



Urban Water Principles: Recommendation of the Urban Water Working Group

Phase I Report

Disclaimer

This report documents the initial work of the Urban Water Working Group – an independent collaborative body comprising urban water practitioners and technical experts convened by the Ministry for the Environment. This report illustrates the process, initial findings and recommendation of the Group. It does not reflect the official position of the Ministry for the Environment and is not a Government policy.

Acknowledgements

The Ministry for the Environment acknowledges the input of all the members of the Urban Water Working Group who have volunteered their time, expertise and mātauranga to this project to date. It is estimated that participants collectively provided over one-thousand hours of work toward Phase I of the collaborative process.

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Officials from the Ministry for the Environment also provided administrative support and facilitation as the secretariat for the Group.

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Introduction

In 2017, the Ministry for the Environment (the Ministry) convened the Urban Water Working Group (the Group), a collaborative body comprising practitioners and technical experts working in the field of urban water management. The Group developed 10 ‘urban water principles’, to protect and restore Te Mana o Te Wai¹ in urban contexts. The urban water principles are high-level principles and values, intended to inform urban water policy and planning decisions, infrastructure design choices, and other activities related to urban water outcomes. Overall these principles are intended to help inform a national vision, promote alignment in government and industry, and prompt action to support the achievement of local and national objectives for urban water.

This report includes:

- a summary of the work of the Group in developing the urban water principles (Phase I)
- the urban water principles agreed by the Group in September 2018
- the proposed forward agenda for the group in 2019.

The Ministry acknowledges the time and commitment of the Group in the development of the urban water principles.

¹ Te Mana o Te Wai, described in the National Policy Statement for Freshwater Management, refers to ‘the integrated and holistic well-being of the water.’

Urban Water Working Group – Phase I

Background

In late 2017, the Ministry convened the Group to assess existing problems related to urban water and to inform the development of ‘Good Management Principles and Practices’ for improving urban water management.

The Group comprised approximately 45 practitioners working in local government, the Three Waters sector, and the wider urban development and design sectors. These individuals were nominated by their peers (or self-nominated) for their relevant experience and knowledge, including mātauranga and te ao Māori. Working group members volunteered their time, and served in their personal thought-leadership capacities, rather than representing any of their affiliated organisations.

The Group worked through four plenary sessions and additional sub-group meetings over 2017-2018 to analyse and define existing problems related to urban water and propose solutions. The Group ultimately produced a set of urban water principles, which encapsulate *their* proposed vision for improving urban water management approaches in New Zealand.

Why develop national principles?

Urban water problems

At present the design, management and use of urban areas in New Zealand is having adverse effects on water ecosystems and resources, and people’s relationships with them. Some of these effects are significant and long-term, including impacts on human health (physical and cultural), liveability, climate resilience, the economy, and the health of downstream environments.

These issues are largely related to urban land use and infrastructure planning and design. The infrastructure of cities and towns is central to the urban water system. It influences how Māori and communities take and use water, discharge into it, modify or channel it, change land use over time and exercise kaitiakitanga and stewardship.

The major pressures on urban freshwater and coastal water bodies include sediments, nutrients, pathogens, metals, oils, heat and gross pollutants (such as litter). Urbanised catchments are also characterised by flashy flows (impervious surfaces such as roofs and pavement create extreme high flows during rain events, with periods of very low flows in-between). Other issues include modified or channelised stream beds, barriers to fish passage, and low biodiversity dominated by tolerant weed or pest species. These additional

pressures, commonly referred to as symptoms of ‘urban stream syndrome’, need to be addressed to provide for ecosystem health and other community values related to liveability.

Altered stream channels and piping can in some cases have counter-productive effects on urban resilience when piped networks and flow channels reach design capacity and overflow. This can cause damage to property, and in some extreme cases, pose a threat to human life.

For urban Māori and the community at large, these issues decrease their social and cultural well-being. For kaitiaki and others who see themselves as custodians and environmentalists, these impacts can be spiritually devastating. The loss of urban water bodies to piping/drainage can also reduce the sense of place that people have with an area. Impacts on urban water bodies often go hand in hand with reducing or degrading areas people use (eg, for recreation, mahinga kai). This can have negative impacts on the well-being of urban residents and visitors.

An opportunity to inspire and align action

Each of these problems partially stem from the poor alignment of a complex web of decision-makers toward positive environmental outcomes. Many have a role to play in protecting urban waterbodies, including policy makers, regional and urban planners, three waters and transport infrastructure service providers, resource and building consent officers, property developers and their consultants – architects, engineers and contractors, and urban businesses and residents.

