

Rivers

Activity Management Plan

2024-2054



Quality Assurance Statement

Tasman District Council 189 Queen Street Private Bag 4 Richmond 7050 Telephone: (03) 543 8400 Fax: (03) 5439524	Version:	June 2024
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	Project Manager:	Kim Arnold
	Prepared by: AMP Author	David Arseneau/Ian McComb
	Approved for issue by: Group Manager Community Infrastructure	Richard Kirby

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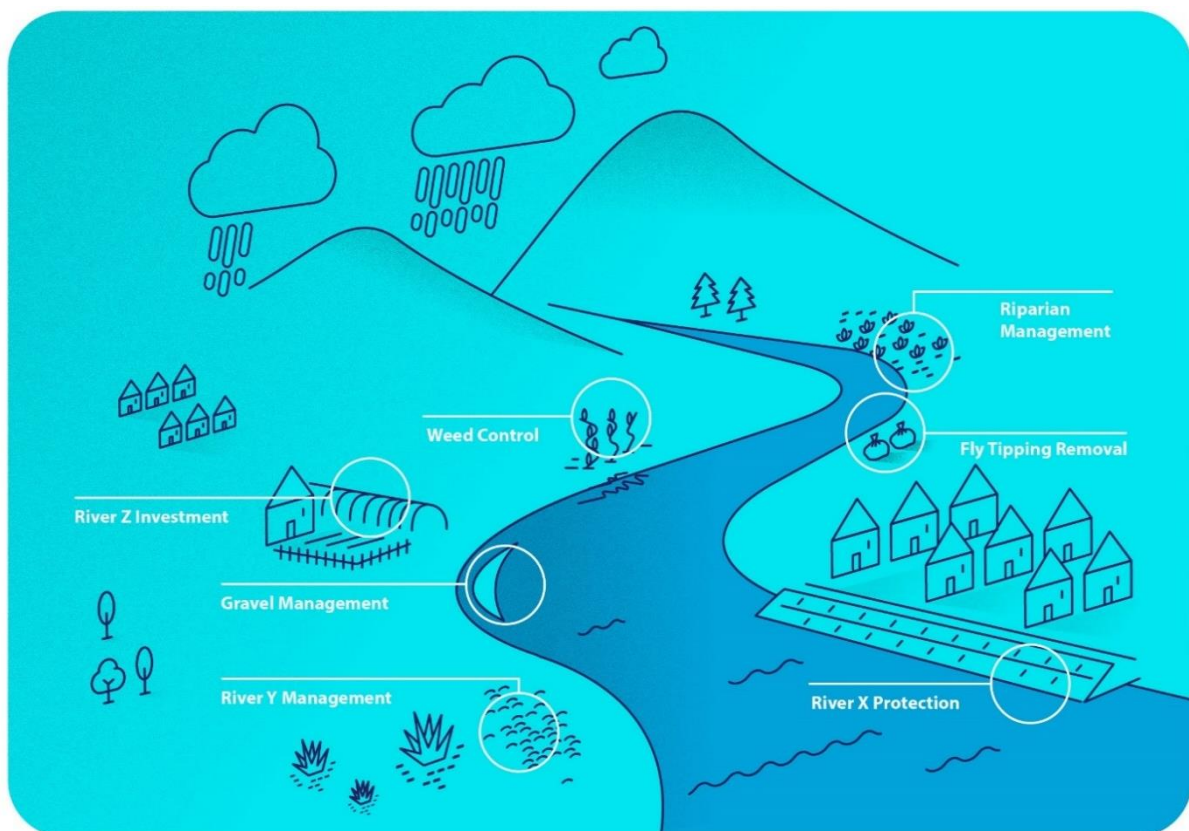
1 Executive Summary

This Activity Management Plan (AMP) provides an overview of how the Council manages the Rivers activity and associated assets in an effective, cost efficient and sustainable manner.

The plan outlines key issues, goals, objectives, and the levels of service that the Council will provide to its communities. The plan provides information on any new projects and expenditure that are required to meet future demand as well as detail about life cycle management and maintenance. It provides an overview of costs and how the Rivers Management activity is funded. The risks and uncertainties involved in undertaking the activity and how we manage those are also outlined in the plan.

1.1 What We Do

The Tasman District Council maintains 285 kilometres of major rivers throughout the District in order to carry out its statutory roles to promote soil conservation and mitigate damage caused by floods and riverbank erosion. These rivers, known as classified rivers X (stopbank scheme) and Y (erosion protection), are funded by a differential river rating system based on capital value (since 2024). Rivers that are covered under the rivers X and Y schemes include our major rivers like the Waimea, Motueka, Riuwaka, Moutere, Tākaka, Aorere rivers as well as several tributaries. The Council maintain and improve river assets in rivers X and Y.



There are many more rivers, streams and creeks that are on private, the Council, and Crown (Department of Conservation (DoC)), Land Information New Zealand) lands. These are collectively known as Rivers Z. River protection assets such as rock walls and groynes form

part of the river system. These are typically owned and maintained by private property owners; we sometimes part fund them.

The approach to river management places emphasis on channel management through gravel relocation/repositioning, and vegetation and land buffers on the river’s edge. The aim is to manage the river channel and catchment so that there is less need to use hard engineering methods to prevent erosion. Gravel extraction can support sound river management and is expected to continue indefinitely as a cost-effective source of material for the local construction industry.

This activity does not include management of stormwater or coastal structures. These are covered as individual activities and have their own Activity Management Plan.

1.2 Why We Do It

Activity Goal
Our aim is to protect properties from river flooding by implementing and maintaining river control works and flood protection assets. The Council ensure that our river environments remain healthy and attractive ecosystems that can be enjoyed by our communities.

1.3 Our Levels of Service

The allocation in the planned budget is largely sufficient to continue providing existing services primarily at current levels for the planning period.

The Council aims to provide the following levels of service for the Rivers activity:

Protection	Amenity
Our Structures are managed to reduce the impact of flooding now and in the future	Our river environments are healthy ecosystems that are attractive and enjoyed by our communities

1.4 Key Issues and response

1.4.1 Community resilience

Our rivers and streams pose varying degrees of flood risks to urban and rural communities. An expected increase in extreme weather due to climate change will increase flood risks in the future. Reducing flood risk across the District is very costly and generally considered unaffordable. Communities will need to expect certain exposure to flood risks which requires a level of awareness and resilience from our communities. The Council will take a risk based approach to prioritise its investment in flood protection and focus on the development of emergency action plans together with the community.

1.4.2 Pro-active river management

With an increase in flood events it is expected that the demand for repairs will increase. Reacting to land owner requests is often time consuming and it could mean that meeting our strategic objectives or certain other opportunities are overlooked. An integrated and pro-active approach to river management is required to demonstrate best value for money.

1.4.3 Providing equity to rate payers

Most of the Council's expenditure is currently on rivers Y and Z which addresses primarily minor flood risks and protects private land from erosion with limited benefit to the wider community in terms of addressing larger flood risks. Revenue from River X is insufficient to upgrade flood protection schemes for communities such as Appleby, Motueka, Brooklyn and Riwaka. The Council aims to provide more equitable services based on risk prioritisation within the existing rating categories.

1.5 Financial summary

The Council's Funding Impact Statement for this activity is included in Table 1 below. It summarises in one place how this activity will be funded and how those funds will be applied over the next 10 years.

Table 1: Funding Areas

Nature	10 Years
Development or Financial Contributions	0
Fees and Charges	2,001,026
General Rates	0
Debt	17,605,082
Other	8,999,295
Subsidies and Grants	0
Targeted Rates	43,863,161

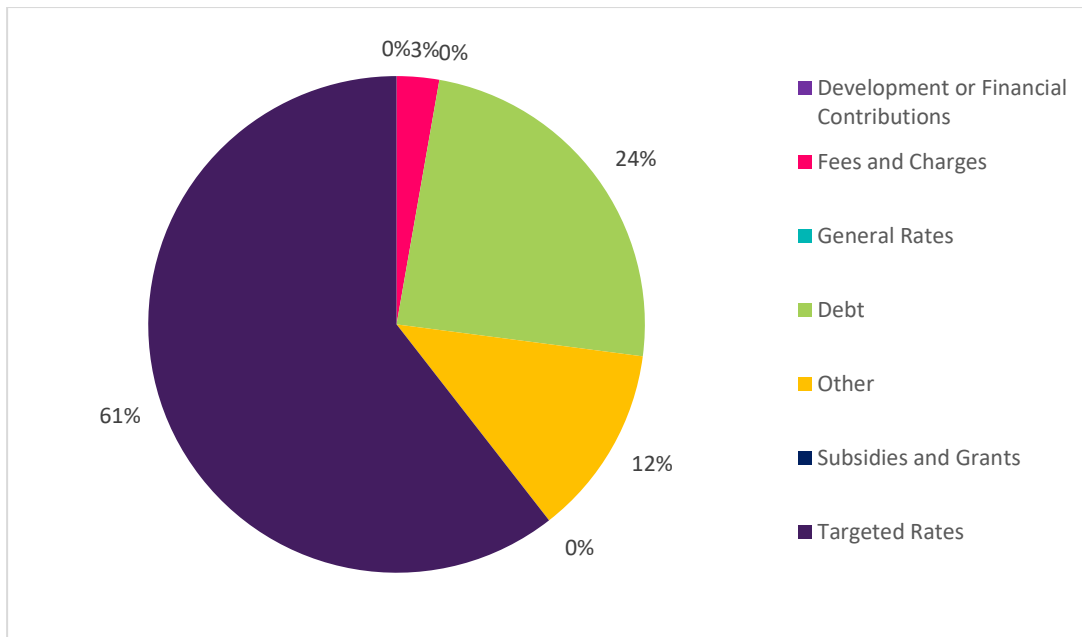


Figure 1: Fees and Charges Targeted Rates

1.5.1 Operational Programme

The Operational Programme covers all day to day activities that are required to manage the Rivers activity. The Council has planned to spend approximately \$67.9 million (uninflated) over the next 30 years to operate and maintain river assets efficiently.

Our operational programme over the next ten years covers the following key aspects and annual expenditure:

1. Class X Operations \$2.0M
2. Class Y Operations \$11.7M
3. Rivers Z Subsidy \$4.1M
4. River Management Plans \$0.5M

Detailed Operational Budgets are shown in Appendix A.

1.5.2 Capital Programme

The Council has planned to spend approximately \$36.4 million (uninflated) over the next 30 years to improve and renew river assets. Detailed Capital Budgets are shown in Appendix B.

1.5.2.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Upgrade all river stopbanks to a 1% Annual Exceedance Probability (AEP) level of protection.
- Avoid all river erosion to protect farms and other private assets.

1.5.3 Funding Impact Statement

The Council's Funding Impact Statement (FIS) for this activity is to be included in Appendix C of the AMP. It summarises in one place how this activity will be funded and how those funds will be applied over the next 10 years.

1.6 Managing the Risks

Our present budget levels are sufficient to continue to manage risks in the medium term. However if there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, there will be consequences to the levels of service for users. These service consequences include:

The main risk consequences are:

- Lack of maintenance leading to stop bank failure.

We will endeavour to manage these risks within available funding by:

- Prioritising works on higher risk and actively eroding areas.
- Utilising emergency work rules to facilitate timely repair works.

2 Introduction

The purpose of this Activity Management Plan is to outline and to summarise in one place, the Council's strategic management and long-term approach for the provision and maintenance of its river's activity. This is achieved through the planned management of assets, compliance with regulatory requirements, and the funding needed to provide the appropriate levels of service.

2.1 Rationale for Council Involvement

The Council has a legal obligation to meet the requirements of the Soil Conservation and Rivers Control Act 1941. The overriding purpose of the Soil Conservation and Rivers Control Act 1941 is to make provision for the conservation of soil resources, the prevention of damage by erosion and to make better provision for the protection of property from damage by floods. It is considered necessary and beneficial to the community that the Council undertakes the planning, implementation and maintenance of rivers services in the district in accordance with its respective legislative requirements and responsibilities.

2.2 Asset Management Processes and Practices

2.2.1 Asset Overview

The District's rivers and associated drainage network that are maintained by the Council are classified as either Rivers X or Rivers Y. This classification is based on the relevant rating scheme and can be described as follows:

- Rivers X – the Council maintained rivers containing a level of flood protection such as stopbanks.
- Rivers Y – the Council maintained rivers containing river control works or erosion protection.

All other rivers, streams and creeks are unclassified rivers, also known as rivers Z. The Council may assist land owners with co-funding for erosion control on these rivers, subject to available subsidy.

2.3 Description of Assets and Services

2.3.1 Asset Overview

Figure 2 provides an overview of the key rivers groups of assets that are owned and operated by the Council throughout the Tasman District.

The five main river catchments with X and Y maintained rivers are shown in Figure 2: X and Y Main River Catchments.

