

He Rautaki Wai Āwhātanga | Stormwater Management Strategy

Our journey to wai ora



Our water, our future.

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Abbreviations

Abbreviation	Full Name
BAU	Business as Usual
GWRC	Greater Wellington Regional Council
HCC	Hutt City Council
LGA	Local Government Act
NES-FW	National Environmental Standards for Freshwater
NPS-FM	National Policy Statement for Freshwater Management
NPS-UD	National Policy Statement on Urban Development
NRP	Natural Resources Plan for the Wellington Region
PCC	Porirua City Council
RMA	Resource Management Act
RSWS	Regional Standard for Water Services
SCaMP	Sub-Catchment Management Plan
SMS	Stormwater Management Strategy
SWDC	South Wairarapa District Council
UHCC	Upper Hutt City Council
WCC	Wellington City Council
WSD	Water Sensitive Design

A glossary of key terms is shared in **Appendix A**.

Whakarāpopototanga whakarae | Executive Summary

This Stormwater Management Strategy (SMS) sets out how the adverse effects of stormwater discharges on water quality is intended to be minimised. It captures how rainwater that falls on the urban area can be managed, so that it can contribute to better aquatic ecosystem health, enhance Māori customary uses and the recreational value of water, as well as enable growth across the Wellington region.

The SMS focuses on the management of discharges from the local authority stormwater network¹ which need resource consent from Greater Wellington Regional Council (GWRC). It is also specific to the management of stormwater network discharges from Porirua, Wellington, Hutt City, and Upper Hutt² which primarily drains the urban landscape.

The detailed focus on stormwater discharges in this SMS will be used to support the broader focus of integrated catchment management³. An integrated catchment management approach aims to improve water quality, reduce flooding and erosion and enhance the ecological health of the catchment. Integrated catchment management seeks to promote sustainable and resilient stormwater management practices.

In line with Schedule N of the Natural Resources Plan (NRP), the SMS covers the water quality elements of stormwater discharges and its part in supporting integrated catchment management delivery, but does not specifically address:

- a strategy for managing stormwater flooding for the purposes of protecting human health and property.
- untreated wastewater overflows resulting from heavy rainfall events.
- riparian and biodiversity restoration programmes
- recreation and access, or
- District and Regional Plan regulations for land use and subdivision.

For the SMS to be successful, the management of stormwater discharges will need to integrate seamlessly with all these other catchment-scale work programmes. This strategy is an important component of the application for a long-term (up to 35-year) Stage 2 Global Stormwater Consent.

Why manage stormwater for water quality?

Stormwater is generated when rainfall runs off the land. In our urban areas, the increased volume and velocity of runoff from rainfall that our waterways are naturally adapted to can cause scouring of waterways and sedimentation in harbours. On its journey across the urban landscape, stormwater collects litter and contaminants affecting water quality and ecosystem health. Our past management of stormwater has resulted in deterioration of the mauri of most urban waterways and harbours.

We need to shift the management of stormwater to use the principles of Te Mana o te Wai and ensure the health and well-being of the water is protected and human health needs are provided for. This means we will have to collaborate widely to support a transformational shift in how our cities are planned, designed, and constructed, including the urban stormwater networks. We will support Water Sensitive Design guidelines to protect and enhance natural freshwater systems, sustainably manage water resources, and mimic natural processes to achieve enhanced outcomes for ecosystems and our communities.

¹ “Stormwater network” is defined in the Natural Resources Plan for the Wellington Region as - The network of devices designed to capture detain, treat, transport, and discharge stormwater, including but not limited to kerbs, intake structure, pipes, soak pits, sumps, swales, and constructed ponds and wetlands, and that serves a road or more than one property.

² Although Wellington Water also manages the stormwater networks owned by South Wairarapa District Council, the discharge consent for these networks do not currently require a SMS and therefore this SMS does not include this council area.

³ Integrated catchment management in relation to stormwater refers to a comprehensive approach that uses a catchment perspective for the provision of water services (drinking water, wastewater, and stormwater) in an integrated manner, in contrast to a piecemeal approach.

Our journey to wai ora

The journey to wai ora signifies the long-term approach to achieving healthy water over the next 70 – 100 years. This is an intergenerational journey. For stormwater discharges from the local authority stormwater network, the SMS relies on a pathway of short-to-medium-to-long term steps. These specific periods enable us to continuously adapt our approach to achieve progressive improvement of our streams and harbours. The vision for the SMS is:

“Our region treasures its water. Our streams and harbours are healthy and suitable for contact recreation and Māori customary use. Our drinking water is safe and secure, our networks are resilient, our growing cities are water sensitive, and we are prepared for a changing climate. Water is at the core of how we plan and grow our cities”

As reported in our Statement of Intent (2021 – 2024)⁴, Wellington Water is on a journey to transform water in the region from Hangarua (its current altered state) to Te Ika Rō Wai (a pure form of water that you would expect to find in the head of Maui’s fish). This transformation requires a healthy environment and work by those who live in and care for it. It will be a joint effort by community, mana whenua, city and district councils, GWRC and Wellington Water.

To achieve the vision of this SMS we will work collaboratively with our mana whenua partners: Ngāti Toa Rangitira and Taranaki Whānui and consider stormwater quality as one part of an integrated water management approach.

Strategic direction

The objectives of this SMS respond to the Regional Policy Statement, the NRP and Whaitua documents. The three objectives that our work programmes are in place to deliver are:

- **Aquatic Ecosystem Health** – Biodiversity, aquatic ecosystem health and mahinga kai in freshwater bodies and the coastal marine area are safeguarded from the adverse effects of stormwater discharges.
- **Māori Customary Uses and recreational contact** - Rivers, lakes, natural wetlands and coastal water where stormwater is discharged are suitable for contact recreation and Māori customary use.
- **Sustainable Growth** – Stormwater networks support well-functioning urban environments.

The three principles that support these objectives are:

- **Mahi Tahi / working together** – establishing and maintaining genuine partnerships with mana whenua and supporting community groups, working with other council departments and a wider community of stormwater network owners in all that we do, sharing knowledge and building capacity, and communicating outcomes.
- **Ki Uta ki Tai /Mountains to the Sea**– references the need to work in an integrated water cycle management approach for multiple water resource outcomes, encouraging the wider community to embrace Water Sensitive Design.
- **Data, Monitoring, and Investigations** – the approach is underpinned by the continual process of gathering all forms of information about our catchments enabling the inclusion of western science, Māori customary use and cultural knowledge. This is a critical part of enabling adaptive management which is needed to respond to changes and delivery of our objectives.

This SMS addresses each of the components shown in **Figure 0.1** :

⁴ Our Water, Our Future: Wellington Water Statement of Intent 2021-2024

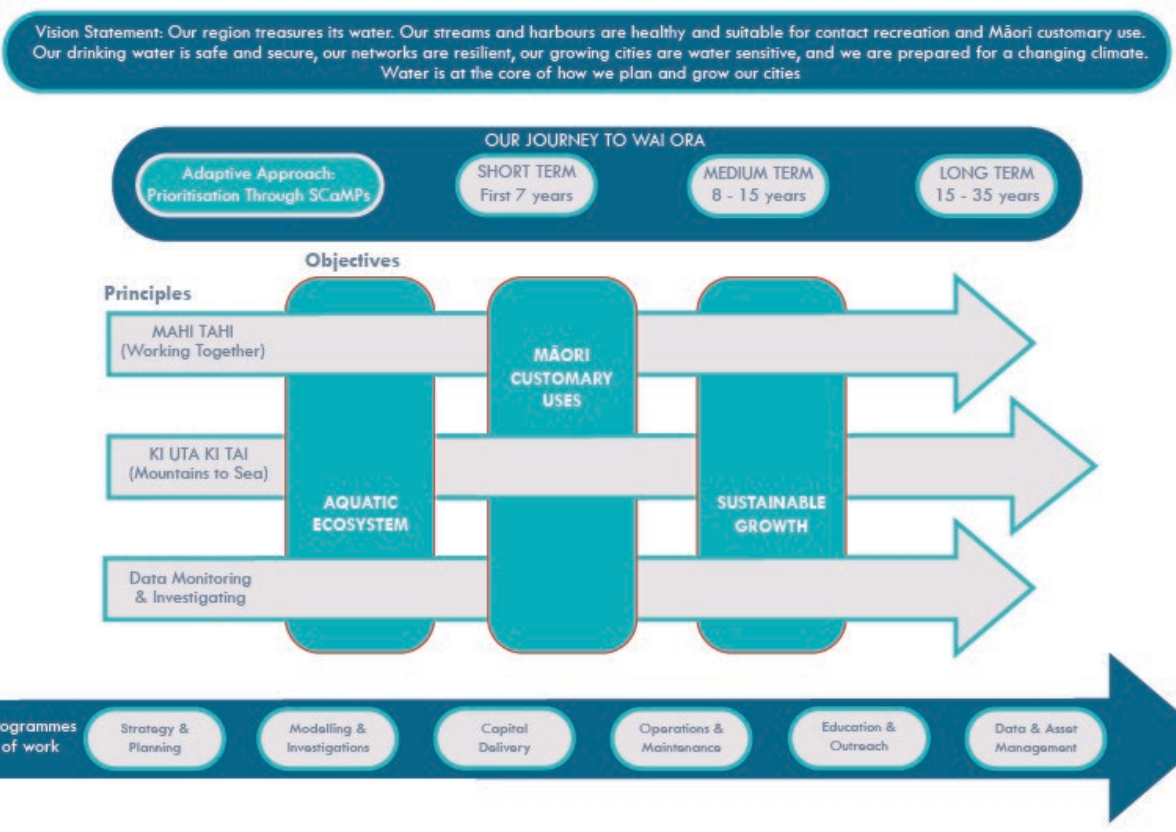


Figure 0.1 - Strategic Approach for the SMS

The Strategic Actions⁵ that will implement the objectives and principles are described in two workstreams:

- **Workstream 1: Universal Responses and Programmes for Water Quality Outcomes** – The intent of Workstream 1 is to:
 - Maintain the current state of our waterways that can be adversely impacted by stormwater discharges.
 - Undertake activities to investigate, characterise and prioritise our catchments (through our five new programmes) for Workstream 2, below.
- **Workstream 2: SCaMPs and Resulting Capital Improvements**– The intent of Workstream 2 is to:
 - Reduce the impacts of stormwater discharges on water bodies through the development and implementation of stormwater discharge Sub-Catchment Management Plans (SCaMPs)
 - Capital Delivery programme to design and construct stormwater water quality treatment devices identified in the SCaMPs.

The development of stormwater discharge SCaMPS is a key step towards achieving an integrated approach to catchment management. Although only one step to integrated management, SCaMPs support the broader goal of sustainable and integrated catchment management.

Over time, implementation of the SMS is expected to reduce the negative impacts of heavy metals (particularly copper and zinc), nutrients, *E. coli*, sediment, and gross pollutants as well as minimise localised scour erosion from the discharge of stormwater through the network on our waterways. Reducing the impacts of these contaminants will improve stream biodiversity, ecosystem health, mahinga kai, recreational activity and the provision for Māori customary uses.

⁵ In accordance with Schedule N (f) – (h) of the NRP

Delivering the strategy

Wellington Water will progress towards the vision and objectives of this SMS through implementation of activities associated with Workstream 1 and 2. Reporting on our progress, as appropriate, will be managed through the Stage 2 Global Stormwater Consent.

There are four key components to the implementation of this SMS, as set out in **Figure 0. 2** below. In combination, these four components are anticipated to result in the successful delivery of this SMS and the requirements of the Stage 2 Global Stormwater Consent.



Figure 0. 2 Key components to the implementation of the Stormwater Management Strategy

Significant capital and operational investment would be required to implement the SMS. A Collaborative Committee, consistent with the principles of Te Mana o te Wai, will guide the implementation of this SMS.

Using the principle of adaptive management we can update management approaches during strategic reviews of this SMS, which will take place every six years.

Regulatory matters

Throughout the SMS, we identify how the strategy is in general accordance with Schedule N requirements of the NRP, primarily with the use of footnotes. Some of these requirements will only be fully met by the delivery of stormwater discharge SCaMPs, particularly in relation to specific strategic actions, management options and identification and management of localised effects.

As there are significant changes to the water industry proposed by the Government, it should be noted that each reference to “Wellington Water” in this document, within reason, includes any successor water entity that may be established in place of Wellington Water in the future.

Contents

1	Introduction.....	1
1.1	Te Kaupapa Matua Purpose	1
1.2	Te Whakakitenga Vision	1
1.3	He aha te wai āwhātanga? What is stormwater?.....	1
1.4	How does stormwater affect water quality?	2
1.5	Our role in managing stormwater	4
2	Regulatory Context.....	5
2.1	Natural Resources Plan for the Wellington Region	6
2.1.1	Whaitua Implementation Plans	6
2.2	Te Mana o te Wai	8
2.3	Compliance with the SMS	9
2.4	What’s in and what’s out	10
3	Journey to wai ora	10
3.1	Ka mua Looking Back.....	11
3.2	Ināianeī At present	12
3.2.1	Global Stormwater Discharge Consents	12
3.2.2	Our Catchments	13
3.3	Ka muri Looking Forward.....	13
4	Objectives and Principles.....	15
4.1	Objectives.....	15
4.1.1	Aquatic ecosystem health, biodiversity and mahinga kai.....	15
4.1.2	Māori Customary Uses & Contact Recreation	15
4.1.3	Sustainable Growth.....	15
4.2	Principles	17
4.2.1	Mahi Tahi / working together	17
4.2.2	Ki Uta ki Tai (Mountains to the Sea)	17
4.2.3	Adaptive management informed through monitoring, investigations, and research	17
5	Responses – Two Workstreams.....	19
5.1	Workstream 1: Universal responses & programmes for water quality outcomes.....	20
5.1.1	Universal responses for new development	20
5.1.2	Programmes for water quality outcomes	22
5.2	Workstream 2: SCaMPs & resulting Capital Improvements.....	29
5.3	Scale of the programmes in Workstream 1 and 2.....	32
6	Governance via a Collaborative Committee.....	33
7	Delivering this SMS.....	34
7.1	Challenges and Opportunities	34

7.2	Our Future for Stormwater Management.....	37
8	References.....	38

List of Appendices

Appendix A	Glossary	40
Appendix B	Schedule N: Stormwater Management Strategy.....	45
Appendix C	Wastewater Network Overflow Programme.....	48
Appendix D	Catchment Characteristics	51
Appendix E	Management Options.....	101

List of Figures

Figure 1.1	- Key sources of contamination	2
Figure 1.2	- Map showing the four council areas of Porirua, Wellington, Hutt, and Upper Hutt City Councils covered by this Stormwater Management Strategy	5
Figure 2.1	- Natural Resources Plan Regulatory Framework for this SMS. Objectives in the NRP are numbered starting with an "O" and Policies start with a "P".	7
Figure 2.2	- The hierarchy of obligations (from NPS-FM, 2020)	8
Figure 2.3	- Giving effect to this SMS under the RMA and LGA.....	9
Figure 3.1	- Water Sensitive Cities framework: the urban water transition phases (Brown R.K., 2009).....	11
Figure 4.1	- Objectives and Principles of this SMS to guide us on our journey to wai ora and achieving our vision	16
Figure 4.2	- Adaptive management is an important part of the investment, implementation, and review cycle.	18
Figure 5.1	- Universal Responses required for new developments in areas not covered by an approved stormwater discharge SCaMP	21
Figure 5.2	- The programmes of work to help achieve stormwater quality outcomes.	23
Figure 5.3	- Wellington Water’s asset management framework and the role of the SMS in Investment Plan process... ..	28
Figure 5.4	- Investment across the six work programmes for the short-term to 2030 (left) and overall, to 2054 (right).	33

List of Tables

Table 1.1	- Common contaminant sources to stormwater.....	3
Table 2.1	- Water management roles of mana whenua and non-Māori (from NPS-FM, 2020)	8
Table 5.1	- Two workstreams of this SMS.....	19
Table 5.2	- Staging of the implementation of Workstream 1 and Workstream 2 over the short-, medium- and long-term	19
Table 5.3	- Programme of work – predominant activity – Strategy & Planning	23
Table 5.4	- Programme of work – predominant activity – Modelling & Investigations	24
Table 5.5	- Programme of work – predominant activity – Education & Outreach	26
Table 5.6	- Programme of work – predominant activity – Data & Asset Management.....	28
Table 5.7	- Programme of work – predominant activities – Workstream 2 (SCaMPs & Capital Delivery).....	32
Table 6.1	- Guidelines for developing and implementing the governance structure.	33
Table 7.1	- Challenges for Wellington Water in the implementation of this SMS and achieving NRP Objectives.	35

1 Introduction

This section describes the purpose and vision of this Stormwater Management Strategy (SMS).