After working with the Ministry to clarify and substantiate the problems described above, the Group developed a vision and related principles to drive better outcomes at various levels. The development of this vision is timely as it may serve as a useful starting point to illustrate ways to maintain or improve ecosystem health while also meeting the significant demand for urban growth in New Zealand.

The purpose of the urban water principles is to guide decision-making that promotes sustainable behaviours and the creation of water sensitive urban spaces by drawing on mātauranga, the lessons of the past, international best practice, the needs of our present communities, and a vision of a sustainable, resilient future.

Having such a comprehensive set of high-level principles can also help to frame the specific practices that can be undertaken at different scales and by people in different roles, and could guide many Government policy processes to achieve positive outcomes for urban water.

Approach and criteria for developing principles

The development of the urban water principles was an iterative process, during which the concepts were brainstormed, adjusted and refined using ‘sprint’ methods². The Group initially canvassed existing examples of principles and practices from other parts of the world and built on these concepts to create a vision relevant to Aotearoa New Zealand.

The Group also explored the challenges in providing for community values through integrated planning and urban design, identified priority pressures on urban waterbodies, explored the efficacy of existing policy and economic incentives at a high level, and identified some monitoring and capability gaps which currently hinder practitioners in applying best practice. This background work helped the Group conceptualise the content of these principles and has been provided separately to the Ministry to inform ongoing policy work.

The Group set out the following criteria for developing the principles referred to throughout the drafting process. They should:

1. be simple, concise statements that use the language of the community (both Māori and non-Māori)
2. clearly direct action at a high level that will lead toward the objectives and outcomes sought for receiving environments (rather than being simply statements of issues or objectives)
3. set the scene for more specific good management practices
4. be general enough to apply to everyone
5. be able to be demonstrably monitored/measured
6. be realistic and able to be adaptively/progressively applied by communities
7. support building an informed community that is able to participate and contribute in decision-making.

After considerable discussion and testing against these criteria, the following version of the principles was agreed by the Group on 13 September 2018.

² ‘Sprint’ methods require participants to prototype, test and refine their ideas in a collaborative environment over short, defined periods of time.

Group agreement on a set of national principles

Excerpt: Minutes of Urban Water Working Group Workshop (13 September 2018)

Present

Mark Bishop, Troy Brockbank, Kara Dentice, Stu Farrant, Ulrich Glasner, Nicola Green, David Grieg, Claudia Hellburg, Justine Jones, Jo Martin, Stewart McKenzie, Jonathan Moores, Onur Oktem, Andrea Phillips, Tom Porter, James Reddish, Phillip Shackleton, Helen Shaw, Kalley Simpson, Paula Vincent, Nicci Wood, Tui Arona*, Lucy Bolton*, Sarah Boone*, Dianna Caird*, Stephen Fragaszy*, Andrew McCauley*.

Apologies

Jan Heijs, Paul Dickson, Allan Leahy, Carl McGuinness, Neil Miller, Robyn Simcock, Gina Sweetman, Lucy Tukua, Marjorie van Roon, Kimba Stainton-Herbert*. No response from 18 other invitees.

*Officials from the Ministry were facilitators and active observers but did not participate in group decision-making.

Decisions

The Group recommends the attached set of Urban Water Principles be promoted by the Government. Of 19 votes cast, 18 (95%) agreed that the Group should recommend this set of principles to be promoted by the Government. This was considered a sufficient margin and a motion was passed to make this recommendation to the Government. The one group member who voted against this motion did so on the basis that they thought the principles should be made more aspirational.

The Group also agrees to continue work related to developing specific practices and policy options in the future. Existing sub-groups will each convene at least one more time in 2018 to establish a plan for future work and develop a new terms of reference for the next phase of the project.

Urban Water Principles – Ngā Wai Manga

Our greatest obligation is to that which gives us life – Te Mana me Te Mauri o Te Wai

In Aotearoa's cities and towns people have important relationships with water. Water provides for the basic needs of our community and supports the natural and built environments that many New Zealanders call home. However, as our urban areas grow and change we also need to be mindful of our impact on this taonga. There are legacy problems related to how urban infrastructure networks and built environments have been developed to date and we need to meet these challenges. **We need a transformational change in the way that we interact with urban water.**

By following this set of principles, we hold in the highest regard the life-giving properties of water – **Te Mana o Te Wai** of urban water ecosystems. Te Mana o Te Wai is a concept within the National Policy Statement for Freshwater Management, which is described as 'the integrated and holistic well-being of the water.' Upholding Te Mana o Te Wai **acknowledges, protects and enhances the mauri of the water**. This requires that we must also provide for Te Hauora o Te Taiao (the health of the environment), Te Hauora o Te Wai (the health of the water body) and Te Hauora o Te Tangata (the health of the people).