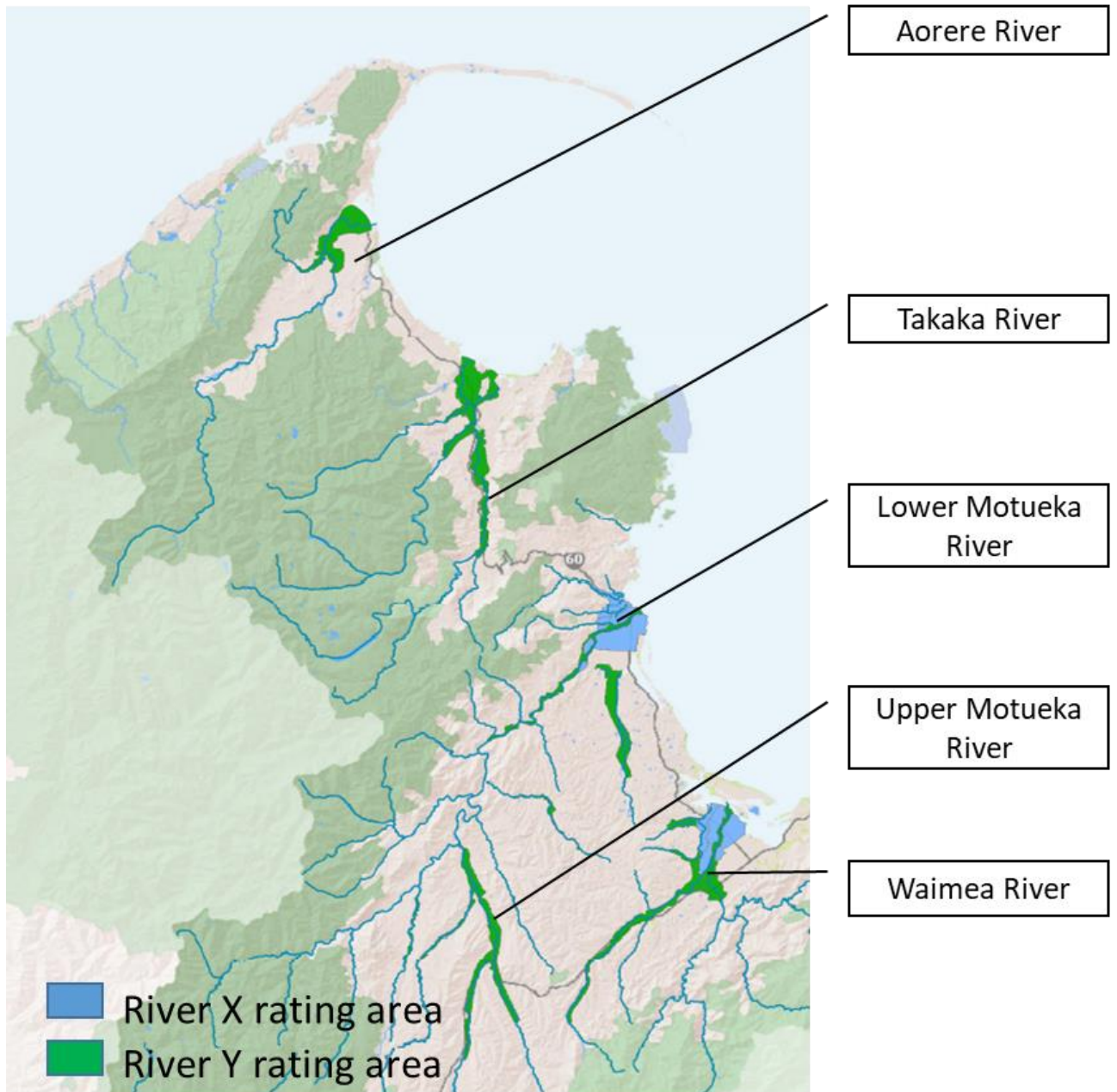


Figure 2: X and Y Main River Catchments

2.3.2 Rivers overview

An overview of the main Rivers within the Tasman District is provided in Table 2.

2.3.3 Catchment overview



An overview of the main River Catchments within the Tasman District is provided in Table 3.




Table 2: Rivers Overview



Waterway	Class	Maintained Length (km)	Total Stopbank Length- both sides of the river (km)
Waimea Catchment			
Redwood Valley Stream	X	5.75	-
Redwood Valley Overflow	X	3.00	-
Eves Valley Stream	X	9.50	-
Wai-iti River	Y	30.15	1.4
Waimea River (including Wairoa)	X	13.25	18.1
Upper Motueka Catchment			
Motupiko River	Y	14.50	-
Tadmor River	Y	33.00	-
Sherry River (including Wangapeka)	Y	14.50	-
Upper Motueka River	Y	20.00	-
Lower Motueka Catchment (incl. Riuwaka Delta and Moutere)			
Dove River	Y	18.60	-
Brooklyn Stream	X	3.00	5.0
Lower Motueka River	X	28	26.2
Little Sydney Drain	X	4.25	-
Scotts Drain	X	0.80	-
Hamilton Drain	X	3.00	-
Riuwaka River	X	5.00	8.25
Moutere River	Y	12.00	-
Moutere Creek Ditch	Y	7.00	-


Waterway	Class	Maintained Length (km)	Total Stopbank Length- both sides of the river (km)
Pawley Creek	Y	2.25	-
Aorere Catchment			
Kaituna River	Y	5.75	-
Aorere River	Y	12.00	-
Tākaka Catchment			
Waingaro River	Y	5.25	-
Anatoki River	Y	5.25	-
Tākaka River	Y	28.00	-

Table 3: Overview of Catchments

River Catchment	Catchment Description	Image	Image Description
Aorere	<p>The Aorere River drains from the alpine regions of the Kahurangi National Park. Its larger tributaries, the 15, 17, and 19 Mile Creeks (which join the Aorere upstream of Bainham) and the Kaituna River (whose confluence is downstream of Devil's Boot), drain from the steep, bush clad Whakamarama Range. The Aorere River passes through steep rock gorges before discharging into the flat valley area used predominantly for dairy and sheep farming. The catchment size is 573 km². The Aorere River is one of the largest rivers in the Tasman district with a Q50 flow of 3180m³/s at Devil's Boots</p>		<p>Aorere river looking upstream above confluence with the Kaituna</p>
Buller (not maintained)	<p>The Buller River drains from the Nelson Lakes through Murchison to the West Coast at Westport, the Council's jurisdiction ends at the District boundary at 8 Mile Creek. There are no river rating areas in the Buller Catchment, and any river works that have been carried out are isolated sections of work funded through the River Z subsidised scheme.</p> <p>The Buller and its tributaries provide an important recreational function for white water sports.</p>		<p>Buller River looking downstream toward Rait Road Bridge</p>

River Catchment	Catchment Description	Image	Image Description
Tākaka	<p>The Tākaka River catchment drains a mountainous region of around 855km² into the lower reaches of the Tākaka Valley. The main tributaries to the Tākaka River are the Cobb River (on which the Cobb Dam is located), the Waingaro and Anatoki. During the 1960's a scheme of river channel stabilisation (mainly rock protection) and channel widening was introduced over a 37 km length. These works controlled the rate of erosion of farmland and now form part of the Class Y classification scheme.</p>		Tākaka river, swimming hole
Moutere	<p>The Moutere River catchment (168 km²) drains moderate hill and flat valley country and joins the sea at the Moutere Stream Bridge on SH60 south of Motueka. The Moutere River was originally hand dug by settlers in the 1880's being about 2 m wide and 1 m deep. Today it is up to 30 m wide and up to 10 m deep. Sections of the river system are managed as a class Y river.</p>		Moutere river looking towards the Old House Road Bridge
Riuwaka	<p>A river control scheme was completed in 1956 comprising stopbanks, channel improvements and bank protection designed to contain a Q20 (5% AEP) flood in the lower Riuwaka. A review of the stopbank carried out in 2005 concluded that present stopbanks on the Riuwaka River only provide a level of protection to Q10 (10% AEP), and in some places up to Q20 (5% AEP). Other streams that drain towards the Riuwaka estuary are the Little Sydney Drain, Scott's Drain and Hamilton Drain.</p>		Riuwaka looking upstream from SH60 Bridge

River Catchment	Catchment Description	Image	Image Description
Lower Motueka	<p>The Lower Motueka River receives run-off from the catchments of the Stanley Brook, Dove River, Orinoco, Waiwhero and Brooklyn Streams.</p> <p>Stopbanks have been installed in the Lower Motueka River, primarily to protect the Motueka township and surrounding infrastructure.</p> <p>Widespread flooding used to occur frequently in the river plains of the Lower Motueka River. A river control scheme was completed in 1956 comprising stopbanks, channel improvements and bank protection designed to contain a Q50 flood in the Lower Motueka. In early 2024 upgrading works were completed in critical areas to maintain consistent performance along the stopbanks.</p>		Stopbank along lower Motueka upstream of Whakarewa Street
Upper Motueka	<p>The Motueka River catchment covers an area of 2170 km². The Upper Motueka drains from the mountainous Red Hills Ridge and Beebys Knob area. The river flats and terraces in this area are narrow. The Motupiko and Tadmor Rivers drain the head of the Moutere Depression to be joined at Tapawera by the Wangapeka and Baton Rivers, two major tributaries that drain the watershed in the western most corner of the catchment. The river flows in a narrow valley below Tapawera to follow the foot of the Western Nelson Range (Mt Arthur Range) in a north easterly direction towards Tasman Bay. In the 1960s the lower sections of the Motupiko, Motueka, Tadmor, Sherry and Dove Rivers received channel works designed to secure the valley floors from erosion and reduce the frequency of flooding</p>		Upper Motueka Looking Upstream to Tapawera

River Catchment	Catchment Description	Image	Image Description
Waimea	<p>The Waimea Rivers is formed by its two main tributaries, the Wai-iti and Wairoa rivers, which join approximately 1km downstream of the Brightwater Bridge (SH6) to become the Waimea River. A river control scheme utilising stop banking over the lower 7.5 km of the Waimea River was completed in 1962. All stopbanks and land between stopbanks to the outside edge of the bank are reserve land vested in the Council for river control purposes. Stop banking was developed to a 50-year (2% Annual Exceedance Probability) standard, accommodating a freeboard of 0.6 m..</p>		<p>Waimea River with Appleby Highway bridge in background</p>

2.3.4 Other assets, Tide and Flap Gates

The Council maintains 30 flap gates as river assets. The majority of these are associated with the stopbank schemes on the Waimea and Lower Motueka rivers to allow areas outside the banks to drain the river.

Three of these are tide gates. Pearl Creek in the Waimea, Little Sydney in Riwaka and Atua Stream on the way to Kaiteriteri.

The Atua twin cell gate currently has a fish friendly counterweight device installed to slow the rate of closure allowing a longer window of fish passage upstream on the rising tide. This is working well at this stage with more sediment build-up on the side with the counterweight and some extension of the saltwater prism beyond the gates.



Figure 3: Atua Gates

3 Strategic Direction

Strategic direction provides overall guidance to the Council and involves specifying the organisation's objectives, developing policies and plans designed to achieve these objectives, and then allocating resources to implement the plans.

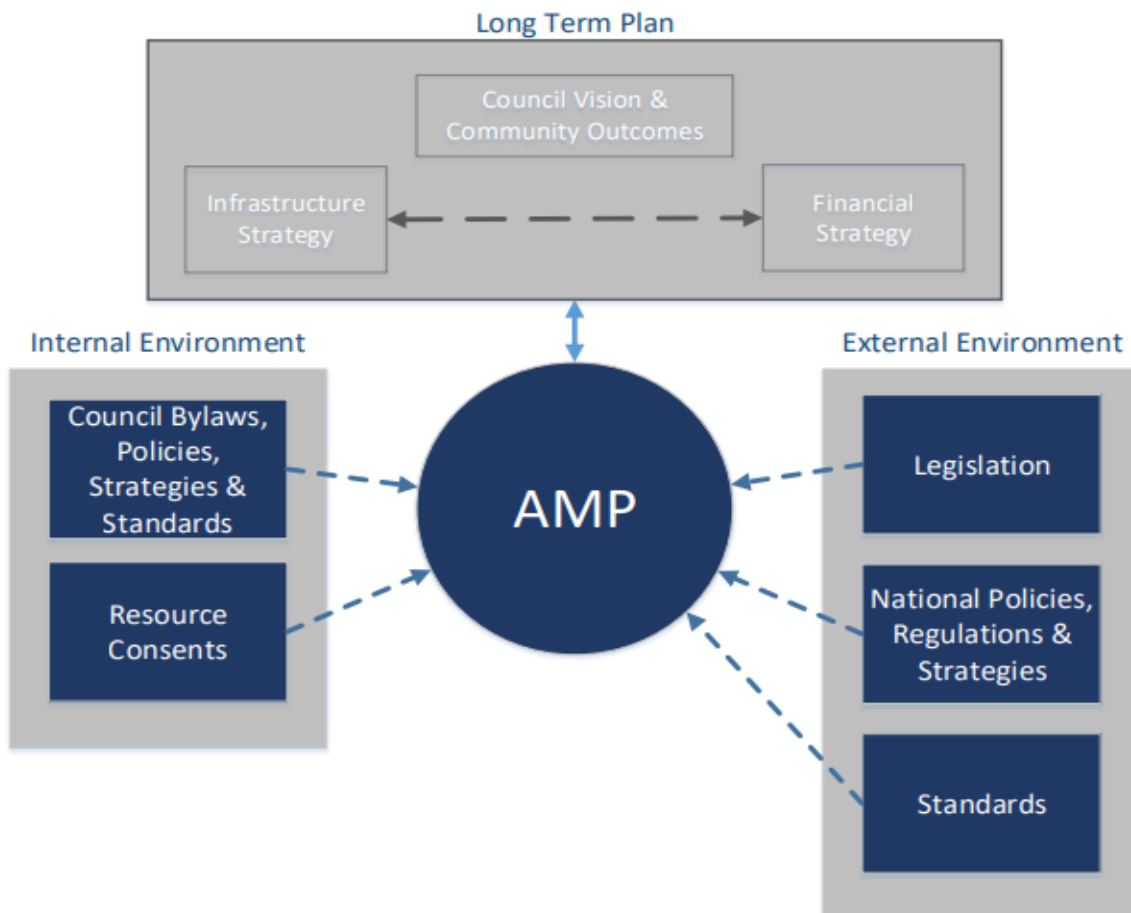
3.1 Our Goal

Activity Goal
We aim to provide cost effective and sustainable Rivers systems that protect properties from river flooding and to ensure that our river environments remain healthy and attractive ecosystems that can be enjoyed by our communities.