1.1 Te Kaupapa Matua | Purpose

The SMS describes how contamination from discharges from the local authority stormwater networks in the Hutt Valley, Wellington and Porirua can be minimised to implement Te Mana o te Wai and to help achieve our long-term vision. This will be achieved, in part, by identifying priorities for progressive improvement, and timeframes to achieve this improvement⁶. The SMS also supports:

- An application for a Stage 2 Global Stormwater Consent.
- The delivery of integrated catchment management approach by providing urban stormwater quality-specific information and improvement actions, that can be combined with flood management, sustainable water use, wastewater management, urban planning, community led activities, biodiversity protection and climate change adaptation strategies and management plans.

1.2 Te Whakakitenga | Vision

The vision for this SMS is:

“Our region treasures its water. Our streams and harbours are healthy and suitable for contact recreation and Māori customary use. Our drinking water is safe and secure, our networks are resilient, our growing cities are water sensitive, and we are prepared for a changing climate. Water is at the core of how we plan and grow our cities.”

Our vision will guide us to reduce contamination from the local authorities’ stormwater networks. The vision acknowledges that the management of stormwater discharges must be delivered together with the management of sustainable water use, flood protection, wastewater management, urban growth and climate adaptation.

1.3 He aha te wai āwhātanga? | What is stormwater?

When rainwater falls onto the ground, including modified land that is covered by impervious surfaces such as roofs, roads, driveways, and footpaths and is intercepted, it is called stormwater. Stormwater then runs over land either directly, or through the stormwater network through pipes and drains, mixing with the streams, rivers and groundwater to waterways, the open coast and harbours⁷. As a result of increased areas of hard surfaces, stormwater runs off the land more quickly and in greater volumes than before urbanisation occurred. This change in the ‘natural water cycle’ can adversely affect aquatic ecosystems and our enjoyment of water bodies.

⁶ In accordance with Policy P86 in the NRP.

⁷ The NRP defines “Stormwater” as - Runoff that has been intercepted, channelled, diverted, intensified, or accelerated by human modification of a land surface, or runoff from the external surface of any structure, because of precipitation and including any contaminants contained therein. For the avoidance of doubt, stormwater excludes discharges associated with earthworks, vegetation clearance, break-feeding and cultivation that are managed under rules in section 5.4 of the Plan.

The urban and roading stormwater network⁸ was originally designed to support public health and economic outcomes through collecting and carrying rainwater away from buildings and roads.

Existing systems of management and the degraded water quality from stormwater discharges impacts on our relationships with water and restricts mana whenua from exercising mana whakahaere, kaitiakitanga, rangatiratanga and manaakitanga.

1.4 How does stormwater affect water quality?

Rainwater flowing over impervious surfaces is an effective pathway for contaminants to enter urban stormwater networks and to then enter watercourses, aquifers, or the marine environment. The most common sources of contaminants in stormwater are illustrated in **Figure 1.1** below. Some sources of wastewater contamination are also shown for completeness, despite not being addressed in the SMS.

Stormwater discharges can also alter the natural water cycle and hydrological balance of a catchment by increasing the amount of runoff during rainfall events, leading to flooding, erosion, and altered flow regimes in watercourses. This can impact both surface water and groundwater resources and affect the ecology of waterbodies.

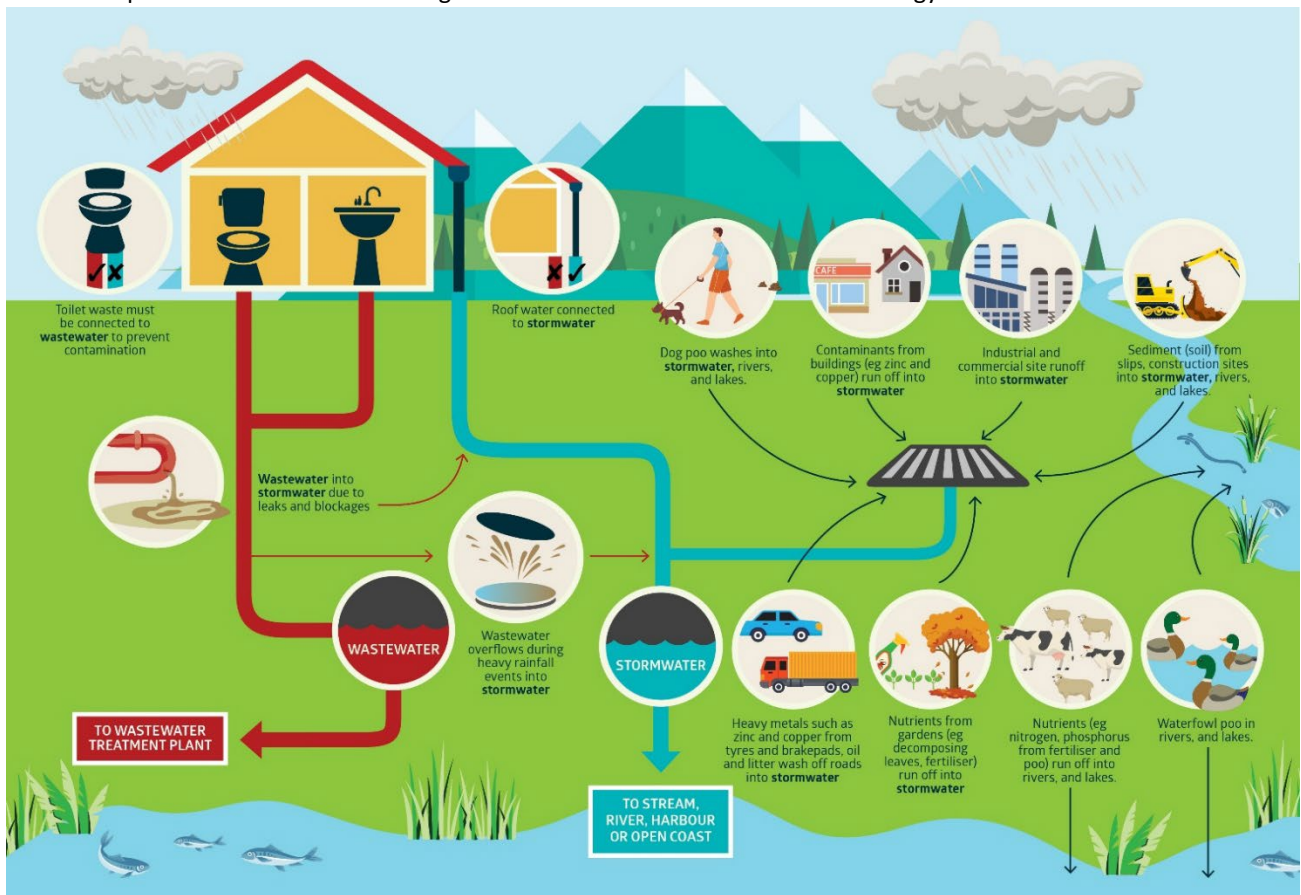


Figure 1.1 - Key sources of contamination

More detail on contaminant sources is provided in **Table 1.1**.

⁸ The NRP defines "Stormwater Network" as a system of structures and natural channels used for the collection, conveyance, treatment, and discharge of stormwater runoff. The stormwater network includes public and private pipes, channels, detention basins, and other infrastructure used for stormwater management. It also includes the natural watercourses and landforms that can act as conveyance pathways or treatment areas for stormwater.

Table 1.1 - Common contaminant sources to stormwater.

Contaminant Source	Description
Roads, especially with heavy traffic	Accumulation of fine particles of zinc, copper, and rubber from motor vehicle wear, as well as hydrocarbons from oil drips, exhaust pipes, and grit from roading materials.
Brown / green field development	Conversion or redevelopment can result in stormwater picking up contaminants from urbanised surfaces and contaminants from previous activities on the site. Although earthworks can result in erosion and sedimentation, these discharges are managed separately ⁹ and are not specifically addressed in this SMS.
Industrial areas	Industrial areas can be hot spots for stormwater contamination. Storage yards, building materials and routine activities that pose a risk of spills that can contaminate surface runoff.
Land contaminated by historical land uses, including old landfills.	Surface runoff from contaminated sites can pick up a wide range of contaminants, depending on the historical land use. These typically include hydrocarbons, heavy metals, pesticides, herbicides, and fertilisers.
Domestic and commercial building materials	Copper and zinc building materials can be a contamination source to stormwater. Unpainted, galvanised steel roofs and walls commonly used in commercial and industrial areas and older parts of our cities contribute zinc to stormwater runoff. Copper is released from copper-cladding and copper drainpipes.
Domestic activities	Contaminants discharged directly to the stormwater network through activities such as car washing, spills, and house painting are not within the definition of stormwater and are not managed through this SMS. Surface runoff during rain events that pick up these contaminants as well as other contaminants such as fertilisers, weed killers and pesticides applied to lawns and other urban areas are included in the definition of stormwater and are addressed in this SMS.
Litter	Litter is dropped or blown around the city. This may be swept by runoff into the stormwater system, into streams, rivers, beaches, and coastal waters.
Private cross connections	Mistakenly connecting private wastewater laterals to the stormwater system results in wastewater, including nutrients and pathogens being discharged into the network.
Wastewater overflows	Untreated wastewater can enter the stormwater network when the capacity of the pipes to deliver wastewater is exceeded by the inflow of rain during high rainfall events or the infiltration of groundwater or through leaks in the wastewater system. Constructed overflows provide a pressure release mechanism which allows for wastewater (which is untreated but may be diluted through an increase in rainwater) to enter the stormwater network, rather than have untreated wastewater spill onto land creating an immediate public health risk. These discharges are managed separately from this SMS (see Appendix C – Wastewater Network Overflow Programme).
Leaking Private and Public Wastewater Pipes	Aging and poor condition public and private wastewater pipes can leak through pipe failures or leaking joints and cracks. This wastewater can connect with groundwater or seep into public stormwater networks or waterways.

Urban stormwater runoff has contributed to a reduction in water quality in the region. This is reflected in impacts across the region on ecosystem health, recreational water quality and on Māori customary uses, , including:

⁹ From the Regional Plan - "For the avoidance of doubt, stormwater excludes discharges associated with earthworks, vegetation clearance, break-feeding and cultivation that are managed under rules in section 5.4 of the Plan."

- Contaminated waters compromising the habitats and ecosystems that sustain life for taonga species (treasured species), such as kōura, kōkupu, and tuna.
- Contamination of, and increased risk to, the wāhi tapu, wāhi tupuna and wāhi maumahara / spiritual connection to the wai and sacred places near the waterbodies– from increased stormwater flows from development, accelerating erosion and the carrying of increasing levels of contaminants.
- Contamination of the waterbodies weakens the ability to undertake cultural practices and sharing knowledge across the generations safely. This has lasting impacts on overall cultural and social wellbeing.

1.5 Our role in managing stormwater

Wellington Water manages the council-owned urban stormwater network¹⁰ that collects, conveys, and discharges stormwater on behalf of our client councils. This management includes the following roles:

- Obtaining and complying with regional consents for stormwater network discharges (the subject of this SMS) (discussed below)
- Carrying out works in the beds of some urban streams and channels, such as clearing channels to improve flows and protecting banks from erosion
- Processing applications for new or modified connections to the network (to support new and modified buildings)
- Engineering approval of extensions to the public networks (to support subdivision and new roads)
- Investigations, modelling, design and installation of network replacements, upgrades, and improvements
- Operations and maintenance of the existing public networks, including monitoring of discharges
- Data management
- Asset management, including providing recommendations to councils for funding to achieve the above and the required levels of service.

The connections and engineering approval of extensions role requires assessment under the Local Government Act (LGA), Building Act and Resource Management Act (RMA), depending on the proposal and where appropriate¹¹.

These assessments are based on councils' provision of a primary level of service comprised of pipes, formed drainage channels and soakage systems designed and managed to carry rainwater away from buildings and properties. The work also includes for the provision of a secondary level of service comprised of overland flow paths and along road surfaces to protect people and properties from the flood hazards from larger rain events.

Wellington Water is reliant on the provision of funding to undertake these activities on behalf of our client councils through the councils' Long Term Plan (LTP) processes. Wellington Water is involved in the LTP process by providing advice to the councils on the capital and operating expenditure anticipated to be needed to deliver on our role in managing the stormwater, water and wastewater networks and to meet customer expectations and regulatory requirements. The councils are ultimately responsible for determining how much of the recommended funding through the LTP is provided to Wellington Water.

Wellington Water also has the role of obtaining and complying with regional consents for the discharge of stormwater from the council-owned reticulated networks to provide improved water quality of stormwater discharges to the receiving waterbodies (streams, rivers, and coastal areas) (see Section 3 below). The SMS supports this role and supports the Stage 2 Global Stormwater Consent needed for the stormwater discharges from Porirua, Wellington, Hutt, and Upper Hutt City Councils (**Figure 1.2**)¹².

