastructure, enhances future risk profiles and will frustrate managed retreat efforts.

We submit the NPS-NHD should apply to all new developments and should not exclude development under the NPS-UD. Excluding such developments from the NPS-NHD would be contradictory to its objective (*The risks from natural hazards to people, communities, the environment, property, and infrastructure, and on the ability of communities to quickly recover after natural hazard events, are minimised*).

Kaupapa Māori must be incorporated into natural hazard risk and tolerance assessments

Te Ao Māori and local Mātauranga should be central to the development of risk assessments and decision making at place. We consider such an approach that recognises and creates space for rangatiratanga and kaitiaki roles and considers impacts on people's health, livelihoods, whenua and taonga emphasise approaches would be most enduring.

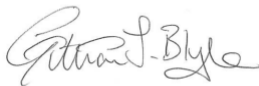
Given the generations of local Mātauranga, connection and knowledge of the whenua iwi - hapū have insights that integrate cultural, environmental, and social decisions, and should be reflected in decision-making.

Conclusion

Water NZ thank the Ministry for the opportunity to provide feedback on the NPS-NHD.

If you have any queries in relation to this submission, please contact Nicci.Wood@waternz.org.nz

Ngā mihi nui



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