3.2 Strategic Alignment

This Activity Management Plan (AMP) is a key part of Council's strategic planning process. This plan supports and underpins the financial forecasts and work programmes contained in planning documents like Council's Long Term and Annual Plans.

The constraints that influence how the Council manages it's activities can be internal or external and include legislation, policies, strategies and standards:



3.2.1 Financial Strategy

The Financial Strategy outlines the Council's financial vision for the next 10 to 20 years and the impacts on rates, debt, levels of service and investments. It guides the Council's future funding decisions and, along with the Infrastructure Strategy, informs the capital and operational spending for the Long Term Plan 2024-2034.

3.2.2 Infrastructure Strategy

The purpose of the Infrastructure Strategy is to identify the significant infrastructure issues for Tasman into the future and identify the principal options for managing those issues and implications of those options.

The key priorities in the strategy include:

- Providing services that meet the needs of our changing population
- Planning, developing and maintaining resilient communities
- Providing safe and secure infrastructure
- Prudent management of existing assets and environment.

3.3 Key Legislation and Regulations

This activity is guided by Council Bylaws, Policy Statements and National Legislation. Council Bylaws, Legislated Acts and the key National Policies and Standards that apply to the Rivers Activity are listed in Appendix F and Table F-1 by their original title for simplicity and they include any subsequent Amendments Acts.

Legislation is continually being amended and replaced, so for the current Act information, refer to <https://www.legislation.govt.nz/>

3.4 Our Partners and Stakeholders

3.4.1 Partnerships with Te Tau ihu iwi

Council is committed to strengthening partnerships with iwi and Māori of Te Tau Ihu (Top of the South Island) and providing opportunities for Māori involvement in Council decision-making processes in a meaningful way. There are eight iwi that whakapapa and have Statutory Acknowledgements to places within Te Tau Ihu and Te tai o Aorere (Tasman District). They include representation by the following entities:

- Ngāti Apa ki te Rā Tō
- Ngāti Koata Trust
- Ngāti Tama ki te Waipounamu Trust
- Te Ātiawa o te Waka-a-Māui
- Te Rūnanga a Rangitāne O Wairau
- Te Rūnanga o Ngāti Kuia Trust

- Te Rūnanga o Ngāti Rārua
- Te Rūnanga o Toa Rangatira

Tasman District also covers the northern-western part of the Ngāi Tahu takiwā (tribal area/territory). Murchison is within the Ngāi Tahu takiwā and Ngāti Waewae iwi also have interests in this area.

Iwi Management Plans are lodged by iwi authorities and received by Council under the Resource Management Act 1991. Once lodged with Council, they are planning documents that the Council is required to take into account when preparing or changing Resource Management Act Plans. Iwi Management Plans document iwi worldview and aspirations for the management of resources, and help Council and staff to better understand those factors.

The Te Taihū Intergenerational Strategy is also a key strategic document that is influential in determining our community outcomes.

3.5 Stakeholder engagement

There are many individuals and organisations that have an interest in the management and operation of the Council's assets and services. The Council works alongside a variety of stakeholders and partners to share knowledge and views, make the most of resources, and achieve shared goals. The Council has a Significance and Engagement Policy which is designed to guide the expectations of the relationship between the Council and the Tasman community.

The stakeholders the Council consults with about this activity include:

- Elected members (Council and Community Board members)
- Regulatory (consent compliance, national regulatory bodies)
- Fisheries organisations
- Public Health Service (Nelson-Marlborough Health NZ Te Whatu Ora)
- Heritage New Zealand
- Civil Contractors New Zealand (Nelson - Marlborough)
- Utility service providers (Electricity and Telecommunications)
- Affected or interested parties (when applying for resource consents)
- Other territorial authorities.

3.6 Key Linkages

This Plan is to be read with consideration of other Tasman District Council planning documents, including the Activity Management Policy and Infrastructure Strategy, along with the following key planning documents:

- Long Term Financial Plan 2024-2034
- Annual Plan 2023/2024
- Risk Management Policy
- Infrastructure Strategy.

3.7 Te Mana o te Wai

Through the National Policy Statement for Freshwater Management 2020 (NPS-FM) the Government has issued local authorities with new direction on how to manage freshwater under the Resource Management Act 1991. Central to this new direction is the concept of Te Mana o te Wai.

Te Mana o te Wai is a concept and framework which is derived out of Te Ao Māori (the Māori world view that acknowledges the interconnectedness and interrelationship of all living and non-living things) and reflects the recognition of freshwater as a natural resource whose health is integral to the social, cultural, economic and environmental wellbeing of communities.

The framework of Te Mana o te Wai is rooted in the development of the National Policy Statement for Freshwater Management since 2014 by the Iwi Leaders Group and has been a key part of the current NPS-FM since 2014. It establishes a set of guiding principles and a hierarchy of obligations, and refers to the essential value of water, and the importance of sustaining the health and wellbeing of water before providing for human health needs, and then to other uses.

It expresses the special connection all New Zealanders have with freshwater. By protecting the health and well-being of our freshwater we protect the health and well-being of our people and environments.

There is a hierarchy of obligations in Te Mana o te Wai that prioritises (in order) the:

- Health and well-being of water bodies and freshwater ecosystems
- Health needs of people (such as drinking water); and
- Ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

The six principles of Te Mana o te Wai in the NPS-FM 2020 inform its implementation, the principles include:

1. Mana whakahaere: the 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.
2. Kaitiakitanga: the obligation of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations.
3. Manaakitanga: the process by which tangata whenua show respect, generosity, and care for freshwater and for others.
4. Governance: the 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.

- 5. Stewardship: the obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations.
- 6. Care and respect: the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation.

Te Mana o te Wai



Figure 4: Illustrates the interconnected principles of Te Mana o te Wai

Section 3.2(2) NPS-FM 2020 states every regional Council must give effect to Te Mana o te Wai. This has had implications on how the Rivers Activity is managed.

However in late 2023 the new coalition Government has signaled that changes are likely to the management of fresh waters under the NPS-FM 2020 and the National Environmental Standards for Freshwater and therefore further work in this space is subject to updated government guidance.

In May 2024 Resource Management (Freshwater and Other Matters) Amendment Bill was released by Government. The Bill, amongst other matters, excludes some Te Mana o te Wai obligations from resource consent applications and decisions. The Bill has been referred to the Primary Production Committee, to be reported by 30 September 2024.

4 Key Issues and Response

4.1 Key issues

The Council has identified key issues specific to the Rivers activity, which are discussed in Table 4 below. Key issues are interrelated and often, investing in solutions will likely help address other issues to varying degrees.

Table 4: Key Issues

Key Issue	Response
Community resilience	<p>Our rivers and streams pose varying degrees of flood risks to urban and rural communities. An expected increase in extreme weather due to climate change will increase flood risks in the future. Reducing flood risk across the District is very costly and generally considered unaffordable. Communities will need to expect certain exposure to flood risks which requires a level of awareness and resilience from our communities. The Council uses a risk based approach to prioritise its investment in flood protection and will re-focus on the development of emergency response plans together with the community over the next three years.</p>
Pro-active river management	<p>With an increase in flood events, it is expected that the demand for repairs will increase. Reacting to landowner requests is often time consuming and it could mean that meeting our strategic objectives or certain other opportunities are overlooked. An integrated and pro-active approach to River Management is planned via the development of River Management Plans to demonstrate best value for money.</p>
Providing equity to rate payers	<p>Most of the Council's expenditure is currently on Rivers Y and Z which addresses primarily minor flood risks and protects private land from erosion with limited benefit to the wider community in terms of addressing larger flood risks. Revenue from River X is insufficient to upgrade flood protection schemes for communities such as Appleby, Motueka, Brooklyn and Riwaka. The recent rating review will assist the equitable provision of Rivers services. The Council aims to further improve through risk prioritisation within the existing rating categories. This will include investment in asset data and asset performance monitoring.</p>

5 Levels of Service

Activity Management Plans set out the Levels of Service (LoS) the Council seeks to provide the community. Stakeholder groups can often have different and sometimes conflicting expectations of these levels of service and these expectations need to be managed to achieve the best value overall outcomes for communities.

The Levels of Service set the standards the Council aims to meet when providing a service in support of community outcomes. They are the measurable effect or result of a Council service, and can be described in terms of quality, quantity, reliability, timelines, cost or other variables.

The Council aims to achieve these goals while being aware of the cost implications of any changes. This section defines the levels of service provision for the Rivers activity, the current performance, and the measures and targets by which these will be assessed. Performance measures that are included in the Long Term Plan are assessed annually and reported through the Annual Report.

Levels of service can be strategic, tactical or operational. They should reflect the current industry standards and be based on:

- Customer Research and Expectations: Information is obtained from customers and stakeholders on the expected types and quality of service provided.
- Statutory Requirements: Includes the relevant legislation, regulations, environmental standards and Council bylaws that impact the way assets are managed (resource consents, building regulations, health and safety legislation). These requirements set the minimum level of service to be provided.
- Strategic and Corporate Goals: Provide guidelines for the scope of current and future services offered and the manner of service delivery and define the specific levels of service the organisation aims to achieve.
- Best Practice and Standards: Specify the design and construction requirements to meet the levels of service and needs of customers.

5.1 Our Levels of Service

Table 7 summarises the levels of service and performance measures for the Rivers activity.

[Note Blue shaded rows are the levels of service and performance measures to be included in the Long Term Plan. Unshaded white rows are technical measures that are only included in the Activity Management Plan].

Table 5: Levels of Service and Performance Measures

Levels of Service	Performance Measures
<p>Protection</p> <p>Our structures are managed to reduce the impact of flooding now and in the future</p>	<p>The major flood protection and control works are maintained, repaired and renewed to the standards described below.</p> <p>No failure of flood protection in the existing stopbank system maintained by Council when river flows remain below the specified design levels:</p> <ul style="list-style-type: none"> • Riuwaka River = approximately 145 m³/s @ Hickmotts flow gauge, which corresponds approximately to a 20% AEP* to 10% AEP event in 2020 for the area downstream of the SH60 bridge. This is considered a LOW level of protection. • Lower Motueka River = 1,854 m³/s @ Woodstock flow gauge, which corresponds approximately to a 2% AEP event in 2020. This is considered a MODERATE level of protection. • Waimea River: Wairoa River = 1,346 m³/s @ Irvine flow gauge, which corresponds approximately to a 2% AEP event in 2020. This is considered a MODERATE level of protection. <p>*AEP = Annual Exceedance Probability, the probability that a flow event of a certain size will occur in any given year. The lower the percentage, the larger the flow event, and the less frequently it is expected to occur. (Mandatory measure one).</p>
	<p>We complete approved annual maintenance programmes. As measured through the Council’s two monthly maintenance programmes.</p>
<p>Amenity</p> <p>Our river environments are healthy ecosystems that are attractive and enjoyed by our communities</p>	<p>We develop new native riparian planting sites.</p> <p>Number of plants planted and measured through river maintenance contract claim payment records.</p>
	<p>Complaints about illegal dumping in X and Y classified rivers and on adjacent beaches on public land are actioned within five working days.</p>

5.2 Level of Service Changes

The Council reviews its Levels of Service every three years, as part of the Long Term Plan process. The Levels of Service from the previous Long Term Plan have been retained with

minor changes.

Table 6: Summary of Areas where the Council have made changes to their Levels of Service

Performance Measure	Summary of change
Protection	Comments on the level of protection provided have been added for the Riuwaka, Lower Motueka and Waimea Rivers.

5.3 Level of Service Performance and Analysis

Table 7: Levels of Service and Performance Measures

Levels of Service	Performance Measure (we will know we are meeting the level of service if...)	Current Performance 2022/2023	Future Performance Targets			
			Year 1	Year 2	Year 3	By Year 10
			2024/2025	2025/2026	2026/2027	2027 - 2034
Protection Our structures are managed to reduce the impact of flooding now and in the future	No failure of flood protection in the existing stopbank system maintained by Council when river flows remain below the specified design levels	Achieved and recent upgrading works make ongoing achievement more likely	Achieved	Achieved	Achieved	Achieved
	Maintenance programmes completed	90%	95%	95%	95%	95%
Amenity Our river environments are healthy ecosystems that are attractive and enjoyed by	The Council develop new native riparian planting sites. Number of plants planted and measured through river maintenance contract claim payment records.	15,800	> 13,000	> 13,000	> 13,000	> 13,000

Levels of Service	Performance Measure (we will know we are meeting the level of service if...)	Current Performance 2022/2023	Future Performance Targets			
			Year 1	Year 2	Year 3	By Year 10
			2024/2025	2025/2026	2026/2027	2027 - 2034
our communities	<p>Complaints about illegal dumping in the X and Y classified rivers and on adjacent beaches on public land are actioned within five working days.</p> <p>As measured through Customer Services Requests (CSR) in the Council's database. CSRs are responded to within five days.</p>	<p>94%</p> <p>(of 32 dumping over the year, 30 were picked up on time)</p>	95%	95%	95%	95%

5.3.1 Protection

5.3.1.1 Our structures are managed to reduce the impact of flooding now and in the future

The River Managers Group NZ have developed a Flood Protection Asset Performance Tool to provide a common method throughout New Zealand of measuring the performance of the river protection schemes. The methodology has been used in Tasman for both the Waimea and Motueka flood protection schemes resulting in an increased understanding of the level of protection provided by the stopbanks as well as the residual flood risk that remains. The methodology has identified gaps in the availability or accuracy of our asset data. The Council will continue to invest in asset data collection in order to further improve asset management practices.