Wellington Water's role under Te Mana o te Wai is to work closely with our mana whenua partners, GWRC, Territorial Authorities, and other network providers to address stormwater management in new and existing urban areas. Our

¹⁰ The NRP defines "stormwater network" as - The network of devices designed to capture, detain, treat, transport and discharge stormwater, including but not limited to kerbs, intake structures, pipes, soak pits, sumps, swales and constructed ponds and wetlands, and that serves a road or more than one property.

¹¹ Not all connections can be assessed under the RMA, depending on the rules in the Regional and District Plans.

¹² Although Wellington Water also manages the stormwater networks owned by South Wairarapa District Council, the discharge consent for these networks do not currently require a SMS and therefore this SMS does not include this council area.

te Wai (NPS-FM, see section 2.2 below) and actively involve mana whenua. Furthermore, urban planning must facilitate growth in urban areas, while considering the impact of stormwater on the environment.

2.1 Natural Resources Plan for the Wellington Region

The requirements for the Stage 2 Global Stormwater Consent are specified in the Natural Resources Plan for the Wellington Region (NRP) which is the responsibility of GWRC. The NRP requires an application for resource consent for the discharge of stormwater from a local authority network to be supported by a SMS that is in accordance with Schedule N of the NRP (see Appendix B).

The provisions in the NRP that are of most relevance to this SMS and the Stage 2 Global Stormwater Consent for stormwater discharges are shown in **Figure 2.1**¹⁴.

In addition, as noted in Chapter 1.5 above, the management of the council-owned stormwater network must also be in accordance with the LGA. The LGA requires councils to meet the current and future needs of communities for good quality local infrastructure, including stormwater network services. This includes asset management responsibilities to plan for and report on what stormwater services will be provided, how much it will cost, and how stormwater assets will be managed.

As the Government is proposing significant changes for the provision of water services, , it should be noted that each reference to “Wellington Water” in this document, within reason, includes any successor water entity that may be established in place of Wellington Water in the future.

2.1.1 Whaitua Implementation Plans

Wellington Water acknowledges the extensive mahi completed by Whaitua Te Whanganui-a-Tara and Whaitua Te Awarua-o-Porirua. These committees, established by GWRC to inform the NRP, were tasked with recommending ways to maintain and improve the quality of our fresh water. Whaitua is the Māori word for space or catchment.

The Whanganui-a-Tara and Te Awarua-o-Porirua Whaitua committees led years of consultation, analysis, and information sourcing to issue the Whaitua Implementation Plans (WIPs) that contain recommendations for stormwater management in this region. Some of those recommendations will be incorporated into the NRP through future changes to the plan.

¹⁴ Addresses Schedule N(a) & N(b) of the NRP.



Figure 2.1 - Natural Resources Plan Regulatory Framework for this SMS. Objectives in the NRP are numbered starting with an "O" and Policies start with a "P".

2.2 Te Mana o te Wai¹⁵

Te Mana o te Wai recognises the vital importance of water and the special connection all New Zealanders have with freshwater. It distinguishes the relationship Māori have with wai / water to water management across Aotearoa New Zealand. It fundamentally and explicitly states that the health and wellbeing of wai is to be prioritised first, through a hierarchy of obligations (shown in **Figure 2.2** below). Te Mana o te Wai ensures that mana whenua responsibilities and interests in water management are voiced, heard and acted upon. Through the role of Mana Whenua in the Collaborative Committee, this will give effect to the requirements of Te Mana o te Wai.



Figure 2.2 - The hierarchy of obligations (from NPS-FM, 2020)

Past stormwater management has not been so deliberately relationship focussed and, therefore, has not considered the wellbeing of the water. Te Mana o te Wai is there to renew our relationship with wai/water.

Table 2.1 sets out the Te Mana o te Wai principles that support decision making for this SMS. The principles unite Māori and non-Māori in their roles to care for our waterways in a partnered approach. It is for us all to have the space to prioritise the health and well-being of water and as water is the life of all things, the benefits will be experienced by all – now, and future generations.

Table 2.1 - Water management roles of mana whenua and non-Māori (from NPS-FM, 2020)

Principle	Explanation	Principle	Explanation
Mana whakahaere	power, authority, and obligations of tangata whenua to make decisions that maintain, protect, and sustain the health and well-being of, and their relationship with, freshwater.	Governance	responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future.
Kaitiakitanga	obligation of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations.	Stewardship	obligation of all New Zealanders to manage freshwater in a way that sustains present and future generations.
Manaakitanga	process by which tangata whenua show respect, generosity, and care for freshwater and for others.	Care and respect	responsibility of all New Zealanders to care for freshwater in providing for the health of the nation.

¹⁵ This Strategy was not written by mana whenua. This section was written with the learnings from current publicly available information, to support the capability to engage with mana whenua partners of Ngāti Toa and Taranaki Whānui ki te Ūpoko o te Ika.

Mana whenua are central to the achievement of Te Mana o te Wai and therefore central to the implementation of the SMS. Wellington Water’s mana whenua partners, are:

- Ngāti Toa represented by Te Rūnanga o Toa Rangitira
- Taranaki Whānui ki te Ūpoko o te Ika a Maui represented by Port Nicholson Block Settlement Trust.

As reported in our Statement of Intent (2021 – 2024) ¹⁶, Wellington Water is on a journey to transform water in the region from Hangarua (its current altered state) to Te Ika Rō Wai (a pure form of water that you would expect to find in the head of Maui’s fish). This transformation requires a healthy environment and work by those who live in and care for it.

It will be a joint effort by community, mana whenua, district and city councils, GWRC and Wellington Water.

2.3 Compliance with the SMS

Implementing this SMS will include several aspects of compliance associated with the Stage 2 Global Stormwater Consent. We are continuing to develop our thinking in this space and will provide clarity in a later version of this SMS, prior to the hearing for the consent.

In general, this SMS is designed to result in new and expanded programmes of work associated with the management of the public stormwater network, which will require funding and investment by the asset owner to be obtained. This SMS itself cannot guarantee this funding. However, this SMS proposes a Collaborative Committee that will support securing appropriate funding (see Chapter 6).

In most cases, but not all, the SMS framework for private urban development and existing land uses are given effect to by provisions under the RMA (through rules in the NRP) or by provisions under the Local Government Act (LGA), including through bylaws and codes of practice. This is illustrated in **Figure 2.3**.

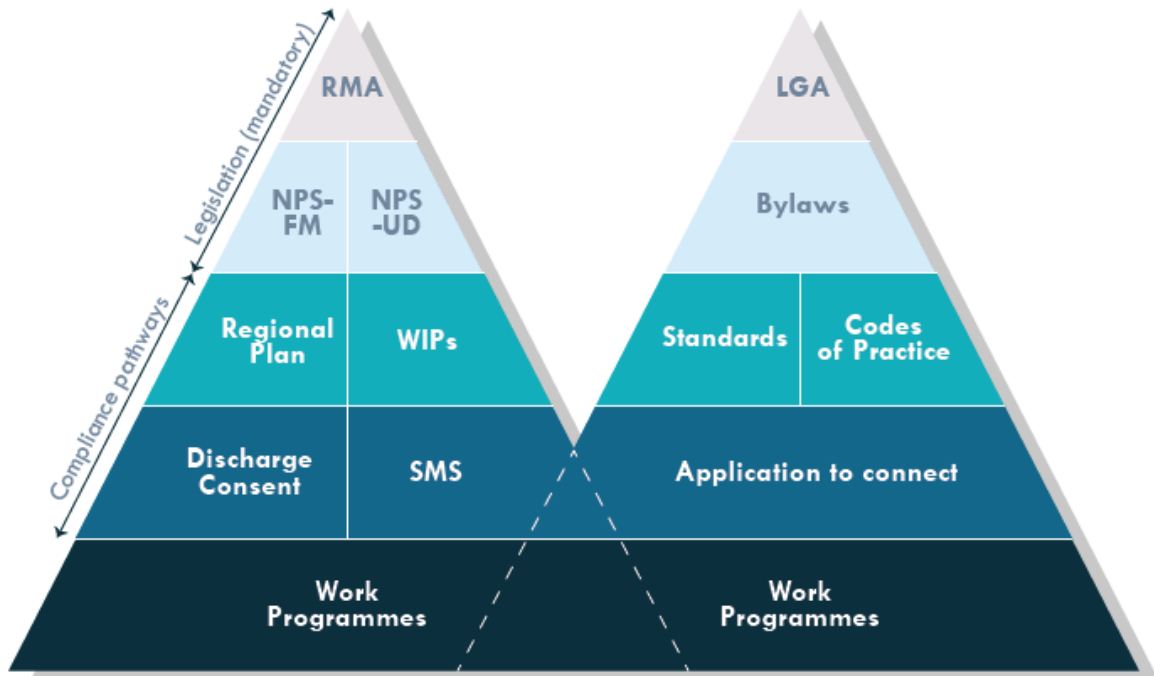


Figure 2.3 - Giving effect to this SMS under the RMA and LGA

¹⁶ Our Water, Our Future: Wellington Water Statement of Intent 2021-2024

2.4 What's in and what's out

The SMS sets out stormwater management actions that, with appropriate funding, will be undertaken in playing our part in supporting the community improve the wellbeing of our streams, rivers, and harbours. It is proposed to focus specifically on the reduction of the contaminants within discharges from the stormwater network, such as:

- *E. coli* (in freshwater) or Enterococci (in coastal water) (as a bacterial indicator of wastewater- this is largely intended to be addressed through actions in the Wastewater Network Overflow consent) – see Appendix C.
- Nutrients (which promote algal growth)
- Heavy metals (copper and zinc) (which are toxic to aquatic life), used as a proxy for hydrocarbons
- Sediment from surface wash-off (and which are bound to heavy metals and other urban contaminants)
- Stream scour (erosion and stream downcutting)
- Gross pollutants (litter and particles larger than 5 mm).

In keeping with an integrated catchment management approach, it also supports other activities to improve the state of our waterways.

Specifically, the following are excluded from the Stage 2 Global Stormwater Consent and from this SMS, as they are subject to their own regulatory processes, controls, and measures:

- Leachate from decommissioned and operational landfills
- Sediment generated through bulk earthworks and construction
- Flood management, other than managing increased flooding from urban surfaces and its impact on scour and erosion within waterways associated with network discharges
- Wastewater overflows from the public wastewater network (see Appendix C), other than integrated investigations associated with stormwater discharges.

Although surface water and river flood management are not in the scope of the SMS, Wellington Water will be looking to apply an integrated approach, when appropriate, to ensure that flood management and water quality matters are looked at holistically.

The management of untreated wastewater overflows from the public wastewater network into the stormwater network will primarily be consented through the Wastewater Network Overflow consent(s), although the SMS has several work programmes that are integrated with this important work. This SMS includes addressing private cross-connections through the Operations and Maintenance work programme.

3 Journey to wai ora

This whakataukī ('proverb') describes the journey to wai ora (healthy water) requires us to understand how stormwater has been managed in the past and present to help guide us as we look forward.

*Kia whakatōmuri te haere whakamua.
I walk backwards into the future with my eyes fixed on my past.*

Water quality needs to be improved but it will take time. It could be another 100 years before our waterways are restored to the levels sought by our communities. Mana whenua provide a guide for this, setting the framework for wai ora¹⁷ by shifting our relationship from “managing water” to “healing water” and supporting the creation of a

¹⁷As identified in the Te Whaitua te Whanganui-a-Tara Implementation Programme 2021

pathway of short-to-medium term steps. Steps beyond these 100 years have been left for the next generation to determine, so they can reflect on their own aspirations.

3.1 Ka mua | Looking Back

Over generations, water and stormwater management has changed significantly. Water helped shape and create our landforms and once enabled us to gather food, seek shelter and settle. The region was cloaked in abundant forests, supporting natural freshwater environments such as streams, rivers, and wetlands out through into the harbours and coastal margins. The state of wai ora enabled people to thrive across the region.

Unfortunately, in the past 150 years there has been a pattern of water quality degradation. An influx of non-Māori settlers challenged and changed land ownership and traditional water relationships, economic wellbeing, in the form of urban development, became the priority across the region. Our region’s water quality was impacted by point discharges and runoff of stormwater from urban development. Forests were cleared, streams (such as the Pipitea Stream, Waimapihi (Te Aro) Stream, Porirua Stream and Waiwhetu Stream) were piped, rivers channelised and the coastal estuary reclaimed to provide land for development.

Brown R. K. (2009) identified how urban environments have transitioned over time and presented an aspirational view, referred to as the Water Sensitive City, for supporting the journey to wai ora, as illustrated in **Figure 3.1**.

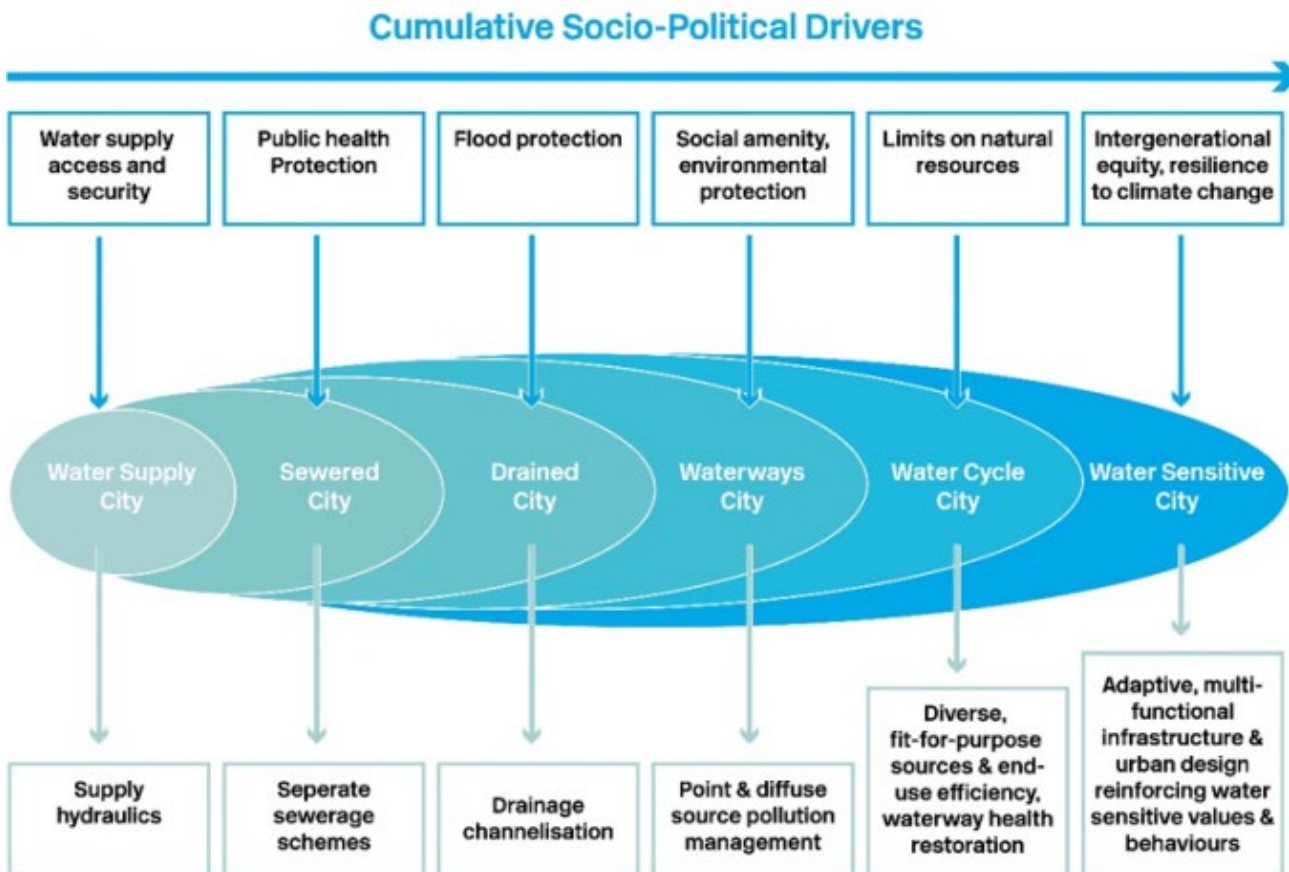


Figure 3.1 - Water Sensitive Cities framework: the urban water transition phases (Brown R.K., 2009)

Water Supply and Sewered City era: In the early parts of this century the focus was driven by the need to deliver safe drinking water, remove sewage, and drain land to enable development to take place.