In an urban context, it is important that communities establish a common understanding of what it means to achieve Te Mana o Te Wai in their specific area and that all other **planning and resource-use decisions uphold this strategic vision**. The following principles can help guide this decision-making at all levels and promote the creation of water sensitive urban spaces by drawing on mātauranga, the lessons of the past and international best practice, the needs of our present communities and a vision of a sustainable, resilient future.

PAPATŪĀNUKU – “Our relationship with the land –papatūānuku – will pre-determine our relationship with water”.

1. **Protect and enhance ecosystem health of all receiving environments.** Use integrated planning to ensure that decisions made upstream protect downstream receiving environments, such as streams, lakes, wetlands and terrestrial ecosystems, groundwater, estuaries, and the ocean.
2. **Co-design with nature an integrated and regenerative approach to urban development.** Use nature-based or green infrastructure engineering solutions where possible to mimic or work with processes found in the natural environment. Retain, restore and enhance existing elements of the natural drainage system, and integrate these elements into the urban landscape.
3. **Address pressures on waterbodies close to source.** Urban water ecosystems are under increased pressure from a wide range of pollutants, modified flow characteristics and altered channel form. These pressures can be either acute (such as a spill or pollution incident) or chronic, created by the cumulative effects of these pressures over time. Mitigating these pressures at or close to their source prevents degradation downstream.

NGĀ WAI TUKU KIRI – “Our waters are a gift of life provided to us by our tupuna”.

4. **Recognise and respect mana motuhake – the whakapapa and relationship that mana whenua have with water ecosystems in their rohe.** Mana motuhake means the authority (mana) gained through self-determination and control over one's own destiny. Mana whenua communities have this authority in their customary 'rohe' or territory and have special cultural relationships with ecosystems in these areas. It is important to proactively engage mana whenua in designing urban environments within their rohe so that they can have a meaningful role in shaping the outcome.

TĀNGATA – “Our environments are places of human occupation”.

5. **Identify and consider the community values for urban water and reflect them in decision-making.** Communities often have strong aspirations and values for their urban spaces, including values for environmental sustainability, sense of place, and general amenity and liveability. Urban planning and design processes should create opportunities for communities to express their values and for decision-makers to reflect these goals in their decisions.
6. **Optimise environmental, social and cultural benefits when investing in buildings and infrastructure.** When considering options for investment, prioritise options that provide multiple benefits. Investment decisions should take lifecycle costs of buildings and infrastructure into account and generate an enduring well-being gain.

TE HĀPORI ME TE WAI – “The community's love and care for water is enduring”.

7. **Uphold and foster kaitiakitanga and custodianship of urban water ecosystems.** Everyone has a responsibility to care for the health of our urban water bodies. Because of this, it is important that all community members can connect with these water bodies and are encouraged and empowered to take direct action to maintain and restore ecosystem health.
8. **Collect and share information to promote common understanding of urban water issues, solutions and values.** Meaningful and transparent data and information is necessary to improve both the design and use of our urban environments. Improving access to quality information can support integrated catchment planning and water sensitive design, while information for urban residents and businesses on current and emerging issues and solutions can foster positive behaviour change and the acceptance of new policy and technology.

TIAKINA MŌ APŌPŌ – “In building future resilience, our connectedness with the environment is our strength”.

9. **Increase resilience to natural hazards and climate change.** To improve the resilience of urban communities, we need to design water sensitive systems and landscapes which reflect the environmental characteristics of the area and are resilient to natural disasters and change.
10. **Conserve and reuse water resources.** Drinking water, wastewater and stormwater are each valuable resources and we should reduce their consumption and/or production and maximise their reuse. This includes increasing water-use efficiency by reducing potable water demand and maximising the use of greywater and stormwater.

Phase II – Looking forward

Identifying good practice and informing policy

For the next phase of work, the Group has agreed to continue to support the Ministry in two ways.

1. By further identifying and illustrating specific good practices for a range of audiences, which may form the basis of future guidance or regulatory approaches. These practices will complement and provide greater detail on how people can practically give effect to the vision set out in the urban water principles. This work will also seek to leverage existing guidance and resources for practitioners from around the country and around the world. The Group has already done considerable work to identify these practices during Phase I.
2. By providing input to the Ministry in policy development. This may include considering aspects related to the Essential Freshwater Work Programme or the Government's Three Waters Review, and helping frame the Ministry's future urban water work.

The Group will set out formal terms of reference for this phase in late 2018.

Getting involved

The Urban Water Working Group is a collaborative forum that has a flexible membership system. If you have relevant expertise and would like to volunteer your time to help the Ministry for the Environment you can apply to be part of the Group by sending an expression of interest to info@mfe.govt.nz.