Through the Motueka flood mitigation study, the following levels of service have been identified.

Table 8: Levels of Service for flood protection schemes

River	Design Level of Service	Indicative current Level of Service (modelled)	Corresponding present day flow (m ³ /s)
Motueka River	2% Annual Exceedance Probability (AEP) + 600mm freeboard	2% AEP with 50 to 200mm freeboard	1860 m ³ /s (Woodstock gauge)
Motueka River		1% AEP with minimal freeboard (some minimal overtopping)	2060 m ³ /s (Woodstock)
Riuwaka	5% AEP, reduced to 10%	< 10% AEP	158 m ³ /s (Hickmott gauge)
Brooklyn	N/A	< 10% AEP	18 m ³ /s (upstream of banks)

The Council acknowledges that increasing Levels of Service for flood protection is unaffordable and that variable levels of flood risk will remain. The Council will focus on creating awareness of these flood risks amongst communities and assist them in being more resilient for when flooding occurs. New improvement measures were added for the development of river and community specific emergency action plans. Unfortunately

between 2021-2024 progress on these was hampered by staff turnover. These plans, when complete will assist ensuring that communities are informed of when flooding is forecast, prior to the event occurring in accordance with the Council's Hydrology Flood Manual.

5.3.2 Amenity

Our river environments are healthy ecosystems that are attractive and enjoyed by our communities.

The performance measure in response to illegal dumping of rubbish in the river system has been retained so that the Council continues to track the occurrence of illegal dumping and can consider further intervention measures if necessary.

5.3.3 Customer satisfaction

The most recent residents' survey was undertaken in May 2023, however in this case no questions related to the Rivers activity were asked.

5.3.3.1 Risks to achieving Levels of Service

There are multiple risks associated with achieving the levels of service including:

- Multiple or significant storm events
- Wilful or negligent damage to stopbanks
- Shortage of plant supply
- Significant plant die off due to weather (drought or flood, vandalism)
- Loss of maintenance contractors
- Significant increases in illegal dumping

Whilst most of these risks are beyond Council's direct control, specific mitigation measures are:

- Encouragement of the community to maintain stopbanks and plantings and report any misuse, damage and dumping.
- Pre-ordering of plants and liaison with nursery staff regarding updated conditions.
- Flexibility in contracts to adapt to changing circumstances.

5.4 Risk Management and Assumptions

This Plan and the financial forecasts within it have been developed from information that has varying degrees of completeness and accuracy, creating some inherent uncertainties and assumptions with the potential to impact on the achievement of the Council's objectives.

5.5 Our Approach to Risk Management

The potential impact of a risk is measured by a combination of the likelihood it will occur, and the magnitude of its consequences on a Council objective. Significant risks for Council are managed through Council's risk management strategy, policy and registers.

The Council's Risk Management Framework is under ongoing development and spans the following areas of activity:

- service delivery
- financial

- governance and leadership
- strategic
- reputation
- legal
- regulatory
- health and safety
- security
- business continuity.

Some features of the strategy include:

- Table of Consequences to help determine the Risk Appetite
- Enterprise Risk Register
- identifying risks
- assessing likelihood and consequence
- documenting controls, actions and escalation
- monitoring and reporting.

The Council has adopted an approach to risk management that generally follows the Australian/New Zealand Standard ISO 31000:2009 Risk Management – Principles and Guidelines.

5.6 Activity Risks and Mitigation Measures

The key generic risks, assumptions and mitigations and more specific risks relevant to the Rivers activity are summarised in Table E-1 in Appendix E.

6 Current and Future Demand

The ability to predict future demand for services enables the Council to plan ahead and identify the best way of meeting that demand. That may be through a combination of demand management and investing in improvements.

This section provides an overview of key drivers of demand and what demand management measures the Council has planned to implement.

6.1 Demand Drivers

The future demand for the rivers activities will change over time in response to a wide range of influences, including:

- population growth
- changes in demographics
- climate change
- local economic factors including industrial and commercial demand
- seasonal factors (tourism)
- land use change
- changing technologies
- changing legislative requirements
- changing regional and District planning requirements
- environmental awareness.

6.2 Assessing demand

The key demographic assumptions affecting future demand are:

- Ongoing population growth over the next 30 years with the rate of growth slowing over time. The overall population of Tasman is expected to increase by 7,400 residents between 2024 and 2034, to reach 67,900.
- An ageing population, with population increases in residents aged 65 years and over. The proportion of the population aged 65 years and over is expected to increase from 23% in 2023 to 28% by 2033.
- A decline in average household size, mainly due to the ageing population with an increasing number of people at older ages who are more likely to live in one or two person households.

6.3 Demand Management

Demand management includes both asset and non-asset strategies to manage demand across the Rivers activity. The objective of demand management is to actively seek to modify customer demands for services in order to:

- optimise utilisation/performance of existing assets

- reduce or defer the need for new assets
- meet the Council's strategic objectives
- deliver a more resilient and sustainable service; and
- respond to customer needs.

The Council is not planning to amend the Levels of Service for river management or extend our service provision. Neither is it anticipated that many new landowners will want to join the scheme. However, a minor review of the boundaries of the X, Y zones has been undertaken to ensure correctness. In addition Collingwood lower areas have been changed from from Z to Y. These changes have been undertaken in the rating maps.

6.3.1 Community Expectations

Community expectations can change and generally depend on how the community has coped during the most recent flood or the level of damage sustained. The community expectation needs to be related to risk management and affordability issues. The extent of the future demand will be determined by investigations and community consultations.

6.3.2 Land Development

Land and property values on the flood plains along rivers increase due to changing and intensified land uses. An example of this is the surge in development of hop gardens in the district. The alluvial soils and free draining gravels that are typical for flood plains are well suited for hop growing. Rivers and creeks are being constraint by river works to protect productive land resulting in increased demand for maintenance and Rivers Z subsidised river controls.

6.3.3 Climate Change

Climate change is likely to affect the rainfall intensity, frequency and duration of flood events. This may affect rock demand for bank protection, channel clearing, available free board, stopbank maintenance and upgrades. Increases in the Council's maintenance budgets have been programmed to address future demand, including the effects of climate change. The extent of future demand due to climate change effects is uncertain due to the irregular nature of when and where climate change related events might occur. The Council will respond as required once trends in climate change related events become clearer.

6.3.4 Gravel extraction

Gravel extraction currently occurs through the following two processes:

1. Tasman District Council's global gravel extraction consent allows gravel extraction from the active river channel only.
2. Various private gravel extraction consent applications allow extraction mainly from gravel pits outside the active river channel.

The purpose of the Council's global gravel extraction consent is to manage the river with regards to maintaining flood protection (e.g. preventing aggradation – partly through the removed volume, but also through vegetation control that allows sediment to better move

downstream in floods) and keeping the river in its course and not eroding banks.

The main driver for private applications is to make the gravel resource available to the local construction industry.

6.3.5 First Right of Refusal for Riverine Gravel Extraction

By Agreement with Council, two local Māori interests have the “first right of refusal” for any riverine gravel extraction undertaken under the Annual Operation and Maintenance Programme for River Works. This applies where the bed is owned by the relevant Māori interest and is confirmed in a letter from the Council to Wakatū and Ngāti Rārua Ātiawa Iwi Trust (NRAIT) on 18 October 2013.

7 Lifecycle Management

Lifecycle cost is the total cost to the Council of an asset throughout its life including, creation, operations and maintenance, renewal, and disposal. The Council aims to manage its assets in a way that optimises the balance of these costs. This section summarises how the Council plans to manage each part of the lifecycle for this activity.

7.1 Asset Condition and Performance

The Council needs to understand the condition of its assets as this helps inform asset management decision making. Condition monitoring programmes consider how critical an asset is, how quickly it is likely to deteriorate and the cost of data collection.

7.1.1 Waimea Catchment

The Stop Banks Scheme is well designed and constructed and generally in good condition, however, the stop banks are steeper than other comparable stop bank schemes in New Zealand and the toe of the bank is close to the main river channel in at least one location. Like many of the stop bank schemes in the district, there is stock damage, trees growing in the banks, vehicle crossings and fences that can compromise the effectiveness of the banks. The Waimea River has had a historical build-up of gravel materials, in the last decade, this build up has been reduced through controlled gravel extraction.

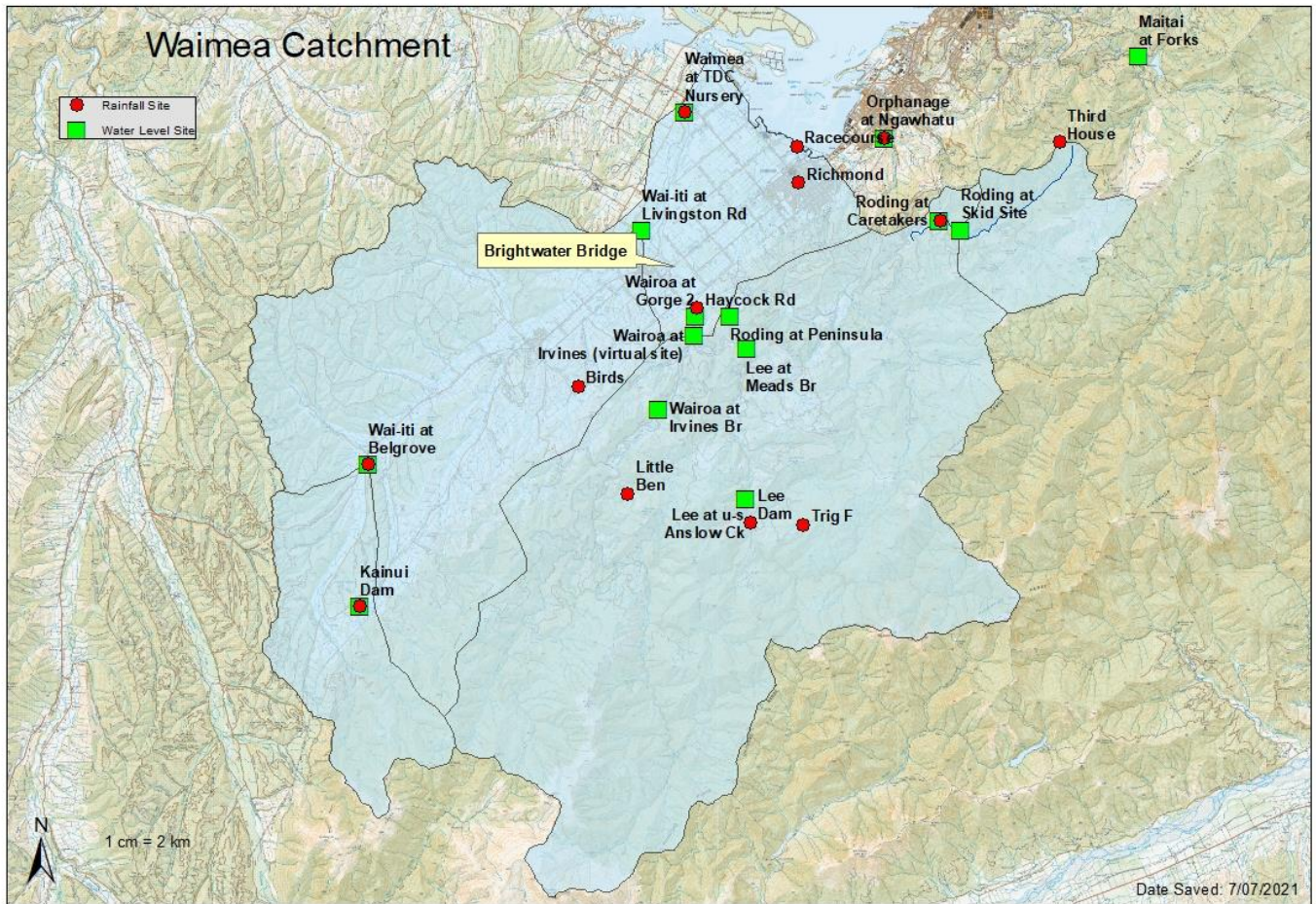
Waimea: In January 1986 a large flood measured at 1466m³/s at Wairoa Gorge and estimated to be ~1800 m³/s in the lower catchment (~2% AEP) caused extensive bank damage, exacerbated by the over-extraction of gravel. The left bank below the Appleby Bridge was raised in 1988 in response to the 1986 flood. There are still areas with narrow berm areas between the stopbanks and the main river channel, which may be threatened during a future large flood.

Recent large events in the Waimea are:

- February 2016 of 1315m³/s (5% AEP). Wai-iti experienced a flood event of 344m³/s (5 - 10% AEP).
- August 2022 m³/s ~1200 (10% AEP) – when the nearby Maitai River received three 1% AEP storm events during a four day storm.

The Council has procured a validated hydraulic model analysis of the Waimea River from the confluence of Waimea and Wai-iti Rivers to Best Island. Results show that above Appleby Highway Bridge both the left and right stop banks are not predicted to be exceeded in the 1% or 0.5% AEP, although the maximum levels were within 200mm of the crest in some places. Results show that the stop bank is predicted to be overtopped in a 1% AEP event on both the left and the right banks downstream of the Great Taste Trail Cycleway Bridge.