Drained City era: Stormwater was something to be disposed of to reduce the risk of flooding, resulting in the construction of drains and channels. Areas were often piped to take stormwater from agricultural and urban areas and transport it to waterways or directly to the bays.

Throughout the mid-20th century, the awareness of environmental impacts on our waterbodies and the approaches to manage this was questioned. During this time, Wellington's urban settlements were still served by methods to dispose of stormwater rapidly. Discharging contaminants to water environments was a matter of significance in early Waitangi Tribunal claims during the 1970s and 1980s, leading to changes in national legislation, through the Resource Management Act in 1991.

The era of the **Waterways City**: Over the latter part of the twentieth century, scrutiny on the impacts of urbanisation on our water environments increased and the need for central government policy on freshwater quality became apparent. This gap was filled in 2011¹⁸. This enabled a new focus where community awareness and pressure pushed thinking towards integrating urban planning and stormwater management.

The beginning of the past decade saw an increasing awareness and slow adoption of water sensitive design approaches across the region, and an increasing awareness of the impacts of stormwater flows on environmental values, highlighting the journey that we are currently on, with the emergence of the **Water Cycle City** era, where we collaboratively focus on targeting our efforts towards understanding and remedying existing point source and diffuse source pollution.

The potential for producing **Water Sensitive Cities** and resilient communities through Water Sensitive Design (WSD), is aligned to the aspirations of Māori for water environments across Aotearoa New Zealand (Afoa, 2019). The four key principles of the WSD philosophy, as described in Auckland Council's technical guidance document GD04 (Lewis et al, 2015) are:

- Promote inter-disciplinary planning and design process
- Protect and enhance the values and functions of natural ecosystems
- Address stormwater effects as close to source as possible
- Mimic natural systems and processes for stormwater management.

3.2 Ināiane | At present

Some coastal areas, rivers, and streams are adversely affected by discharges from urban land use, stormwater, and wastewater overflows.

3.2.1 Global Stormwater Discharge Consents

Monitoring undertaken as a requirement of the short-term Stage 1 Global Stormwater Consent has improved our understanding of the water quality across the region and the impact of stormwater discharges. In general, monitoring¹⁹ indicates most of our urban streams have poor water quality with regards to *E. coli*, copper, zinc, and nutrients.

The Assessment of Environmental Effects as part of the Stage 2 Global Stormwater Consent identifies, quantifies and evaluates the current impacts of stormwater discharges on the environment. It includes a description of the receiving waterbodies, assignment of values associated with the receiving waterbodies, a description the discharge of stormwater from local authority stormwater networks, and an assessment of current effects of stormwater discharges on the environment. This SMS represents our response to the adverse effects from stormwater discharges that are identified in the Assessment of Environmental Effects.

¹⁸ The National Policy Statement for Freshwater (NPS-FM) introduced in 2011. Updated and replaced in 2014 and amended in 2017. The NPS-FM was further updated in 2020 – replacing these previous versions.

¹⁹ Stormwater Monitoring Plan Annual Report 2020-2021

3.2.2 Our Catchments

This SMS supports stormwater management for water quality in three major catchments in the Wellington Region - Te Whanganui-a-Tara | Wellington Harbour²⁰ Te Awarua-o-Porirua Harbour and Te Moana-o-Raukawa | Cook Strait. Although these catchments include rural areas outside of the main urban centres of the Hutt Valley, Porirua, and Wellington, this SMS focuses on stormwater network discharges that drain the urban areas.

For the Stage 1 Global Stormwater Consent, 38 stormwater sub-catchments (three of these have no stormwater network) were identified based on the receiving waterbodies and the urban stormwater reticulation network, as shown in the online ArcGIS [StoryMap](#) and in Appendix D.

Detail of the existing condition and the likely future pressures in regard to urban land use that can affect the water quality of stormwater discharges²¹ in each of the sub-catchments is provided in the online [StoryMap](#). These characteristics have responded to the requirements of Schedule N of the NRP as listed in Appendix B.

It is important to note that some specific information on catchment characteristics, localised effects and stormwater quality management options will be produced as stormwater discharge SCaMPs following prioritisation of catchments, investigation, modelling, and consultation. Further details of stormwater discharge SCaMPs are included in Chapter 5.

Catchment v Sub-catchment

A catchment is a basin shaped area of land often bounded by hills or mountains. Rainwater that falls on a catchment is collected naturally in streams and channels where it flows to a common outlet, such as a river or ocean. Reticulated networks that collect rainwater don't always follow surface features and therefore reticulated urban stormwater networks and their outlets can also be used to define catchment boundaries.

The distinction between a 'catchment' and a 'sub-catchment' is a management decision. Every catchment can be geographically divided into numerous smaller sub-catchments. For this SMS, a sub-catchment is a geographically defined management unit.

3.3 Ka muri | Looking Forward

*Ehara taku toa i te toa takitahi, engari he toa takitini
Success is not the work of an individual, but that of many.*

Te Mahere Wai-o-Kahui Taiao includes a vision for Te Whaitua te Whanganui-a-Tara Implementation Programme from both Taranaki Whānui and Ngāti Toa states that the 'long term vision is for all waterways in Wellington, Lower Hutt and Upper Hutt to be restored to a state of wai ora within 100 years.'²²

Ngāti Toa's vision for Te Awarua-o-Porirua Whaitua is captured in the Ngāti Toa Rangatira Whaitua Statement²³, 'That the mauri of Te Awarua-o-Porirua is restored, and its waters are healthy so that all those that live in the region,

²⁰ Te Whanganui a Tara means "is the great harbour of Tara" in te reo Māori. This is one of the names of this area and was named after the tupuna (ancestor) Tara. Other names this area is referred to are 'Te Ūpoko o te Ika a Māui' 'the head of Māui's fish' and 'Pōneke' referring to Port Nicholson. In te reo Pākehā (the English language) it is referred to as Wellington after the first Duke of Wellington settled in 1840.

²¹ Addresses Schedule N(e).

²² Te Kāhui Taiao. (2021). Te Mahere Wai o Te Kāhui Taiao. Wellington.

²³ Te Awarua-o-Porirua Whaitua Committee. (2019)Te Awarua-o-Porirua Whaitua Implementation Programme: Ngāti Toa Rangatira Statement

including Ngāti Toa and our manuhiri, can enjoy, live and play in our environment and future generations are sustained, physically and culturally.'

Both Whaitua committees for the Wellington Region (Whanganui-a-Tara and Te Awarua-o-Porirua) describe the vision for stormwater management to be one that achieves a state of wai ora (healthy water) and restoration of the mauri of our waterways. This SMS aims to honour these visions by defining that this is where we are heading, our journey to wai ora.

The collaborative journey to wai ora will help us achieve the regional transition of our urban centres to becoming a **Water Sensitive City**, as shown in **Figure 3.1**. It has taken us over 100 years to degrade our waterways and it will take many years of collaboration before we see an obvious improvement. Wellington Water will work with mana whenua, our partners, stakeholders, and wider communities as we embark on our intergenerational journey towards healthy waterways and harbours over the next 70 to 100 years.

4 Objectives and Principles

This SMS identifies three objectives and three principles (**Figure 4.1**). These will guide the management of stormwater discharges for water quality over the life of the Stage 2 Global Stormwater Consent to help us measure our progress towards achieving the vision of this SMS.

4.1 Objectives

The three objectives²⁴ that will guide our decision making are described below.

4.1.1 Aquatic ecosystem health, biodiversity and mahinga kai

This objective is to *“safeguard biodiversity, aquatic health and mahinga kai”*²⁵. We will contribute to the protection and enhancement of aquatic ecosystems by reducing the impacts of stormwater discharged into the waterways, harbours and coastal environments. To support this objective the following will be incorporated into the implementation of this SMS:

- Improve the water quality of stormwater network discharges,
- Support the maintenance and restoration of fish passage at stormwater outlets, as appropriate,
- Support the principles of WSD for all new development, and
- Support the minimisation of stream modification and loss of natural streams.

4.1.2 Māori Customary Uses & Contact Recreation

Healthy waterways are important sources of wellbeing for communities. People want to be able to enjoy our beaches, rivers, streams, and the natural environment. Implementing the SMS will support waterbodies and harbours that are *“suitable for contact recreation and Māori customary uses”*²⁶.

Our mana whenua partners’ te Ao Māori (world view) approach embodies this holistic perception, and by partnering with mana whenua we, as a steward, will support them in their role as kaitiaki (guardians) of the water bodies in the region. The concept of te mana o te mauri o te wai (the spiritual values of the water) recognises the life-supporting capacity of water.

We aim to uphold these values and align our work to achieve te hauora o te wai (the health and wellbeing of water), te hauora o te tāngata (the health and wellbeing of people), and te hauora o te taiao (the health and wellbeing of the environment). To support this objective the following will be incorporated into the implementation of this SMS:

- Prioritise the principles of Te Mana o te Wai,
- Work in genuine partnership and build capability and capacity with mana whenua, and
- Work across our stormwater and wastewater network programmes to reduce wastewater contamination of our waterbodies.

4.1.3 Sustainable Growth

This SMS supports **well-functioning urban environments**²⁷ while enhancing and protecting the mauri of our waterways and harbours. Implementing this SMS will support sustainable growth through the following actions:

- Plan, cost and deliver infrastructure assets to meet future stormwater requirements for the growing region, supporting the aspirations to deliver ‘better growth’ through the NPS-UD.

²⁴ As required by Schedule N

²⁵ In alignment with Objective O19 of the NRP

²⁶ In alignment with Objective O18 of the NRP.

²⁷ In alignment with the NPS-UD

- Provide clear guidance on catchment specific stormwater discharge requirements in new growth areas where sites are greater than 3,000m² (stormwater discharge SCAmps).
- Establish good working relationships with the development community to support the development of rules, requirements and supporting the understanding and implementation of best practice stormwater management.
- Minimise contaminant loads through education, integrated planning, and provision of infrastructure which is essential for promoting sustainable growth and development.
- Align with management approaches to reduce flood risks during implementation of WSD solutions.

Vision Statement: Our region treasures its water. Our streams and harbours are healthy and suitable for contact recreation and Māori customary use. Our drinking water is safe and secure, our networks are resilient, our growing cities are water sensitive, and we are prepared for a changing climate. Water is at the core of how we plan and grow our cities

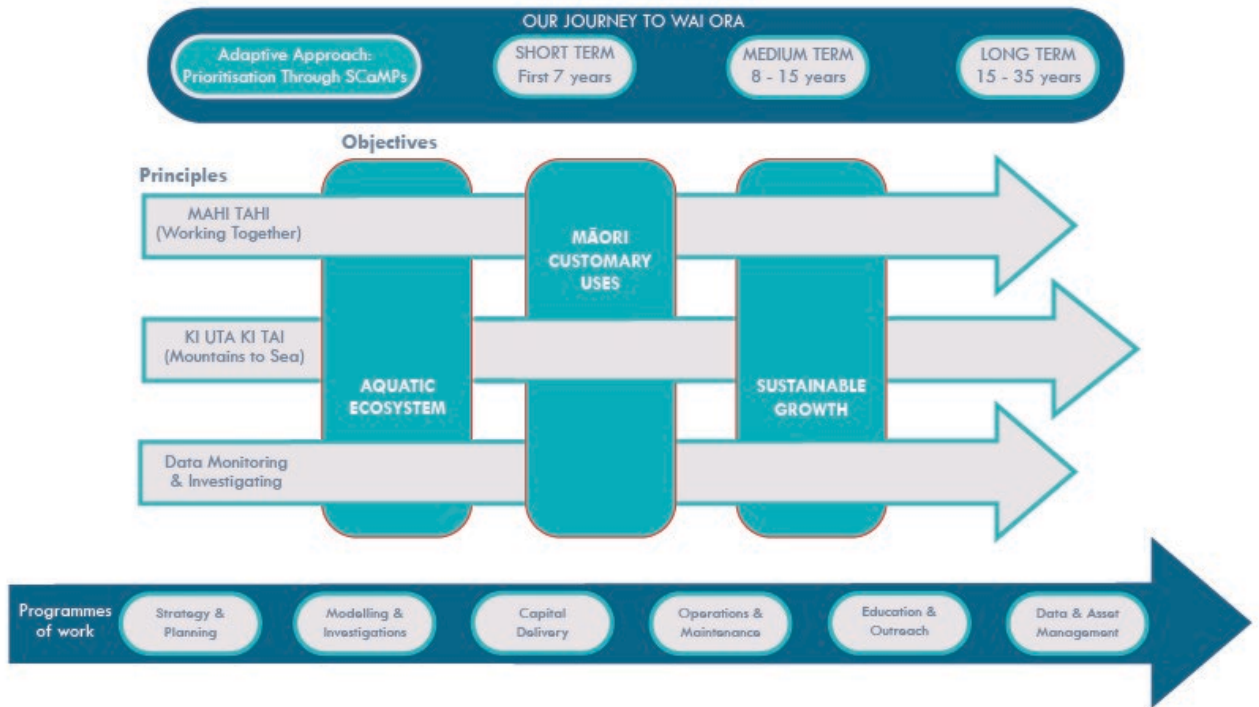


Figure 4.1 - Objectives and Principles of this SMS to guide us on our journey to wai ora and achieving our vision.