The following plan shows the catchment map from the TDC Hydrology Flood Manual, Last Saved: 1-Feb-24. Other catchment plans below are from the same source.



7.2 Upper Motueka Catchment

The Upper Motueka is a dynamic river serving one of the largest catchments in the District. River assets in this catchment are erosion protection only. The River is semi braided and one of the weediest in the District with a significant proportion of the Rivers Y maintenance budget being spent on this catchment. In recent years, the Council have concentrated on these weeds and have made significant reductions to the historic broom coverage.

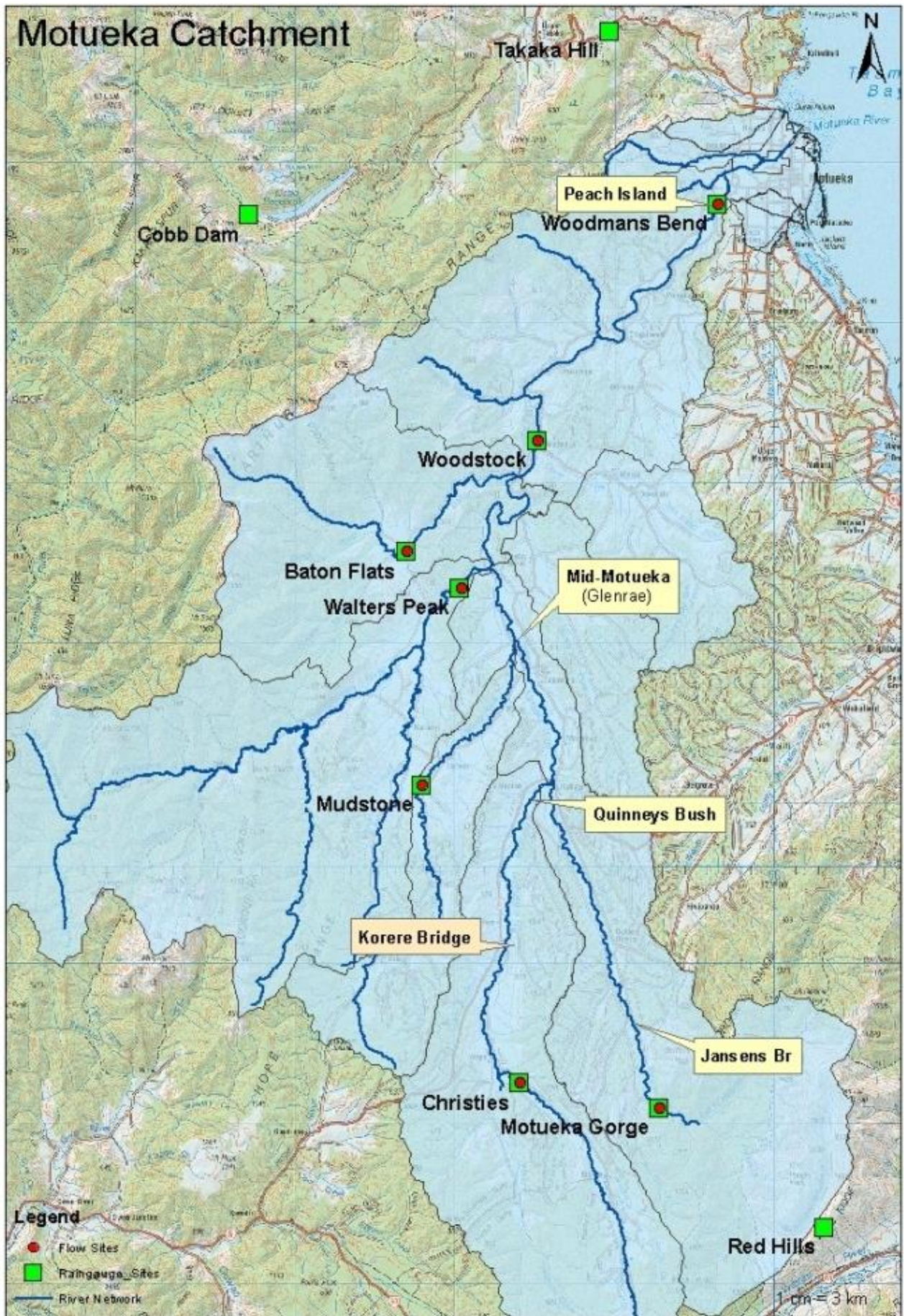
- The Tadmor experienced a 5% AEP flood event in July 2012 ($105\text{m}^3/\text{s}$) which is slightly smaller than the peak recorded flow of $109.6\text{m}^3/\text{s}$ on 10 Jul 1983.
- The Motupiko experienced a 15% AEP flood event in October 2013 ($65\text{m}^3/\text{s}$).

7.2.1 Lower Motueka Catchment

The Lower Motueka River is the largest flood protection scheme and the river has some of the largest flows, with the highest recorded in the TDC online data being:

- Woodmans Bend $1605\text{m}^3/\text{s}$ on 18 April 2014 (predicted 1% AEP = $2630\text{m}^3/\text{s}$)
- Woodstock $2149\text{m}^3/\text{s}$ on 10 July 1983 (predicted 1% AEP = $2041\text{m}^3/\text{s}$)

The catchment also includes the Brooklyn stream.



A technical investigation and risk analysis was undertaken for the lower Motueka, Brooklyn and Riuwaka rivers in 2019/20. The outcomes are summarised as follows:

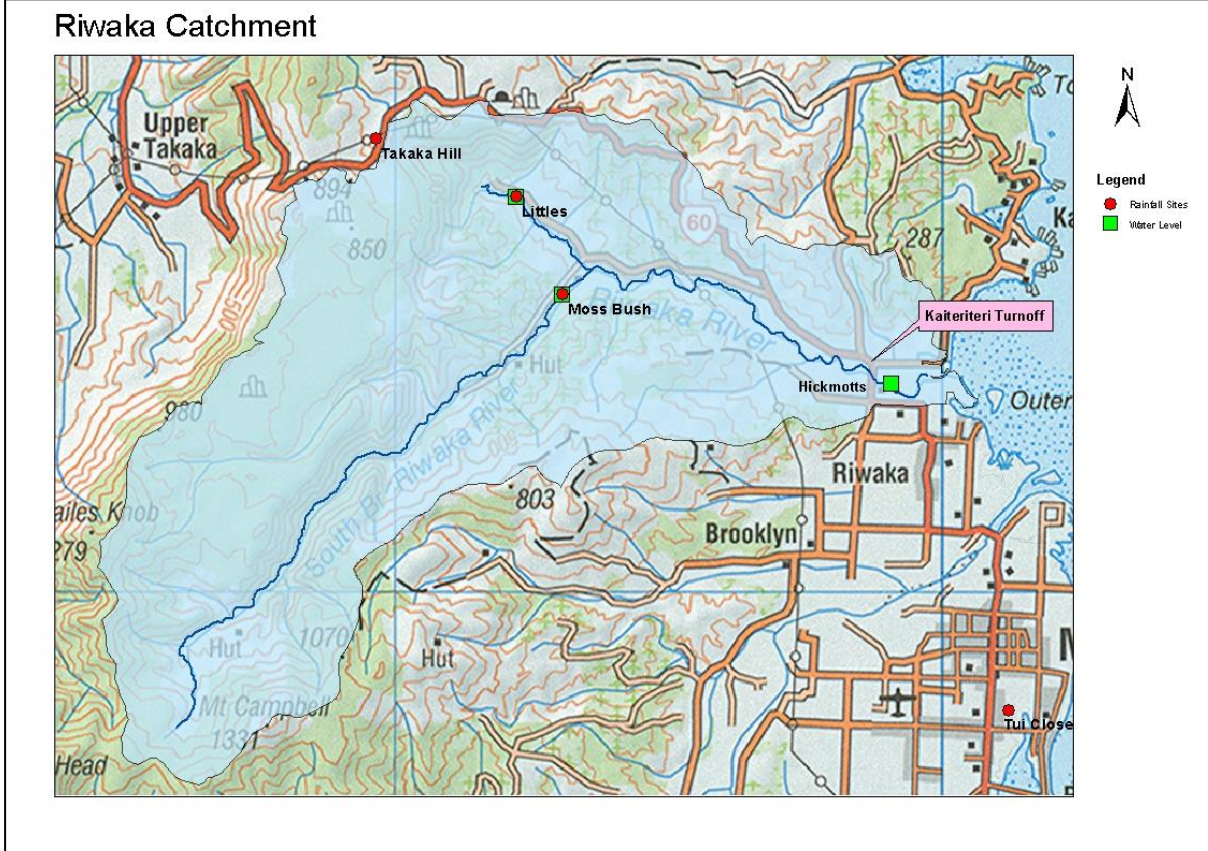
1. In general, the Motueka River stopbanks themselves were observed to be in good condition, with little or no obvious signs of slope instability, severe erosion/surface damage, foundation softening, or berm erosion.
2. The Brooklyn Stream and Riuwaka River stopbanks were generally in poorer condition compared to Motueka. Heavy vegetation, stock damage, and uneven crests and side slopes are common across these networks. Above Brooklyn Township and above the Riuwaka Highway Bridge, stopbanks were generally not able to be identified and are unlikely to reliably contribute to flood control.
3. The Hurley, Kiwifruit, and Peach Island stopbanks were generally in better condition than the Brooklyn and Riuwaka stopbanks, however, severe stock damage resulting in lowering of the crest has occurred in several locations around the Peach Island stopbank.
4. The condition of the stopbank surface was generally in good condition with even grass cover. There were sections of the Peach Island stopbank and Riuwaka stopbank that are in poor condition with no grass cover, erosion along the crest and severe stock damage. Additionally, localised areas along the stopbank have been lowered to provide crossings.
5. Slope instability was not observed in the field and is generally not considered to be a significant issue for any of the stopbank networks assessed. Slope instability may occur as a result of a large earthquake (which may allow for repair prior to a flood) or due to erosion of the riverbank in cases where no berm exists.
6. No definitive observations of seepage were made in the field as the assessment was undertaken during non-flood conditions, however, higher seepage hazard was identified at a number of locations. These locations are generally consistent with those where seepage has been reported during past flood events, with some additional locations identified.
7. The modelling found that the 48-hour rainfall event was the critical storm duration for the Motueka River, while the 6-hour event was critical for the Riuwaka River and Brooklyn Stream. The assessment found that the Motueka River stopbanks are expected to overtop in the Peach Island area in the present day 2% and 1% AEPEP events. Records indicate that the Motueka stopbanks were originally designed to accommodate a flow of 2,830 m³/s. (flow location unknown), with 600 mm freeboard to the stopbank crest. At the time this was considered to be a 2% AEP flow event.
8. The assessment also identified much lower levels of service for the Riuwaka and Brooklyn Streams. The capacity of both watercourses was assessed as being lower than the 10% AEP flow, with overtopping likely at various points along each watercourse in the modelled 10% AEP event.
9. Four sections along the Motueka Stopbank scheme were identified as presenting a “very high risk” in the event of failure.

The Risk Assessment has resulted in the development of a prioritised programme of works aimed at reducing the risk and restoring the design level of service to 2% AEP with 600mm freeboard. As of February 2024 works are complete at the four critical sites:

- 260m of stopbank adjacent to the Plant and Food research centre near Riwaka has been refurbished to protect this valuable economic asset for the region.
- 200m of stopbank at Hurley Bank has been reinforced along a section which was narrow and vulnerable.
- 290m of stopbank has been refurbished along the Motueka River back channel at the confluence with the Shaggery Stream. Debris that was deposited in the back channel from the Shaggery catchment during Cyclone Gita was also moved. This will improve flood resilience on Peach Island in a location where the stopbanks overtopped in July 2021.
- Localised repairs of weak spots on the stopbanks around Peach Island were also completed.

7.2.2 Riwaka Delta Catchment

Riwaka flood control is generally in poor condition. The stop banks are very low and whilst is was designed for 5% AEP flood events, lower areas downgrade the facilities to a 10% AEP flood event. Horticulture is very close to the stop banks, and the stop banks themselves are close to the river channel, which makes access for maintenance like mowing difficult. Landowners grazing the banks are an ongoing issue.



In June 2013, the Riwaka River experienced a 6% AEP flood event (156m³/s) followed by a

8% AEP flood event in October 2013 and the extreme event recorded being a 5% AEP flood event of 177m³/s on 20 Feb 2018.

The October 2013 event overtopped the left bank a few hundred metres upstream of the state highway bridge, contributing to surface flooding at properties near Cook's Corner and further along the road towards Kaiteriteri. This was due to vegetation being cleared because of a new hop garden stay. Fill has since been placed to raise this low spot.

7.2.3 Moutere Catchment

This catchment essentially consists of a manmade drains rather than a natural waterways. The steep sides make the waterway prone to erosion and the narrow width make blockage from weeds an ongoing risk. Ownership of land around the waterway are right up to the sides and are often fenced. This makes reducing the slope to prevent erosion difficult and this is evident in the upper part, which has suffered severe erosion due to alignment. Rip rap has been added in multiple locations to mitigate this.

The River has experienced a flood event of $150\text{m}^3/\text{sec}$ during the time that a recorder and gauging reach existed. This gauge site has been decommissioned. The Upper Moutere area has not experienced significant flood events since 2011.

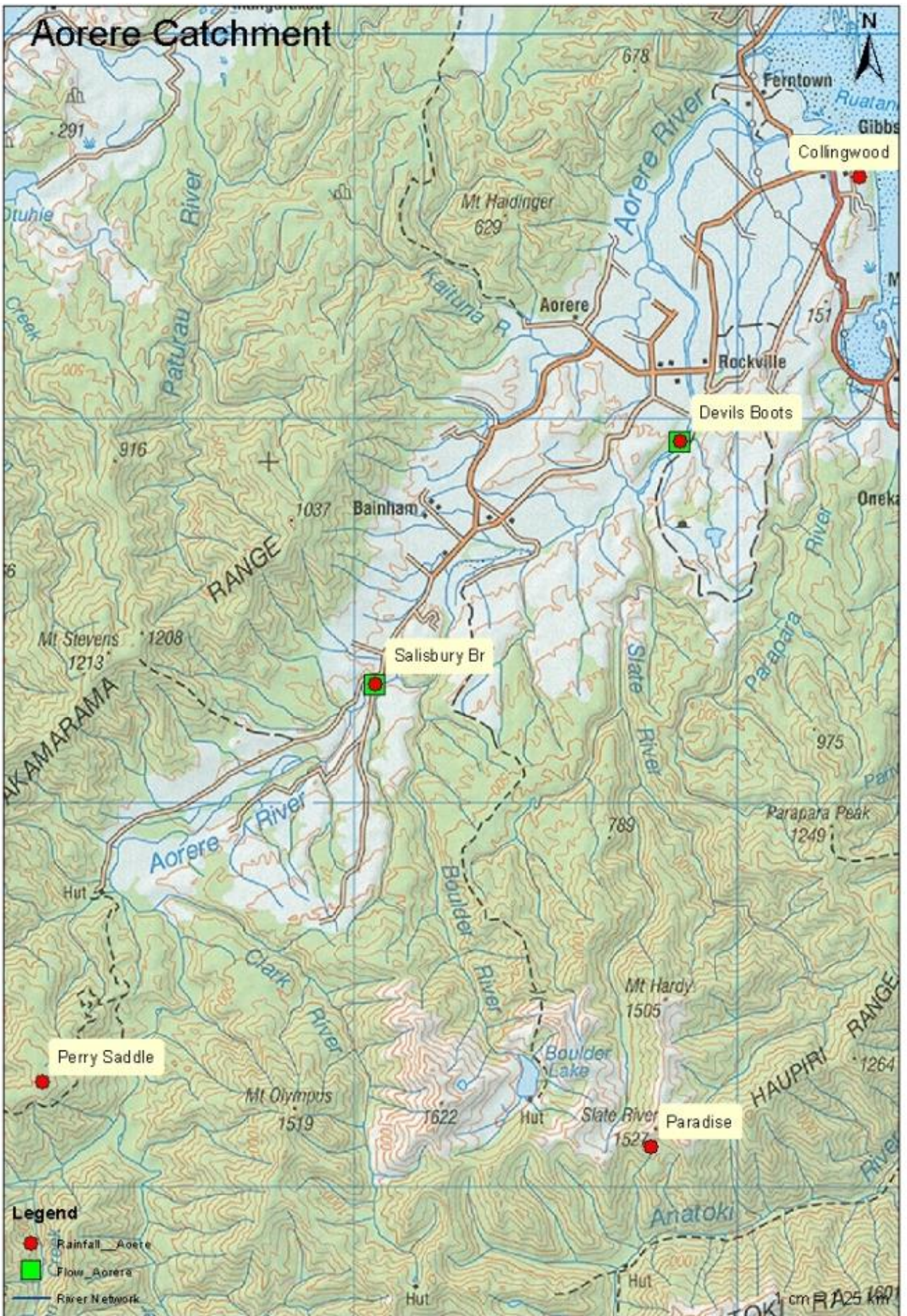
7.2.4 Aorere Catchment

The Aorere River has the largest flows in the District. The Ferntown Delta is low-lying land, prone to flooding. It has the District's largest rock structures due to flood events in 2010 in conjunction with intensification of the land use in the catchment. The Catchment is predominately-native bush, eliminating a seed source for weeds. The Council does not monitor the gravel levels in the river, but it is generally regarded as being satisfactory.

On 28 Dec 2010 the highest ever flow was recorded of $3561\text{m}^3/\text{s}$ (0.5% AEP flood). This resulted in extensive damage to private property from approximately 2 km downstream of the Rockville Bridge. There was damage to existing bank protection and channel realignment. The remaining maintained river length sustained significant damage including damage to existing bank protection and further bank erosion. This event also took out the bridge on the James Road Right Branch.

Other significant flood events include July 1985 when a flow of $3067\text{m}^3/\text{s}$ (~2% AEP) was recorded and October 1996 when around $2400\text{m}^3/\text{s}$ (~5% AEP) was recorded. Both these floods caused significant damage in the lower catchment to existing river works and unprotected riverbanks.

Of particular significance is the potential for the river to take a completely new course to the sea over the last few kilometres of its catchment length.

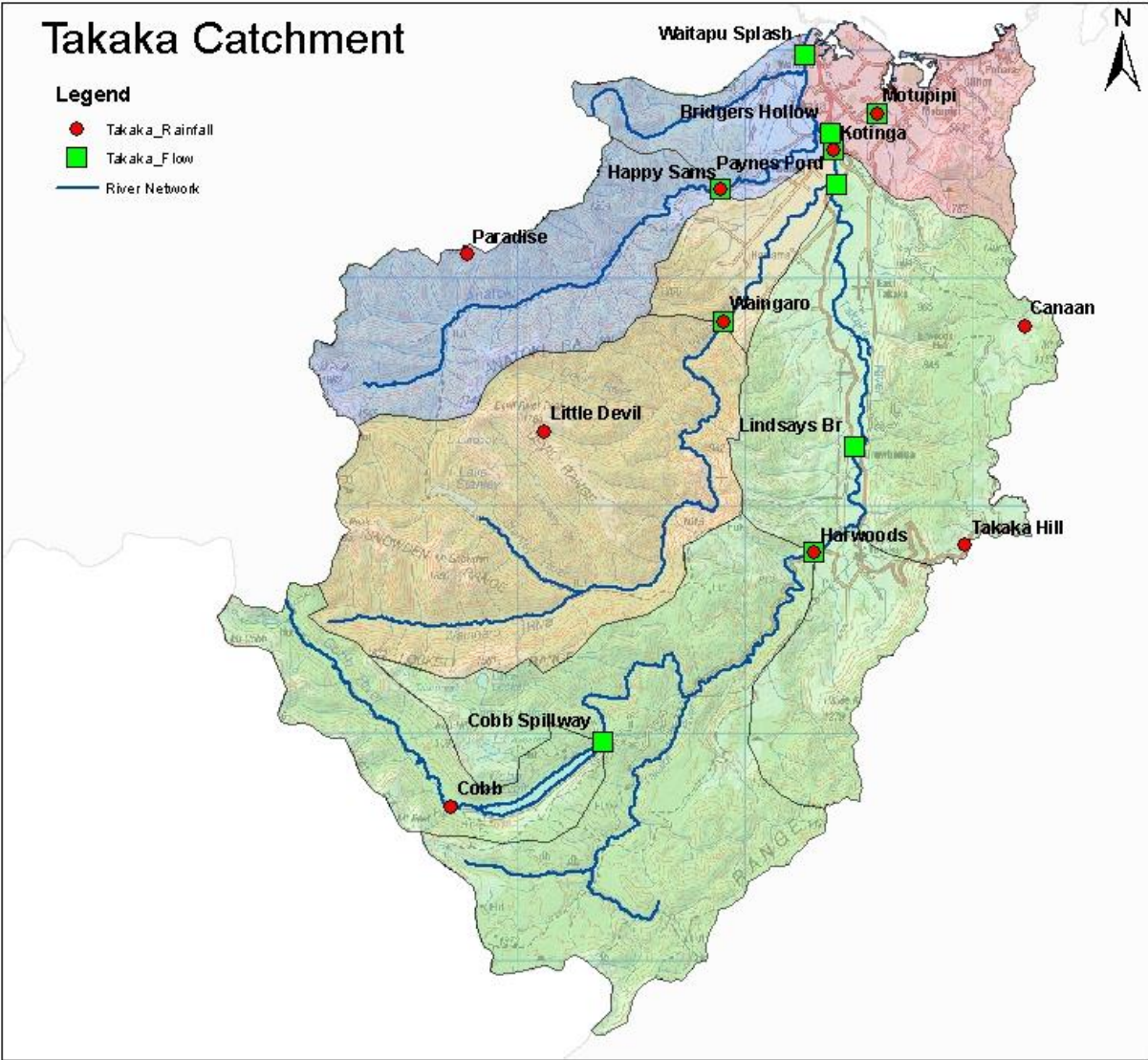


7.2.5 Tākaka Catchment

The Tākaka River has no stop banks other than the unofficial McKenzie bank. This is not maintained by the Council. The river frequently floods with large inflows from the two major tributaries, Anatoki and Waingaro Rivers. The rivers have steep sides and high erosive forces. The lower reaches around the town have been rock protected to avoid erosion. Historical rock protection has been undergoing maintenance to return the armouring to the original levels of protection. Weeds are not a major issue for this catchment, although there are ongoing weed control works.

Prior to the 1960s, severe flooding of the lower floodplain areas was frequent and there was extensive bank erosion along the Tākaka, Waingaro and Anatoki because of the highly erosive nature of the alluvial soils. On 10 July 1983 a flood of over 2,076m³/s was recorded at Kotinga and 990m³/s at Hanging Rock on the Waingaro (~2% AEP) which caused extensive damage to surrounding land and property. Following this flood, a new channel was cut below the Waitapu Bridge to re-align mouth in a direct line with the bridge.

The Anatoki peak flow recorded at Happy Sams was 629m³/s (~2%AEP) on 28 Dec 2010.The



most recent large event was a 6% AEP flood in the Waingaro (780m³/s) in April 2014. The Tākaka River (further downstream) only measured a 14% AEP flood event.

7.3 Operations and Maintenance

Operations include regular activities to provide services. Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating.

7.3.1 Key Maintenance and Operational Themes

7.3.1.1 Unintentional Damage

Landowners undertake activities that unintentionally threatens the integrity of the stopbanks. These activities include but are not limited to:

- Stock grazing
- Tree planting
- Installation of fences
- Driveways
- Gateways
- Construction of buildings
- Obstructions to maintenance.

7.3.1.2 Maintenance Objectives

The major objective of river control and the associated drainage systems is to safely pass a given flow and protect land from erosion. The system can be broken down into component assets, with sub-objectives for each component and the identification of works required to maintain and upgrade that component.

7.3.1.3 River and Drainage Channels

These need to be sufficiently deep and wide enough to carry drainage flows and/or the majority of the flood flow and be kept clear of restrictions such as willows and aquatic weeds.

7.3.1.4 River and Drainage Bank Edge Protection

The edges of the channel require preventative maintenance where subject to erosion and/or slumping. The methods used largely include rock protection structures and willow tree layering. In the case of drainage systems e.g., Swamp Road, Riwaka, timber structural walls have been used because of the restriction between road edge and the creek bank.

7.3.1.5 River Berms

Where stopbanks have been constructed, a physical buffer (land) between the main river channel and stopbanks is highly desirable. Careful management of the vegetation on the berm is required to facilitate slow non-scouring water velocities over them but without creating a restriction to flood flows in significant events. Guide banks, rock retards and berm shaping may also be used to control velocities.

7.3.1.6 Stopbanks

These are usually earthen banks of sufficient height to prevent flood overflow. Banks need to have adequate structural integrity and requiring a good grass surface to inhibit erosion.

7.3.1.7 Flow Control and Miscellaneous Structures

These are culverts, floodgates, control gates, pipe headwalls, spillways, weirs (e.g. Wai-iti River), drop structures, bridges, etc.

7.3.2 Maintenance Contract

The Council currently contracts out the day-to-day operation and maintenance of the X and Y classified river works. The Council's Operation and Maintenance Contract are let through competitive tendering following the Procurement Strategy to ensure a true market value.

The Rivers activity is currently maintained under Contract 1064. This contract sets out the operations and maintenance requirements for X and Y rated areas over a seven year period and which must also be operated in accordance with the Global Riverworks Consent. Taylors Contracting Co Ltd was awarded Contract 1064 in 2023; this contract is a three year; plus two years; plus two years format. The current contract will expire in 2028.

The maintenance contract includes.

- The maintenance and renewal of existing protection works and the construction of new works as necessary to maintain the specified sections of rivers.
- Existing protection works includes stopbanks, rock protection, flood and tide gates, selected willow cutting and layering, riparian management and any other structures or plantings that protect the riverbanks from erosion.
- Develop and maintain working relationships with adjacent and affected landowners, which foster a partnership with the Council.
- Be respectful of the landowners, their property, stock and pastures where access is required to complete the contract works.

The Rivers Engineers and Contractors aim to follow the maintenance programme listed below.

Some maintenance items are undertaken on a regular or seasonal basis, for example:

- Stopbank mowing
- Flap gate inspections
- Native planting, site preparation
- Willow layering
- Fairway spraying.
- Some maintenance items are on an ad-hoc basis, for example:
- Responding to urgent erosion or flooding
- Clearing fairways of debris
- Responding to fly tipping.

Other work is planned over a longer time frame (that may also be undertaken on a seasonal basis), for example:

- Major in-stream works such as gravel extraction or re-location
- Non-critical work such as weed control outside the fairway
- Improvement of access for river maintenance and/or recreational purposes
- Discouragement of fly tipping / vehicle access restrictions
- Restoration of riparian vegetation.

Longer timeframe works are undertaken on a limited and opportunistic basis in order to preserve sufficient budget to deal with future potential flood events and reactive requirements.