4.2 Principles

Three key principles will bind our work programme moving forward.

4.2.1 Mahi Tahi / working together

The first key principle is Mahi Tahi or working together. This involves improving the connectivity between our communities and stormwater. Examples where Mahi Tahi will guide us include working with:

- Council Roding, Parks, Waste Minimisation and Planning departments, on the installation, operation and maintenance of water quality devices and green infrastructure,
- Council building officers who manage building site sediment,
- GWRC to support the development of a regional stormwater contaminant model to report on urban and rural water quality, track changes from installing water quality devices and rule-based and voluntary actions, and test the benefits and costs of proposed solutions,
- The development industry to promote best management practices, and
- Mana whenua and communities to support and implement monitoring and restoration programmes.

Mahi Tahi and establishing and maintaining genuine partnerships with others in all that we do, sharing knowledge and building capacity, and communicating outcomes will be critical for successful implementation of this SMS and our approach is captured in the governance chapter (Chapter 6).

4.2.2 Ki Uta ki Tai (Mountains to the Sea)

Ki Uta ki Tai (translated as mountains to sea) acknowledges that everything is connected. It acknowledges the connections between people and communities, people and the land, and people and water.

This highlights the need to manage stormwater quality through an Integrated Catchment Management approach and to enable good outcomes (such as through the Water Sensitive Design) to be implemented into new and existing development. This will be particularly important as council networks become further pressured through ageing assets, growth, sea level rise and a changing climate.

This SMS shares how integrated catchment management will be supported. The detailed focus on stormwater discharge quality, referenced in this SMS, is used to support the broader focus of integrated catchment management²⁸. An integrated catchment management approach aims to improve water quality, reduce flooding and erosion and enhance the ecological health of the catchment. Integrated catchment management seeks to promote sustainable and resilient stormwater management practices.

4.2.3 Adaptive management informed through monitoring, investigations, and research

An adaptive management approach to implementation will help us respond to change and uncertainty. Reorienting the Water Industry to place greater priority on urban stormwater management, around aquatic ecosystem health and around Māori customary values, will require curiosity, innovation, and the courage to embrace lessons from both successes and failures.

Learning together and sharing lessons learned through demonstration projects and supporting partnerships with mana whenua, all levels of government, business, industry, academia, the voluntary sector, and others will enable us to:

- build collective capacity,

²⁸ *Integrated catchment management in relation to stormwater refers to a comprehensive approach that uses a catchment perspective for the provision of water services (drinking water, wastewater, and stormwater) in an integrated manner, in contrast to a piecemeal approach.*

- understand barriers and opportunities, and
- learn from, and adjust, programmes as they are implemented.

This principle relies on monitoring, including mātauranga Māori, investigations, and research, which will:

- inform us on the success of our interventions and support identification of possible issues requiring future projects or management actions,
- address knowledge gaps and assist strategic and policy development and direction.

However, it is difficult for monitoring to identify direct correlations between stormwater discharges and the health of the waterbodies. This is due to many reasons, such as:

- concentrations of contaminants in stormwater vary depending on when the sample is taken,
- water quality is also affected by rural runoff,
- people illegally discharging pollutants directly into storm drains (such as oil and paint tipping),
- complex interactions of ecological variables mean it is hard to identify a single cause and effect relationship include more than just water quality (such as sunlight, recruitment, and habitat quality).

Therefore, successful monitoring must be coupled with modelling and investigations.

To support progressive improvement over time, we will use an adaptive management approach to re-prioritise catchments for investigations and stormwater discharge SCaMP development, as shown in **Figure 4.2**. This will follow on from our prioritisation process discussed in Chapter 5.2.

It is anticipated that this review will occur on a six-yearly cycle.

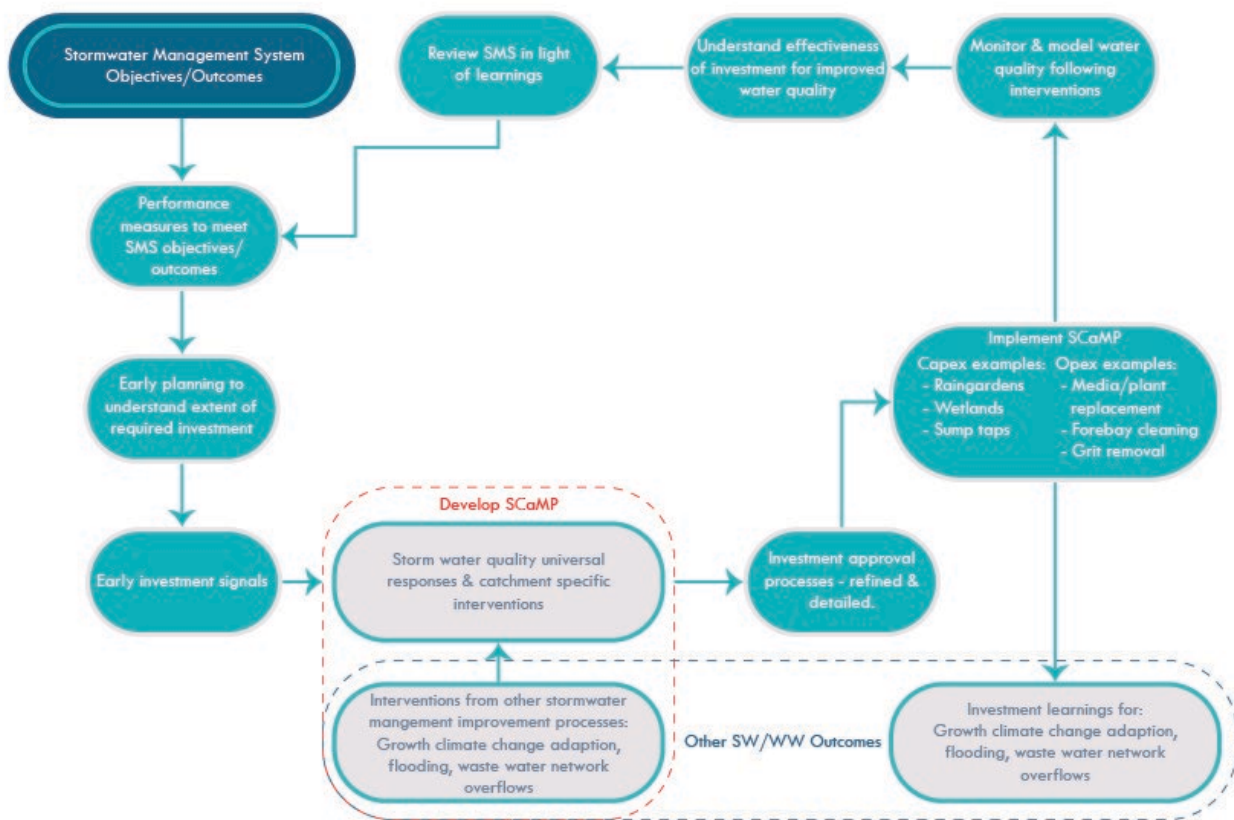


Figure 4.2 - Adaptive management is an important part of the investment, implementation, and review cycle.

5 Responses – Two Workstreams

The Objectives and Principles, discussed in Chapter 4, will guide implementation of two new targeted workstreams concurrently, as shown in **Table 5.1**. To overcome potential challenges and make the most of the opportunities, a combination of these workstreams are proposed to be used to improve stormwater network discharges in partnership with a wider integrated catchment management approach and community efforts to support better waterway outcomes.

Table 5.1 - Two workstreams of this SMS.

Workstream 1: Universal responses & programmes for Water Quality outcomes					
<i>For new developments</i>	<i>Site-specific SCaMPs for sites >3,000m²</i>	<i>No new exposed copper or zinc cladding</i>	<i>Gross pollutant traps</i>	<i>Hydraulic neutrality</i>	
<i>Existing Networks Programmes</i>	<i>Strategy and planning</i>	<i>Modelling & investigations</i>	<i>Operations and maintenance (including monitoring and acute human health risk investigations)</i>	<i>Education and outreach</i>	<i>Data and asset management</i>
Workstream 2: SCaMPs and resulting Capital Improvements					
<i>Activities</i>	<i>Prioritisation</i>	<i>SCaMP Delivery</i>	<i>Capital delivery of improvements</i>		

Through the Collaborative Committee as outlined in Chapter 6, we will work with mana whenua to reframe these identified work programmes on a regular basis. This will enable mana whenua to practice mana whakahaere and the next generation to become kaitiaki and help the community act in ways that care for water.

To support the delivery of progressive improvement over the length of the Stage 2 Global Stormwater Consent²⁹, the work programmes within Workstream 1 and Workstream 2 (Chapter 5.1 and 5.2) will be staged over the short-, medium- and long-term timeframes outlined in **Table 5.2** below.

Table 5.2 – Staging of the implementation of Workstream 1 and Workstream 2 over the short-, medium- and long-term.

Period	Years	
Short	To 2030	Includes requirements for new connections to the network under the Universal Responses, a revised focus on on-going activities and initiation and planning of new and expanded programmes to manage stormwater discharges, focused towards: <ul style="list-style-type: none"> • New connections to the stormwater network addressing water quality. • Establishing a Collaborative Committee for the water quality programme to support continued focus on delivery of improvements.

²⁹ See Policy P86 in the NRP

		<ul style="list-style-type: none"> Ongoing activities that include continued monitoring, management of sites where there are acute adverse effects, and ‘opportunistic’ infrastructure improvements during routine maintenance, renewal, or upgrade works³⁰. Review and update of the Stormwater Monitoring Plan <p>Development of new and expanded programmes, including additional targeted water quality modelling, investigations of waterways, audits of high-risk sites for stormwater contamination and the development of the first set of stormwater discharge SCaMPs.</p>
Medium and Long	2030 to 2058	Includes design and delivery of stormwater treatment devices identified in the first stormwater discharge SCaMPs, development of the next set of stormwater discharge SCaMPs, and the on-going delivery and review of all implementation programmes associated with Workstream 1 and Workstream 2, as influenced through the Collaborative Committee.

The timing to achieve the various activities will depend on agreement on priorities and the availability of resources. Resourcing is fundamental to implementation. Some activities will be completed from existing resources or their realignment, while other actions are subject to future budget decisions. The Collaborative Committee (Chapter 6) will identify and drive the investment required to support these work programmes.

This will allow the Collaborative Committee, working with the wider community, to prioritise actions related to stormwater management. Effective stormwater planning and management will provide significant long-term cost savings while helping to achieve this SMS’s three objectives of **Aquatic Ecosystem Health**, **Māori Customary Uses & Recreational Contact** and **Sustainable Growth**.

5.1 Workstream 1: Universal responses & programmes for water quality outcomes

The intent of Workstream 1 is to maintain the state of our waterways³¹ and prevent further deterioration from the adverse impacts of stormwater discharges. Additionally, Workstream 1 undertakes programmes of activity to investigate, characterise and prioritise our catchments for Workstream 2 SCaMP delivery.

5.1.1 Universal responses for new development

In our supporting role, of approving new connections to the public stormwater network (see Chapter 2.3), we are seeking to prevent further degradation of our waterways through minimising sources of contamination and managing the effects of additional flow and volume from the public stormwater network.

We will require all new urban development not covered by a stormwater discharge SCaMP to deliver on a set of stormwater mitigations referred to as Universal Responses. Universal Responses (U.R) for new development and subdivisions will be required for approval to connect to the public stormwater network under the RMA, the LGA and through stormwater bylaws as outlined in Chapter 2.3 and through Figure 2.3.

The greatest opportunities available to achieve our journey to wai ora are those associated with development and regeneration. It is more cost-effective to design new developments with appropriate stormwater management than to retrofit existing urban areas. To address this, Workstream 1 would require all new developments and redevelopments on sites greater than 3,000 m³² to have a stormwater discharge SCaMP (if they are not already covered by an approved sub-catchment scale SCaMP), focused on using WSD principles, as shown in **Figure 5.1** below. This illustrates how Workstream 1 includes stormwater mitigations specific to smaller developments in areas not covered by the requirements of an approved stormwater discharge SCaMP³³.

³⁰ See Policy P83 in the NRP

³¹ from Addressing Schedule N(h) in the NRP

³² Consistent with the lower limits of Rule R49 of the NRP

³³ Addresses Schedule N(i) in the NRP.

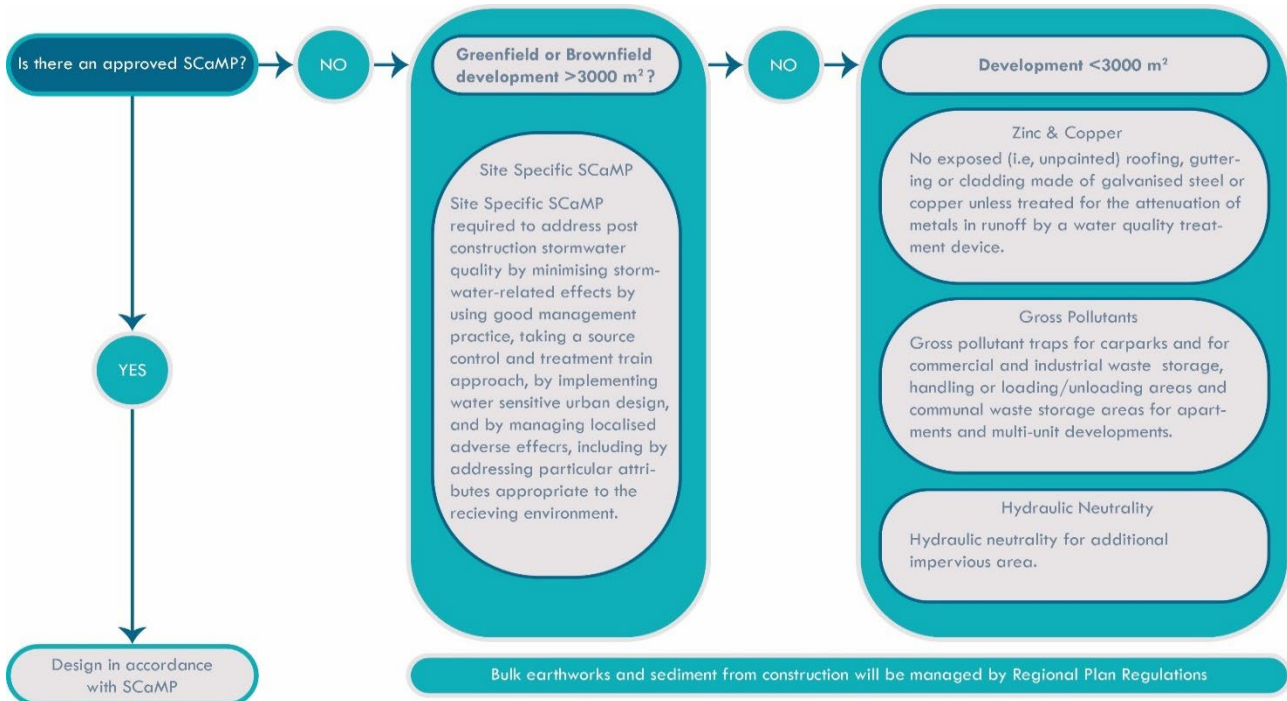


Figure 5.1 - Universal Responses required for new developments in areas not covered by an approved stormwater discharge SCaMP.

5.1.1.1 Site-specific stormwater discharge SCaMPs

Workstream 1 U.R’s for developments (greenfield and brownfield) on sites of 3,000 m² (or greater) would require a site-specific SCaMP to be created. This intends to minimise the stormwater-related effects of development to the public and private stormwater network applying:

- good management practices,
- source control and treatment train approach, and
- water sensitive design³⁴.

Implementation of the stormwater discharge SCaMP activities and mitigations must be in place prior to the development discharging to the public stormwater network.

The SMS prioritises the need to reduce scour and streambank erosion resulting from the increased frequency of lower intensity flood events (e.g., the 2-year rainfall event³⁵). These effects are a common outcome of increased imperviousness associated with urban development. Our approach to mitigate this will be through either:

- greenfield and brownfield stormwater discharge SCaMPs as part of the Universal Response,
- responding to the requirements identified within an existing sub-catchment stormwater discharge SCaMP developed through Workstream 2.

5.1.1.2 Mitigations for smaller developments

Under Workstream 1, Universal Responses for new development and smaller subdivisions focus on avoiding or minimising the generation of zinc and copper in the stormwater runoff, litter such as plastics and construction debris

³⁴ As referenced in Policy P83 of the NRP

³⁵ TR2013/035 Auckland Unitary Plan stormwater management provisions: The natural stream channel ‘bank full’ is approximately up to the 2-year ARI rainfall event, so events up to and including these events have the most impact on stream erosion and in-stream habitat, in part due to the frequency of occurrence.

and stormwater flows that would increase risk to human health or safety, or increase the risk of inundation, erosion, or damage downstream³⁶.

Hydraulic neutrality to mitigate for peak flows is an existing requirement³⁷ for new developments and subdivisions and is included in the suite of Universal Responses. Hydraulic neutrality, as defined in the Regional Standard for Water Services (RSWS), focuses on capturing the additional peak stormwater that is generated during rain events and then slowly releasing it to reduce peak flooding in downstream areas. We recognise that further work is needed in this space to capture emerging good practice, and we have identified activities within Section 5.1.2.

It is anticipated that this set of mitigations will incorporate additional or refined aspects of WSD as new and expanded work programmes developed over the short, medium, and long-term are completed.

Auckland Regionwide Stormwater Network Discharge Consent

Auckland's regionwide Network Discharge Consent (NDC) replaces 116 different consents and multiple authorisations with a single consent containing a comprehensive set of requirements for use across all of Auckland. This means that instead of getting a private discharge and diversion consent, developers can use the council's consent provided they meet the NDC requirements and with council's approval.

Auckland's Schedule 4 Connection Requirements for their regionwide stormwater network discharge consent supports the use of "universal responses".

5.1.2 Programmes for water quality outcomes

To support the delivery of our commitments in line with the Schedule N requirements of the NRP, we have defined five programmes that we are seeking to continue, refine and enhance over the next 35 years. These would work in concert with Workstream 2 to prioritise, plan and deliver a series of capital improvements across the existing networks. These major proposed programmes are shown below in **Figure 5.2**.

These proposed programmes are scheduled to occur within short, medium, and long-term timeframes, as described above. In some instances, Workstream 2 requirements will supersede Workstream 1 outputs. Capital delivery under Workstream 2 includes the development of stormwater discharge SCaMPs which will require specific stormwater quality mitigations replacing Universal Responses in Workstream 1.

³⁶ As referenced in Policy P84 of the NRP

³⁷ As identified in the Regional Standard for Water Services



Figure 5.2 - The programmes of work to help achieve stormwater quality outcomes.

5.1.2.1 Strategy and Planning

A key requirement of this work programme is to support the Collaborative Committee to implement this SMS (see Chapter 6). This work programme is critical to setting up and managing activities that involve working with others (the principle of Mahi Tahī), a non-exhaustive list examples of which are shared in **Table 5.3**.

We need to be adaptive, flexible and open to changes in management approaches as new knowledge or information becomes available. This allows us to continually learn and improve our management approaches. It is based on the principle of continuous improvement and includes planning, implementation, monitoring, and evaluation and reporting, which will be run through the Collaborative Committee.

Evaluating this information and sharing the outcomes of the programme within Wellington Water with our partners and the community helps promote effective collaboration for collective action.

Table 5.3 - Programme of work – predominant activity – Strategy & Planning

Period	Years	Predominant Activities
Short	To 2030	Collaborative Committee – Set up and start the process for co-governance of this SMS and Water Quality enhancement programme – to build strong resilient relationships with mana whenua and key stakeholders.
		Setting up Service Level Agreements for the design, approval, and operation of public stormwater treatment devices in the road corridor or in parks reserves

		Working with others to identify and implement new policies and regulations and design guidance relating to stormwater management
		First update to SMS after 6 years.
		“Leading by example” by revising requirements for stormwater quality associated with fleet vehicles and depot yards
		Integrating SMS across other strategies within Wellington Water
Mid	2030 - 2040	Continuation and improvement of above activities
		Further updates to the SMS
Long	To 2058	Continuation and improvement of above activities
		Further updates to the SMS

5.1.2.2 Modelling and Investigations

One of our key priorities is to develop effective multi-benefit management solutions through comprehensive and focused modelling and investigations.

Conceptual models, such as contaminated load models are used to capture the relationships between values and threats and assess our assumptions about the improvements we expect from certain management activities. This helps us understand how our activities can contribute to improved discharges to support progressively improving the health of our waterways and public safety. This programme:

- Allows us to measure changes in the condition of waterways and the values they support.
- Informs us of the success of our interventions.
- Tests and further develops the assumptions underpinning our strategic approach.

Knowledge generated by modelling and investigations informs:

- Strategic planning, such as strategy development, works prioritisation and planning, and asset management systems.
- Delivery of actions and programs.

Activities associated with this work programme are shown in **Table 5.4**.

Table 5.4 – Programme of work – predominant activity – Modelling & Investigations

Period	Years	Predominant Activities
Short	To 2030	Modelling & Investigations – activities to support programme delivery (including Workstream 2), refining monitoring & investment programme.
		Review and refinement of the Stormwater Monitoring Plan
		Establish research partnerships to support development of trials and capture and test innovative solution developments.

		Develop programme of aquatic habitat and watercourse assessments, incorporating mātauranga Māori monitoring needs.
Mid	2030 - 2040	Ongoing modelling to support stormwater discharge SCaMPs – informed from prioritisation approach
		Continued programme of waterway investigations to support review requirements.
		Capture and report on outcomes and programme level evaluations
Long	To 2058	Ongoing modelling to support stormwater discharge SCaMPs – informed from prioritisation approach
		Continued programme of waterway investigations to support review requirements.
		Capture and report on outcomes and programme level evaluations

5.1.2.3 Operations and Maintenance

This enhanced work programme includes monitoring and supports new activities such as mātauranga Māori monitoring for stormwater discharges. This work programme also delivers the maintenance activities needed to keep existing water quality devices in working order. To ensure the monitoring and maintenance requirements are sustained, registers and databases must be expanded or established to capture works and inspections to meet Service Level Agreements with council roading and parks departments.

This work programme is tightly integrated with routine works in the beds of streams, new and expanded opportunities to work with mana whenua on mātauranga Māori and riparian rehabilitation, community group restoration and citizen science projects. New capital assets delivered in Workstream 2 will require additional resourcing (funding and staff effort) that will be delivered through this work programme. This is designed to support and maintain the design level of performance expected from the new assets.

It is also integrated with works to identify and respond to sites with acute human health risks from wastewater in stormwater (discussed in the subsection below), industrial site health checks and trade waste programmes and council waste minimisation programmes associated with reducing litter. This expanded work programme is also needed to collect as-builts and ensure private stormwater quality devices are inspected and maintained.

Sites with Acute Human Health Risk

The Stage 1 Global Stormwater Consent has a strong focus on identifying and responding to sites where *E. coli* (in freshwater) or Enterococci (in coastal water) concentrations indicate wastewater and presents an acute risk to human health³⁸. This SMS and the Stage 2 Global Stormwater Consent will continue to support existing work programmes ('Knowing Your Pipes' - cross-connections and 'Human Health Mitigation Projects' (HHMP)) that respond to these issues.

Many of these problems are the result of faults in the public and private wastewater networks (see **Figure C-2** In Appendix C) as opposed to the stormwater network. Therefore, integration between stormwater and wastewater management is critical to the successful resolution of these faults. This SMS addresses sites with acute human health risks³⁹ through:

- Water quality sampling of outfalls and receiving water to identify sites that present acute risks to human health.
- Identifying the source of wastewater that enters the stormwater and rectifying this, such as:

³⁸ As identified in Policy P85(c) of the NRP

³⁹ As referred to in Schedule N (k) in the NRP

- Overflows of untreated wastewater from the wastewater network during heavy rain events and resolving through the Wastewater Network Overflow Programme.
- Faults or historical overflow connections in the wastewater network to the stormwater network resolved through capital projects.
- Cross-connections or faults in private stormwater/wastewater laterals, and then working with property owners to fix the lateral pipes.

High-risk sites - health checks

The new programme of health checks, as part of Workstream 1, would be implemented for large carparks and industrial and commercial sites⁴⁰. This proposed programme of works would be developed in collaboration with existing stormwater pollution prevention programmes carried out by GWRC and some of the local city councils. The audits would focus on:

- celebrating good practices through recognition and awards,
- behaviour change through targeted education programmes,
- remedial fixes, from better site management practices through to specific investment.

Should a site continue to discharge unacceptable levels of contaminants into the stormwater network, it would not be in accordance with this SMS and the discharger would need to seek a resource consent separately from GWRC (like the Christchurch City Council’s Comprehensive Stormwater Network Discharge Consent (CRC190445))⁴¹.

5.1.2.4 Education and Outreach

This new work programme supports the delivery of the SMS outcomes by addressing challenges faced by the water industry and communities across Aotearoa (and globally). This includes building the new required capability and capacity to deliver on the significant changes necessary to achieve the desired outcomes. The programme will deliver:

- Internal staff training through a competency framework with career progression targeting capability and capacity building aligned with the needs to this SMS.
- Industry wide education of supply chains that can influence and deliver good outcomes in line with SMS objectives.
- Appropriate community outreach activities and an integrated education campaign. Targeted at increasing awareness and enhancing connection with residents and businesses about how they can reduce contaminants. Includes a focus on education for local streams, water quality and water usage for schools and the community.

Where possible, this programme will enhance existing council education and outreach programmes. Examples include targeted industrial pollution prevention programmes and community involvement in compliance and environmental monitoring programmes. Activities associated are shown in **Table 5.5**.

Table 5.5 – Programme of work – predominant activity – Education & Outreach

Period	Years	Predominant Activities
Short	To 2030	Development of capacity building and knowledge sharing needs across the programme.
		Collaborate with others to develop clear communication and education on sustainable stormwater management
		Staff & Supply Chain capability development – through industry wide workshops, research events and specific training portfolio development.

⁴⁰ Addresses Schedule N(l) in the NRP.

⁴¹ Addresses Schedule N(m) in the NRP.

		Support a regional consideration of an awards system to keep focus on messaging and celebration of good practices, innovators, and community initiatives.
Mid	2030 - 2040	Ongoing roll out and refinement of education and outreach activities
		Continual focus into enhancing staff & supply chain capability development
Long	To 2058	Ongoing roll out and refinement of education and outreach activities
		Continual focus into enhancing staff & supply chain capability development

5.1.2.5 Data and Asset Management

Effective data management is vital to provide access to reliable information required for planning, communication, legislative reporting, auditing and tracking the effectiveness of the delivered on-ground works. A range of data associated with water assets and the state of urban waterways, derived from internal and external sources of information is managed.

Capturing this data at the appropriate spatial scale is important for access and ease of use of the information. It is important to accurately record the location and details of private and public stormwater devices using device registers and as-built data management. It is also important to provide operational and monitoring data results to the public and with the Education and Outreach programmes.

To deliver enhanced stormwater quality over the next 30 years⁴² Workstream 1 identifies significant new and expanded programmes of works. In addition, Workstream 2 will result in the development of new public assets through the stormwater discharge SCaMPs. These new assets will need to be captured within this programme.

Asset management is needed to successfully plan for investment, replacement, and repair of stormwater infrastructure associated with achieving the objectives of this SMS. The general asset management framework and how the SMS will be incorporated is shown in **Figure 5.3**.