Operations and maintenance works are provided in Maintenance Strategies.

7.3.3 Maintenance Strategies

7.3.3.1 Rivers Z General Works

In addition to the Operations and Maintenance works carried out under Contract 1064, the Council annually allocates funds for Z rated areas. The majority of works in these areas are carried out on a part funding basis (i.e. a combination of land user and rivers account funding). Some of the River Z rates collected are spent in the River Z classified area with the majority of the funding being proportioned to the X and Y classified area as a regional benefit factor. The decision on which works are carried out is constrained by the annual budget and the following criteria.

- Is there a "community" benefit different from a benefit to the landowner/occupier only?
- Is what the owner/occupier wants a desirable outcome, will it work and is it cost effective?
- Is the work achievable under the river works consent?
- Is it possible that by not offering financial support, work of a standard not desirable or outside the river works consent could eventuate?
- Will the work encourage upstream and downstream neighbours to be more proactive with their stream maintenance or drainage?
- Is there a direct benefit to the Council in terms of its assets and services?
- Is it necessary to involve neighbours at an early stage to be proactive to achieve a desirable outcome?
- Is the property owner/occupier happy to enter into a cost share arrangement and complete the standard form - Application for Assistance for River Protection Works?

Table 9 lists the Operations and Maintenance activities. The completion of these activities is required to meet the assets minimum service potential. Historically budgetary constraints impact on the ability of the Rivers Contractors to consistently meet the objectives.

Table 9: Operations and Maintenance Activities

Work Type	Maintenance Activities	Maintenance Objectives
Stopbank Maintenance	<ul style="list-style-type: none"> • grading of access tracks and bank tops; • gravelling access tracks; • battering, sowing and top dressing; • mowing and slashing; • removal of scrub/trees; • reconstruction of damaged banks; • maintenance of drainage culverts and flap gates under stopbanks. 	<ul style="list-style-type: none"> • to prevent significant obstruction to flow along the banks; • to maintain drainage through and/or around the stopbanks; • to maintain good access; • to ensure controlled overflow from rivers; • to ensure minimum damage if overflows; and • for appearance.
Lengths of Damaged Stopbanks	<ul style="list-style-type: none"> • rectify the decline in standard of stopbanks from stock use by ensuring large stock are excluded. 	<ul style="list-style-type: none"> • to ensure that stopbanks meet their design capacity.
Floodgates and Culverts	<ul style="list-style-type: none"> • ongoing cleaning, repair, replacement. 	<ul style="list-style-type: none"> • To ensure fully functional during exceptional events e.g. closed; • at replacement stage floodgates need to provide for fish passage.
Rock / Gabion	<ul style="list-style-type: none"> • renew, restacking and replenishment. 	<ul style="list-style-type: none"> • to prevent lateral erosion and breakout of rivers.
Willow Planting/ Layering	<ul style="list-style-type: none"> • willow trimming; • willow release cutting, spraying or swabbing; • partial severance to encourage new growth along felled trunks (layering). 	<ul style="list-style-type: none"> • to prevent significant obstruction in the main channel; • to maintain willows in good health; • to protect willows against weeds such as old man's beard.
Flood Damage Repair	<ul style="list-style-type: none"> • replacement/replenishment of part or all of the flood protection assets. 	<ul style="list-style-type: none"> • to maintain the asset and remedy damage after flood events.
Channel Maintenance	<ul style="list-style-type: none"> • removal of trees and other obstructions and growth from the river or stream bed/fairway; • berm and bank vegetation clearance and reduction; 	<ul style="list-style-type: none"> • to prevent significant obstruction to flow along the main channel; • to increase the capacity of the channel.

Work Type	Maintenance Activities	Maintenance Objectives
Drain Cleaning	<ul style="list-style-type: none"> cleaning via machine excavation, spraying or by hand. 	<ul style="list-style-type: none"> to maintain hydraulic efficiency of drains.
Channel Realignment	<ul style="list-style-type: none"> channel alignment after erosion of a section of bank or secondary channel forming after flood. 	<ul style="list-style-type: none"> to provide a stable channel; to reduce/eliminate back channels created by flood overflow.
Native Riparian Revegetation	<ul style="list-style-type: none"> responsible land management to exclude weeds that can spread to private land; restore wildlife and biodiversity values; enhance amenity of conspicuous areas. 	<ul style="list-style-type: none"> site preparation: fencing, slashing, spraying; new planting; maintenance of existing plantings.
Fencing, Gates, Access Tracks	<ul style="list-style-type: none"> stopbank and berm control measures. 	<ul style="list-style-type: none"> to provide the Council access to carry out its work; to control public recreational use; to provide control of animal grazing.

7.3.3.2 Effect of Gravel Extraction on Operation and Maintenance

This will be based on a gravel envelope approach allowing the Council to extract gravel only if current Mean Bed Levels (MBLs) are above historical MBLs for any particular site in the fully maintained river network. This will ensure sustainable extraction is achieved to limit bed degradation, which could otherwise lead to loss of groundwater and head ward erosion that could threaten upstream bank protection and structures such as bridges. Flood conveyance in the stop banked scheme areas will also provide an upper limit that will trigger extraction. A sediment transport analysis has been carried out in order to provide independent information on the typical quantity that can be extracted.

7.3.3.3 Riparian Management

The Council staff manage a yearly programme of maintaining and creating new plantings to exclude weed species within the X and Y rated river network. In places this may include improving access and amenity for the public. Landowners in River Z areas wishing to undertake native riparian planting (or planting of other suitable non-commercial species) are supported under the River Z policy with a subsidy available for plant supply and weed control and other protection or preparation works as appropriate.

7.3.4 Forecast Operations and Maintenance Expenditure

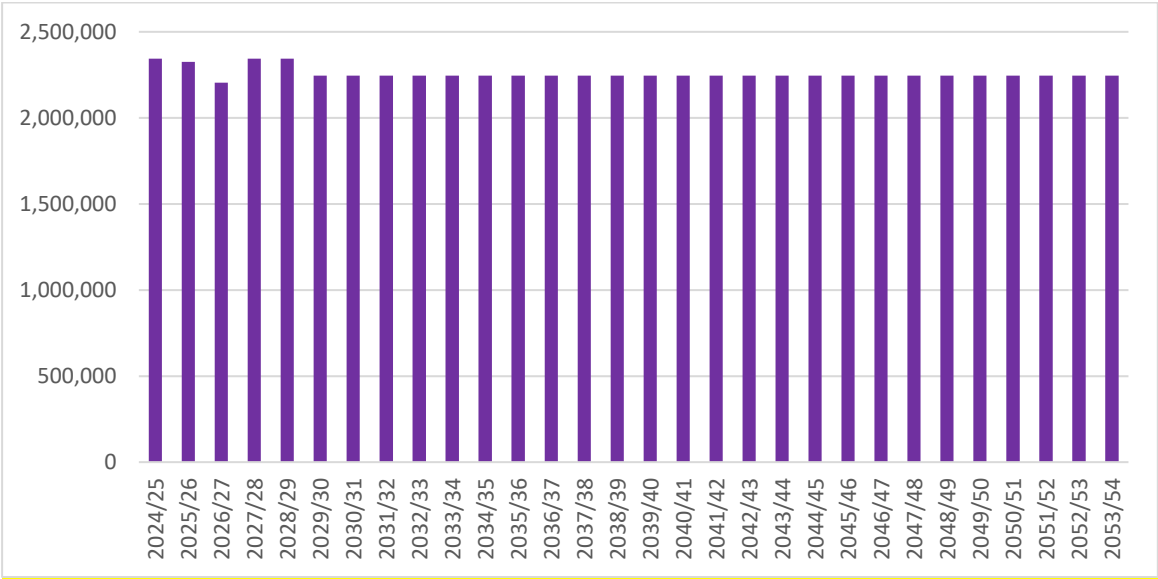


Figure 5: Rivers 30 Year Operating and Maintenance Expenditure Excluding Inflation

7.4 Asset Renewal/Replacement

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition resulting in additional future operations and maintenance costs.

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 12.

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate or
- To ensure the infrastructure is of sufficient quality to meet the service requirements

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure, e.g. critical assets
- Have high use and subsequent impact on users would be significant
- Have higher than expected operational or maintenance costs that becomes uneconomical, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.

7.4.1 Key Renewal Themes

The Rivers Activity has very little in renewals as the stop banks and erosion control tend to have unlimited life if maintenance is undertaken appropriately. The only rivers assets that are renewed are flood and tidal gates, walls and gabion baskets.

7.4.2 Deferred Renewals

Deferred renewals is the shortfall in renewals required to maintain the service potential of the assets. This can include:

- Renewal work that is scheduled but not performed when it should have been, and which has been put off for a later date (this can often be due to cost and affordability reasons).
- An overall lack of investment in renewals that allows the asset to be consumed or run-down, causing increasing maintenance and replacement expenditure for future communities.

The extent of deferred renewals can be identified by comparing the accumulated investment in renewals with accumulated annual depreciation. This information then forms the basis of a renewals strategy. Figure 6 compares the cumulative investment in renewals and cumulative depreciation.

Most of the Council’s rivers and flood control assets are not depreciated. The Council only depreciates tide gates/outfalls, gabion baskets and railway iron structures. The expected useful life of these assets ranges from 30 to 60 years. The Council has not planned to undertake renewal of any of these assets within the next 30 years. This is the cause of the divergence between renewal investment and depreciation.

The Council is yet to complete a strategic review of this information for this activity and hence it has been included in the improvement plan.

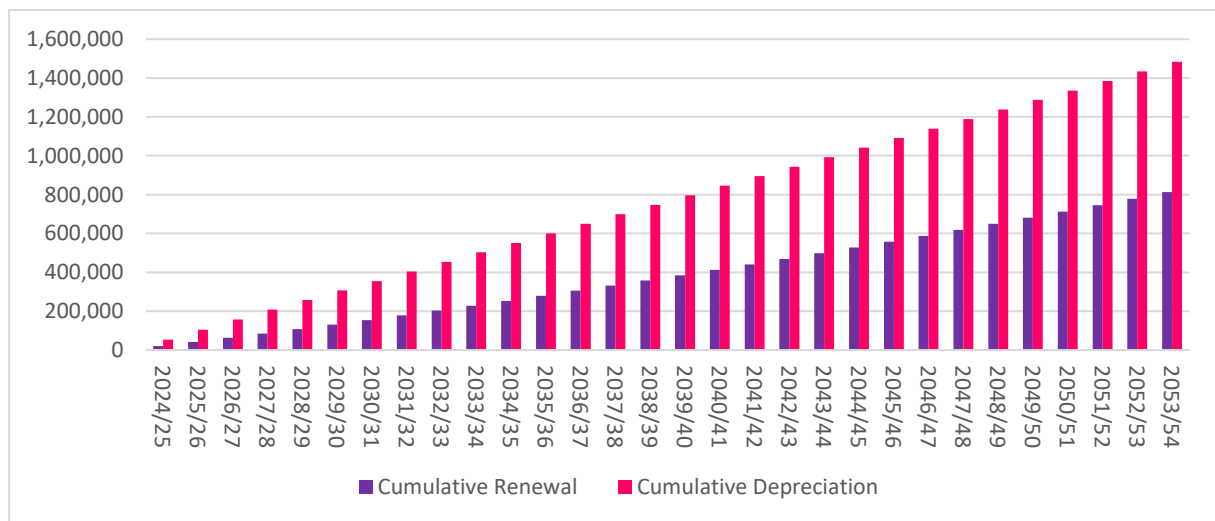


Figure 6: Cumulative Capital Expenditure and Depreciation Comparison Including Inflation

7.5 Asset Development

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding. New assets require consideration of how to fund future operations, maintenance and renewal costs, and consideration also needs to be taken into account for future depreciation when reviewing long term sustainability.

7.5.1 Key Asset Development Themes

A number of locations in the District have a lower tolerance for risk following high rainfall events. The risk assessment study for the lower Motueka flood protection schemes has identified sections of stopbank that require upgrading to improve bank stability as well as raising crest levels in order to meet freeboard requirements.

7.5.2 Forecast New Capital Expenditure

The capital programme that has been forecast for this activity and is shown in Figure 7, where the primary driver is classed as new works (i.e. growth or levels of service). The expenditure is 100% driven by an increase in the level of service; there is no growth included within the 30-year forecast.