⁴² 30 years is the current long term investment cycle under the LTP

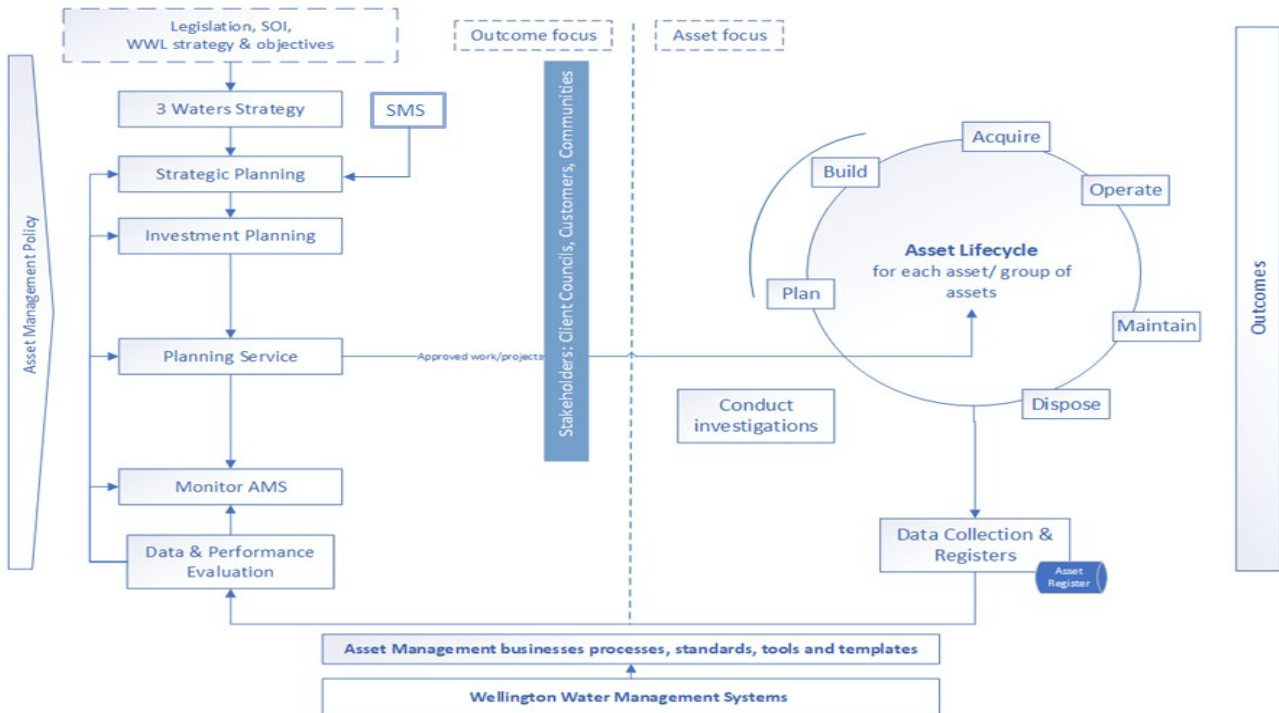


Figure 5.3 - Wellington Water’s asset management framework and the role of the SMS in Investment Plan process.

Activities associated with the work programme are shown in **Table 5.6**.

Table 5.6 – Programme of work – predominant activity – Data & Asset Management

Period	Years	Predominant Activities
Short	To 2030	Develop and enhance monitoring information portals and activity tracking process to support wider Service Level Agreements with third parties and contractors.
		Identifying opportunities to align data and knowledge of waterway values to support multiple parties and determine other avenues of investment
		Review / collate data management process and define approach for sharing and visualisation
		Develop methodology for tracking outcomes and evaluation
		Continual scan of approaches to capture innovation and aligned programmes
Mid	2030-2040	Ongoing review of process to collate and share asset information
		Ongoing evaluation of our programmes to share information across the wider community
		Continual scan of approaches to capture innovation and aligned programmes
Long	To 2058	Ongoing review of process to collate and share asset information
		Ongoing evaluation of our programmes to share information across the wider community
		Continual scan of approaches to capture innovation and aligned programmes

5.2 Workstream 2: SCaMPs & resulting Capital Improvements

The intent of Workstream 2 is to reduce the impacts to receiving water bodies from stormwater discharges. The development of prioritised stormwater discharge SCaMPs and the resulting capital delivery programme is designed to support the design and construction of stormwater water quality treatment devices. This workstream:

- Delivers the SCaMPs (in the sequenced order identified through the Collaborative Committee).
- Delivers new assets that achieve multiple benefits for our community and assist to sustain mauri of our waterways, including seeking opportunities to restore our lost urban waterways.
- Enables innovative trials across the networks to support achieving the SMS objectives.

Stormwater discharge SCaMPs are sub-catchment scale management plans to minimise the stormwater-related effects of urban development. The contents of these documents will be identified and agreed to with the Collaborative Committee. The intent of these is to identify management activities and options that will support stormwater discharge improved water quality across a sub-catchment. These plans will share how through using good management practice, taking a source control and treatment train approach, by implementing WSD, and managing localised adverse effects, the planned activities will support the delivery of improvements to the receiving waterbodies⁴³.

Stormwater discharge SCaMPs will focus on identifying optimised sub-catchment-scale water quality solutions (such as wetlands and raingardens) based on monitoring, investigations, and modelling. Site-specific SCaMPs developed prior to these as a Universal Response under Workstream 1 will be incorporated into the larger sub-catchment SCaMP. This SMS, therefore, requires two types of stormwater discharge SCaMPs to be developed:

1. Developer-led site-specific SCaMPs for large developments and greenfield sites of 3,000m² or greater to manage post construction stormwater as part of the Universal Responses under Workstream 1.
2. Wellington Water-led sub-catchment scale SCaMPs under Workstream 2.

Stormwater discharge SCaMPs at the sub-catchment scale⁴⁴ will identify specific stormwater solutions that are needed in addition to any site-specific SCaMPs and the Universal Responses. Wellington Water may choose to develop its stormwater discharge SCaMPs at a geographic scale smaller than the sub-catchments. This will be done, in agreement with the Collaborative Committee, where sub-catchments are large and complex, where distinct smaller geographies can be identified and where tackling large complex sub-catchments as a whole risks delaying stormwater improvements.

These solutions will likely include treatment train solutions that incorporate requirements for private devices or mitigations, as well as programmes of work and catchment-scale interventions such as publicly owned raingardens, swales and treatment wetlands to remove contaminants, and large-scale detention areas to minimise scour events.

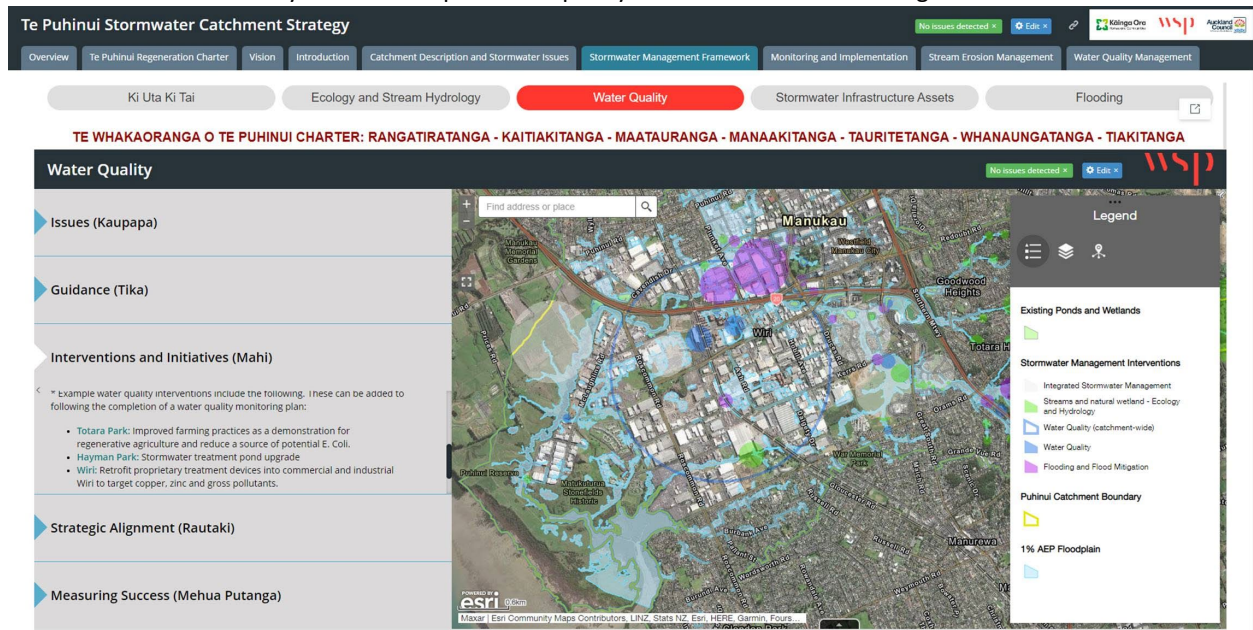
⁴³ As referenced in Policy P83 of the NRP

⁴⁴ Although 38 sub-catchments are identified, sub-catchments are a management unit and can be at any scale.

Example stormwater discharge SCaMP approach

This example shares the development of a “Stormwater Catchment Strategy” supporting Kainga Ora and Auckland Council to understand the risks to the waterways through the proposed Manukau Regeneration Programme. Following Auckland Council guidance, *“the primary objective is to achieve the best practicable option for the long-term management of stormwater from the development area. In addition to the requirements to consider the Stormwater Code of Practice and WSD principles, consideration should also be given to site specific constraints and circumstances as outlined in AUP Policy E1.3.10.”*

The proposed stormwater discharge SCaMPs would enable this integrated approach to be taken but would focus in the main on the delivery of how to improve the quality of the stormwater discharges.



Example of how a stormwater discharge SCaMP might appear. Example shared is from a joint Kainga Ora and Auckland Council project delivering the Puhinui Catchment Stormwater Plan

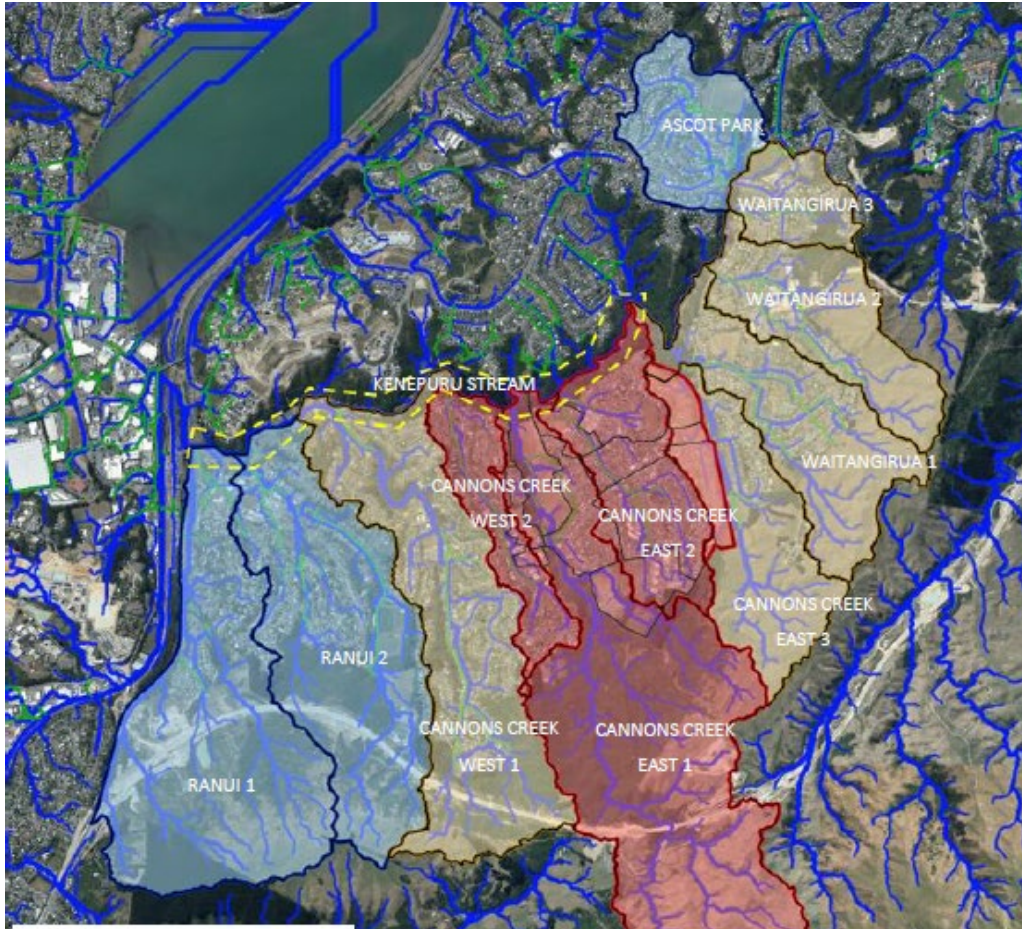
The development and planning of stormwater discharge SCaMPs will be carried out in an incremental manner that allows for future changes to be incorporated through the long-term programme.

The stormwater discharge SCaMPs proposed under Workstream 1 and Workstream 2 will identify site-specific and sub-catchment-scale solutions for existing and future problems that will require significant investment. As such we anticipate that the capital funding requirements will increase over the mid and long-term periods and then be sustained over future stormwater discharge consent periods to support the journey to wai ora.

Sharing costs through regeneration investments or through other third-party funding sources represents an opportunity, instrumental to successful stormwater management. An example of site-specific stormwater discharge SCaMPs being developed for a large-scale brownfield redevelopment is shown below.

Site-specific SCaMP for Eastern Porirua Regeneration

This large-scale brownfield redevelopment is within a larger sub-catchment identified as Porirua Stream (see Appendix D of this SMS). Preliminary stormwater investigations being done by Te Aranga Alliance are considering management options specific to smaller sub-catchments that drain directly to Kenepuru Stream. This could result in up to eleven site-specific ScaMPs within the larger Porirua Stream sub-catchment.



Example of Eastern Porirua Regeneration Project

5.2.1.1 Prioritisation of Wellington Water-led stormwater discharge SCaMPs

Given that not everything, everywhere can be done at once, the prioritisation⁴⁵ of sub-catchments is a useful tool to guide the development of stormwater discharge SCaMPs. The development of a stormwater discharge SCaMP requires detailed information and evaluation of current conditions and pressures, including future pressures from projected growth or land development, as well as risks of significant adverse effects from specific stormwater discharges on the relevant waterbodies.

To support the delivery of SCaMPs to help achieve progressive improvement over the length of the Stage 2 Global Stormwater Consent, a prioritisation framework will be developed prior to the hearing of the Stage 2 Stormwater Discharge Consent. This framework will guide the development of stormwater discharge ScaMPs. The framework will be structured in a way to achieve the best outcomes and will be informed by the monitoring data gathered during the implementation of the Stage 1 Global Stormwater Consent.

⁴⁵ See Schedule N (f), (l) and (m) in the NRP".

Following the grant of the Stage 2 Global Stormwater Consent, subsequent prioritisation of the development of stormwater discharge SCaMPs to identify solutions needed, such as water quality treatment devices, will be overseen by the Collaborative Committee (see Chapter 6). It is anticipated this will occur on a six-yearly cycle and will be based on matters such as the following:

- **Regulatory Alignment** - with the NRP, Te Mana o te Wai, Stage 2 Global Stormwater Consent conditions, adverse effects based on monitoring, sites of significance, waterbodies identified as a priority for improvement⁴⁶, and waterbodies that fail to meet the national bottom lines for a relevant value (National Objectives Framework).
- **Efficiency** - incorporating affordability and integration with other work programmes (such as improvements to the wastewater network, flooding improvements, resilience projects or other environmental water quality programme work) and / or alternative sources of funding (i.e., ‘opportunistic’ growth or urban regeneration projects).

In addition, the principles of Ki Uta ki Tai and integrated catchment management can result in works being re-sequenced to get the ‘best outcome for effort’ by considering where results will be delivered from one set of works over another. Activities associated with Workstream 2 are shown in **Table 5.7**.

Table 5.7 – Programme of work – predominant activities – Workstream 2 (SCaMPs & Capital Delivery)

Period	Years	Predominant Activities
Short	To 2030	Working with the Collaborative Committee to refine the prioritisation framework for Stormwater Discharge SCaMPs
		Undertake initial set of stormwater discharge SCaMPs – informed from prioritisation framework
		Capital Delivery - Prioritised improvements to reduce the impacts of stormwater discharges – aligned with other ancillary programmes of work.
Mid	2030-2040	Undertake stormwater discharge SCaMPs – informed from prioritisation framework
		Capital Delivery - Prioritised improvements to reduce the impacts of stormwater discharges – aligned with other ancillary programmes of work.
Long	To 2058	Undertake stormwater discharge SCaMPs – informed from prioritisation framework
		Capital Delivery - Prioritised improvements to reduce the impacts of stormwater discharges – aligned with other ancillary programmes of work.

5.3 Scale of the programmes in Workstream 1 and 2

The proposed programmes could represent between \$1 to \$2 billion investment over the next 30 years. **Figure 5.4** shares the identified funding anticipated to enable implementation of the SMS on the journey to wai ora.

This SMS cannot guarantee funding and this is discussed in Chapter 7 Governance and Chapter 7.1 Challenges and Opportunities.

⁴⁶ Under Schedule H2 of the NRP

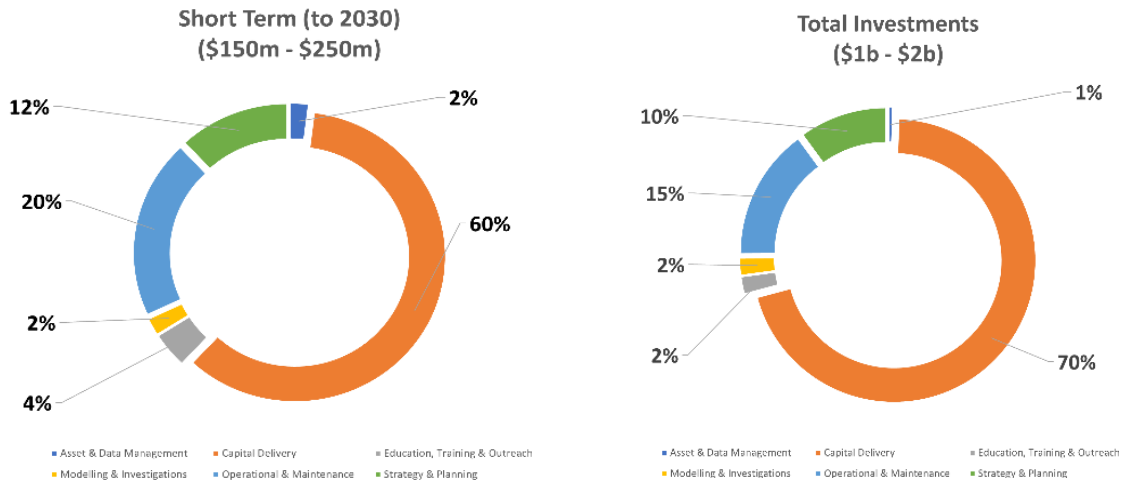


Figure 5.4 - Investment across the six work programmes for the short-term to 2030 (left) and overall, to 2054 (right).

6 Governance via a Collaborative Committee

This SMS is required to support the establishment of a Collaborative Committee to provide governance (outlined in Chapter 2). The Collaborative Committee would have the key oversight of implementation and is expected to operate for the duration of the Stage 2 Global Stormwater Consent. The Collaborative Committee would:

- Give effect to the requirements of Te Mana o te Wai, particularly mana whakahaere
- Support the investment needed to deliver the objectives of this SMS
- Lead the implementation of this strategy by setting clear expectations and direction.

To achieve these outcomes, the development and implementation of the collaborative committee will rely on four guidelines that align with the principles of this SMS, as shown in **Table 6.1**, below:

Table 6.1 - Guidelines for developing and implementing the governance structure.

Collaborative Committee Governance Guidelines	SMS Principle*
<p>Give effect to Te Mana o te Wai</p> <ul style="list-style-type: none"> • Enables the six principles of Te Mana o te Wat to support the decision making for this SMS; Mana whakahaere, kaitiakitanga, manaakitanga, governance, stewardship, and care and respect • Decision-making follows the hierarchy of obligations (Figure 2.2). 	Mahi Tahī / Working Together
<p>Recommend investment to support the objectives of the SMS</p> <ul style="list-style-type: none"> • Ties into Asset Investment Plan processes (see Figure 5.3) <p>Realises that funding is needed to achieve water quality outcomes and as management of stormwater discharges is only one piece of the puzzle, it requires others to play their part.</p>	Mahi Tahī / Working Together
<p>Deliver prioritisation across the network</p> <ul style="list-style-type: none"> • Recognises that not everything can be delivered at once, requiring a framework for decision making to be developed. 	Ki Uta ki Tai / Integrated Catchment Management
<p>Apply transparent and robust decision making</p> <ul style="list-style-type: none"> • Ensures the decisions are evidence-based, consider multiple perspectives and lead to more sustainable outcomes 	Adaptive Management

* = SMS Principles are described in Chapter 4.2 of this document.

As a critical component necessary for Te Mana o te Wai, the membership of the Collaborative Committee would be 50% mana whenua and 50% asset owners (Porirua, Wellington, Hutt and Upper Hutt city councils) and consent holder (Wellington Water). The membership is designed to reflect mana whakahaere and the councils' role as asset owners responsible for governance of, and investment in, the networks.

The Collaborative Committee would enable mana whenua to support the implementation of the principles of Te Mana o te Wai (see Chapter 2.22.2), honouring mana whenua as signatories to Te Tiriti o Waitangi and their role as kaitiaki with responsibilities and obligations to their whakapapa and their environment.

The Collaborative Committee would be supported by Wellington Water staff and mana whenua representatives as desired⁴⁷. There would be two observers, GWRC as the environmental regulator, and Regional Public Health. Wellington Water will act as secretariat.

The Collaborative Committee would oversee:

- reviews of the SMS, on a six yearly cycle
- reviews of the prioritisation of sub-catchments and the delivery of the stormwater discharge SCaMPs with other ongoing network discharge consent requirements, such as the Wet Weather Network Overflow consents (WWNO)
- implementation of this SMS
- preparation of the stormwater discharge SCaMPs
- preparation of the mātauranga Māori Monitoring Plan
- reviews of the Annual Report, including information about the effectiveness of this SMS and the stormwater discharge SCaMPs in progressively reducing adverse effects of stormwater discharges
- preparation, updating, and implementation of the community engagement plan.

7 Delivering this SMS

Implementation of this SMS would require significant changes in current programmes. Using the Governance approach presented in Chapter 6 :

- Investment plans to implement the identified programmes of works for each of the councils over the short-, medium- and long-term are proposed to be developed.
- On the journey to wai ora, we intend to use an adaptive approach to manage stormwater discharges. We propose to do this by using the best information available to inform the delivery of our implementation program, as supported by the key principle of monitoring including mātauranga Māori, investigations, and research.

7.1 Challenges and Opportunities

Managing stormwater discharges to minimise the adverse effects on the wellbeing of streams, rivers and harbours presents challenges as well as opportunities. The challenge and opportunities faced in the delivery of this SMS, the Stage 2 Global Stormwater Consent, and the activities required, are described in the **Table 7.1** below.

⁴⁷ Anticipated to include input from a mātauranga Māori expert, or other party agreed to by Te Rūnanga o Toa Rangatira and Taranaki Whānui, into updates of the SMS and preparation of SCaMPs.

Table 7.1 - Challenges for Wellington Water in the implementation of this SMS and achieving NRP Objectives.

CHALLENGE	OPPORTUNITY	ACTION
<p>Managing stormwater for water quality is a relatively new way of assessing, designing and providing stormwater services.</p>	<p>This new focus will result in progressive improvement of streams, rivers, and coastal areas.</p>	<p>The SMS describes a strategic approach to managing stormwater for water quality that relies on three objectives, three principles and strategic actions comprised of two comprehensive workstreams.</p>
<p>Retrofitting existing networks with treatment devices to provide water quality benefits is more complex and typically constrained for space than building new networks. Historically the stormwater networks were built and managed for the purpose of conveying rainwater away from buildings and properties.</p>	<p>Urban regeneration and infill development can provide opportunities to upgrade existing services as well as new funding mechanisms to help fix existing problems.</p>	<p>The SMS highlights the role that new development has in managing stormwater to protect water quality – through proposed Workstream 1.</p> <p>Workstream 2 captures the delivery of SCaMPs and the consequential network improvements needed to progressively improve water quality in the sub-catchment.</p>
<p>Current organisational roles and responsibilities for stormwater have limited ability to control the urban environment inputs to the stormwater system.</p>	<p>SCaMPs will provide a necessary piece of the puzzle to deliver Integrated Catchment Management plans which will also need to be supported by plans specific to urban development, riparian management, roading, etc.</p> <p>Opportunity to engage and influence better stormwater management through Water Sensitive Design advocacy across the networks that Waka Kotahi and the airport, own and operate.</p>	<p>The SMS identifies the role that Wellington Water can play in supporting the overall delivery of Integrated Catchment Management plans and Mahi Tahī, working together, with other organisations and funding regimes.</p> <p>This SMS identifies how Wellington Water can shift the approach to reducing the impacts of stormwater discharges on the environment, but requires all parties to lift their game accordingly to support a societal shift to how we interact with our water environments.</p>
<p>Wellington Water’s enforcement role and powers are limited.</p>	<p>Rules and regulations and responsibilities can be revised.</p>	<p>The SMS identifies how Wellington Water wish to influence central and local government to support achieving the outcomes - through the proposed Strategy & Planning programme (Workstream 1).</p> <p>The Collaborative Committee will keep a watching brief on the items that are unknown currently, such as changes to local government or water service delivery. Should these not deliver intended outcomes then revise the SMS during 6-yearly reviews.</p>
<p>Capability and Capacity Constraints</p>	<p>Opportunity to implement a competency framework with career progression targeting capability and capacity building aligned with the needs of this SMS.</p>	<p>The SMS includes new and expanded work programmes that will require additional resourcing in relation to physical investments in assets but more importantly through committed programmes of work through both workstreams.</p>

CHALLENGE	OPPORTUNITY	ACTION
	<p>Opportunity to engage and encourage diversity into workforce through targeted educational programmes and mātauranga Māori outreach / employment programmes.</p>	<p>The SMS identifies the critical need to support capacity and capability improvements through the proposed Education & Outreach programme identifies the need for training and education activities.</p>
<p>Operating and Maintenance costs for stormwater water quality treatment devices typically cost more to operate than to build which is contrary to current asset management models</p>	<p>This will drive better life cycle cost benefit analysis – chance to redesign system over time to follow treatment train in public open spaces.</p> <p>Chance to avoid retrofitting high numbers of proprietary devices.</p>	<p>The SMS partially recognises this challenge and seeks to provide additional funding to support, influence, engage and develop appropriate assets based on whole of life cycle costing process and design appropriate guidance through the proposed Strategy & Planning programmes.</p> <p>The SMS identifies the need for increasing operational awareness for ongoing budgets to support this additional mahi.</p>
<p>Stormwater treatment devices located in roads and reserves require interdepartmental management agreements</p>	<p>Supports the principle of Mahi Tahi and better outcomes – chance to redesign system over time to follow treatment train in public open spaces.</p>	<p>The SMS partially supports this opportunity through the proposed Strategy & Planning programme and its role in developing partnerships to agree appropriate levels of service agreements with relevant authorities/organisations.</p>
<p>The community is unaware of ecosystem functions of stormwater networks</p>	<p>Better awareness will enable people to be guardians and kaitiaki</p>	<p>The SMS identifies the critical need to support community level understanding of our waterways through the proposed Education & Outreach programme and undertaking this work would partially deliver the opportunity alongside a societal shift in our relationship with our water environments.</p>
<p>Regional Plan rules don't require stormwater discharges into the stormwater network to comply with (give effect to) this SMS</p>	<p>A plan change to the Regional Plan is possible. Future legislative changes may provide a way to give effect to this SMS.</p>	<p>The SMS partially enables Wellington Water to influence better outcomes to support achieving the outcomes - through the proposed Strategy & Planning programme (Workstream 1).</p> <p>The Collaborative Committee will keep a watching brief on the items that are unknown currently, such as changes to local government or water service delivery. Should these not deliver intended outcomes then revise the SMS during 6-yearly reviews</p>
<p>Sediment from bulk earthworks and construction is managed by others but if managed poorly, sediment can overwhelm other stormwater water quality devices managed by Wellington Water.</p>	<p>Better working relationships, partnerships, education, and revised regulations.</p>	<p>The SMS shares how Wellington Water want to influence the industry to support achieving the outcomes - through the proposed Strategy & Planning and Education & Outreach programmes (Workstream 1).</p> <p>The Collaborative Committee will keep a watching brief on the items that are unknown currently, such as changes to local government or water service delivery. Should</p>

CHALLENGE	OPPORTUNITY	ACTION
		these not deliver intended outcomes then revise the SMS during 6-yearly reviews
Affordability of a new programme of investment that is uncertain in relation to the certainty of achieving the delivery of the required Objectives / Outcomes	Prioritisation of the works and this SMS will enable the constant improvement of the approaches that Wellington Water and the wider community can take to unpicking a 100-year problem and prioritise investment into areas with greater certainty of achieving the NRP Water Quality objectives.	The SMS partially enables this opportunity to be realised through the proposed Collaborative Committee providing the opportunity to sequence and prioritise the programme of works delivery to match affordability and other community aspirations.

7.2 Our Future for Stormwater Management

This SMS describes a journey to wai ora that will help achieve a vision of the future described as, “Our region treasures its water. Our streams and harbours are healthy and suitable for contact recreation and Māori customary use. Our drinking water is safe and secure, our networks are resilient, our growing cities are water sensitive, and we are prepared for a changing climate. Water is at the core of how we plan and grow our cities.” It is an ambitious vision that will require us to work together (Mahi Tahī), take a Ki Uti ki Tai (mountain to sea) approach and to use adaptive management to learn from our successes and failures.

This SMS is a strategy that focuses specifically on the management of discharges from the stormwater networks owned by Porirua, Wellington, Hutt and Upper Hutt city councils. The SMS also acknowledges that to be successful the implementation of this strategy must be integrated with the management of sustainable water use, flood protection, wastewater management, urban growth and climate adaptation. By working together to implement innovative solutions, promote community engagement and education, and invest in stormwater infrastructure, we can help achieve the vision in this SMS.

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