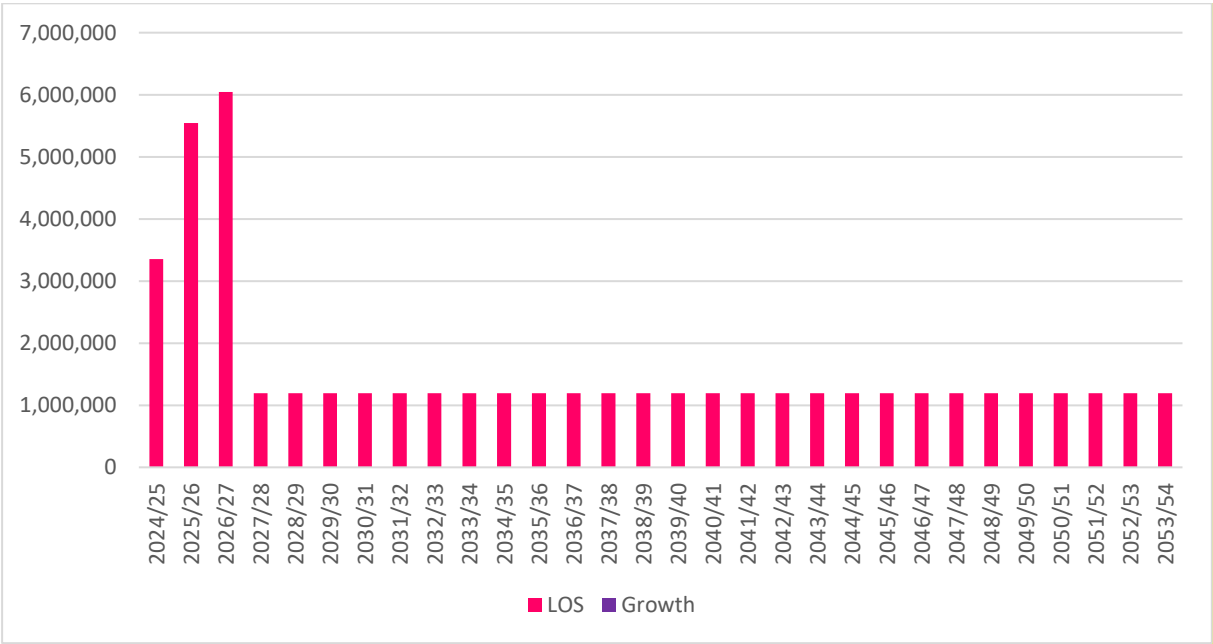


Figure 7: Rivers 30 year New Capital Expenditure Excluding Inflation

7.6 Asset Disposal

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. No assets have been identified for possible decommissioning and disposal in the next 30 years.

Any costs or revenue gained from asset disposals is included in the long-term financial plan.

The Council does not have a formal strategy on asset disposals. It will treat each asset individually on a case-by-case basis when the asset reaches a state that disposal needs to be considered.

Asset disposal is generally a by-product of renewal or upgrade decisions that involve the replacement of assets.

Assets may become redundant for any of the following reasons:

- Underutilisation
- Obsolescence

- Provision of the asset exceeds the required level
- Uneconomic to upgrade or operate
- Policy change
- The service is provided by other means (e.g. private sector involvement); and
- Potential risk of ownership (financial, legal, social, vandalism).

Depending on the nature, location, condition and value of an asset it is either:

- Made safe and left in place
- Removed or disposed of
- Removed and sold
- Ownership is transferred to other stakeholders by agreement.

In most situations, assets are replaced at the end of their useful life and are generally in poor physical condition. In some situations, an asset may require removal or replacement prior to the end of its useful life. In this circumstance, the Council may hold the asset in stock for reuse elsewhere. If this is not appropriate, the asset could be sold off, transferred or disposed of.

When asset sales take place, the Council aims to obtain the best available return from the sale and any net income will be credited to that activity. The Council follows practices that comply with the relevant legislative requirements for local government when selling of assets.

Disposal of river assets is not a common occurrence. Probably the most significant item which may be considered for disposal is flood protection works e.g. stopbanks. The Council must consider liability issues which may flow from its ability to discontinue such works as detailed in this case study.

STOP BANK DISCONTINUATION INVESTIGATION CASE STUDY

Following a request from a West Coast community to stop works in their areas, the West Coast Regional Council sought legal advice regarding the implications. The assessment was carried out against the Local Government Amendment Act 1996, Soil Conservation and Rivers Control Act 1941 and the Resource Management Act 1991. In short, the legal advice obtained stated the following.

- Under the financial management provisions of the Local Government Act 2002, it is open to the Council to prioritise its activities and determine which it can/cannot afford to maintain.
- There is no express statutory authority for discontinuing an existing river protection scheme under the Soil Conservation and Rivers Control Act 1941.
- Statutory provisions relating to the discontinuance of other activities include elaborate procedural requirements, and sometimes provisions as to future liability. There is some unresolved risk relating to the discontinuance of river schemes.

- In the absence of an express procedure, any decision to discontinue a river scheme must follow some process which specifically sought the informed views of affected ratepayers.
- While there is no guarantee that the decision will ultimately be immune from challenge (judicial review or private action) the risk of a successful review can be moderated by reasonableness of the process.
- A claim for damages is unlikely to succeed under s145 of the 1941 Act (failure). Section 148(1) of the 1941 Act also offers significant protection for a council from the failure of unmaintained works given applicable considerations (omission to maintain).

Based on the summary above, it is reasonably likely that should the ratepayers wish to dispose of a scheme and the Council takes all reasonable steps to advise them of the consequences, then the Council will have limited liability concerns. However, this matter is yet to be tested by judicial review or private action in New Zealand.

8 Financials

The Council has planned a prudent financial approach to managing its assets and services. This section provides a summary of the total value of the activity and the investment that the Council has planned to make over the next 30 years.

8.1 Funding Sources

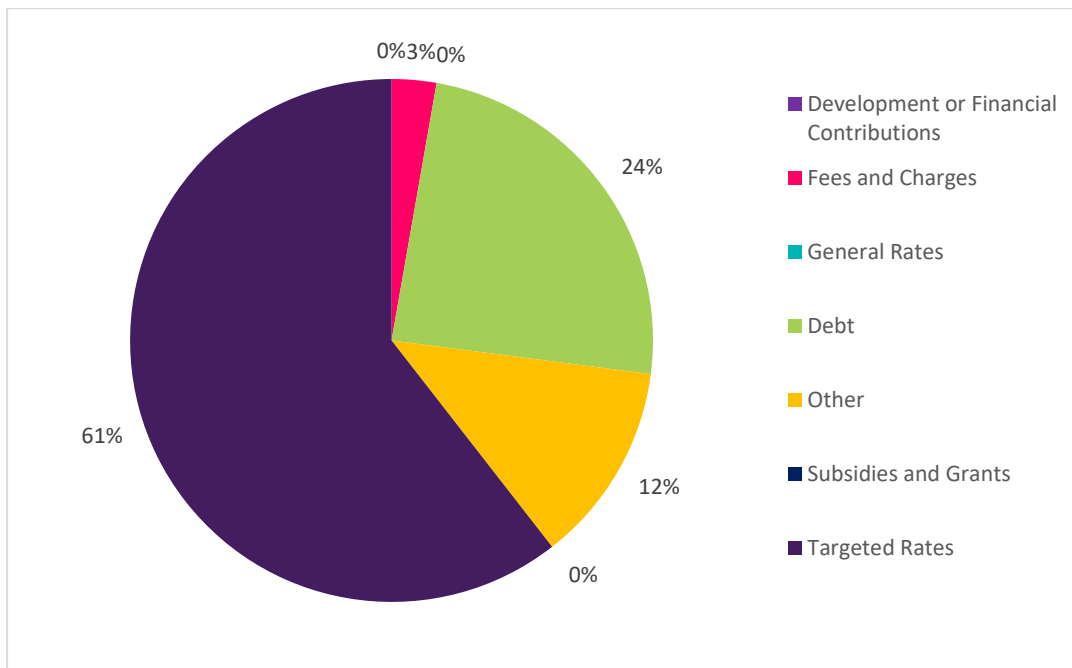
This activity is funded through a mixture of sources as shown in Table 10. Rivers expenditure is predominately funded by targeted rates with the second largest funding source being the 'Other' category made up of the following sources:

- Berm rental income
- Gravel royalty
- Non-lump sum rates
- Loans (where future capital works are required).

Major capital projects may be loan funded. When loans are made, the loan is taken for a fixed period, usually 20-30 years.

Table 10: Activity Income Sources

Nature	10 Years
Development or Financial Contributions	0
Fees and Charges	2,001,026
General Rates	0
Debt	17,605,082
Other	8,999,295
Subsidies and Grants	0
Targeted Rates	43,863,161



8.1.1 Development Contributions

There are no Development Contributions collected for the Rivers activity.

8.2 Asset Valuation and Depreciation

The Local Government Act 1974 and subsequent amendments contain a general requirement for local authorities to comply with Generally Accepted Accounting Practice ("GAAP").

The Council requires its infrastructure asset register and valuation to be updated in accordance with Financial Reporting Standards and the AMP improvement plan.

The valuations summarised below have been completed in accordance with the following standards and are suitable for inclusion in the financial statements for the year ending June 2024.

- NAMS Group Infrastructure Asset Valuation Guidelines – Edition 2.0.
- New Zealand International Public Sector Accounting Standard 17; Property, Plant and Equipment (PBE IPSAS 17) and PBE IPSAS 21 (Impairment of Non-Cash Generating Assets).

8.3 Latest Asset Valuation

The River Assets were last re-valued in March 2024, however, the results were not available for incorporation in this AMP and will be reported under separate cover. The Council assets are generally valued every three years, however due to the slow change in value of most River assets a longer cycle is used. Key assumptions in assessing the asset valuations are described in detail in the valuation report. Historic asset valuations reports are held with the Council.

The majority of information for valuing the assets was obtained from the Council's Confirm database. The data confidence is detailed in Table 11 below.

Table 11: Data Confidence

Asset Description	Confidence	Comments
Rivers	B - Good	The Council operates an Operations and Maintenance Contract for the Management of the River Assets. Rates for rock protection were obtained from this contract. The unit used for rock protection in the Contract is tonnes, whereas the asset data is in m ³ . The conversion rate of 2.1 from the 2015 valuation is used to convert from tonnes to m ³ , i.e. if 2.1 tonnes of rock is 23 required for every cubic metre of rock protection. Other unit rates were indexed from the 2015 valuation

The Base Useful Lives for each asset type as published in the NZ Infrastructure Asset Valuation and Depreciation Guidelines Manual were used as a guideline for the lives of the assets in the valuation. Generally, lives are taken as from the mid-range of the typical lives indicated in the Valuation Manual where no better information is available. Lives used in the valuation are presented in Table 12.

Table 12: Asset Lives

Feature Type	Useful Life (years)	Minimum Remaining Useful Life (years)
Drainage/Tidal Outfall	60	5
Gabion Baskets	30	5
Native plantings (no.)	No Depreciation	
Railway Irons	50	5
Rock Protection	No Depreciation	
Stopbank Q20	No Depreciation	
Stopbank Q50	No Depreciation	
Weighted Felled Trees	No Depreciation	
Willow plantings M OLD	No Depreciation	
Willow plantings NEW (no.)	No Depreciation	

8.4 Depreciation

Depreciation of assets must be charged over their useful life. The Council calculates depreciation on a straight line basis on most infrastructural assets at rates which will write off the cost (or valuation) of the assets to their estimated residual values, over their useful lives.

The optimised replacement value, optimised depreciated replacement value, total depreciation to date, and the annual depreciation of the rivers assets are summarised in Table 13 below. However, the following river assets are not depreciated:

- Stopbanks
- Willow planting / layering
- Wand / poles / posts
- Weighted felled trees
- Rock protection.

Table 13: River Protection Asset Valuation Summary

	Optimised Replacement Value (\$)	Optimised Depreciated Replacement Value (\$)	Annual Depreciation (\$/yr)

Rivers 2017	73,198,526	72,089,533	37,795
Rivers 2023	111,167,565*	89,868,000**	36,000
% Increase	51%	25%	-5%

*Indexed value, a full valuation to be undertaken in 2024.

** Net Book Value as included in 2023 Annual Report.

Overall the River Protection Assets have increased in Optimised Replacement Value by 51% since the 2017 valuations. The increase in the replacement values is due to the following reasons:

- The cost of rock has increased by approximately 50% since 2017.
- Growth in area of riverside plantings of approximately 15,000m² per year.

8.5 Financial Summary

The Council's Funding Impact Statement (FIS) for this activity is included in Appendix C of this AMP. It summarises in one place how this activity will be funded and how those funds will be applied over the next 10 years.

8.6 Project Drivers

All expenditure must be allocated against at least one of the following project drivers.

- Operation and Maintenance: operational activities that do not involve the renewal or upgrade of assets, or work that is necessary in order to provide on-going services at the agreed levels.
- Renewals: significant work that restores or replaces an existing asset towards its original size, condition or capacity.
- Increase Level of Service: works to create a new asset, or to upgrade or improve an existing asset, beyond its original capacity or performance.
- Growth: works to create a new asset, or to upgrade or improve an existing asset, beyond its original capacity or performance to provide for the anticipated demands of future growth.

This is necessary for two reasons as follows.

1. Schedule 13(1) (a) and section 106 of the Local Government Act require the Council to identify the total costs it expects to have to meet relating to increased demand resulting from growth when intending to introduce a Development Contributions Policy.
2. Schedule 10(2)(1)(d)(i)-(iv) of the Local Government Act requires the Council to identify the estimated costs of the provision of additional capacity and the division of these costs between changes to demand for, or consumption of, the service, and changes to service provision levels and standards.

All new works have been assessed against these project drivers. Some projects may be driven by a combination of these factors and an assessment has been made of the proportion attributed to each driver.

8.7 Scope Risk and Funded Capital Programme

When developing this work programme, the Council needs to estimate how much to budget for each project. Often, the Council cannot be certain what the actual costs or scope of the project will be because the design is yet to be completed. Typically, the Council has more confidence in the cost and scope of projects that are planned within the first three years. After this, estimates are usually based on simple concept designs.

To address this uncertainty, the Council has incorporated funding of scope risk into capital project budgets. The amount of scope risk included varies from 10% to 40% of the project estimate, depending on the expected complexity of the individual project. Based on history, it is unlikely that all individual projects will need the full amount of allocated scope risk funding, in reality there will be some under and over spending.

8.8 Total Expenditure

The estimated expenditure needs for the rivers activity have been prepared for the next 30 years. Figure 8 and Figure 9 show the total expenditure for the rivers activity for the first 10 and 30 years respectively.

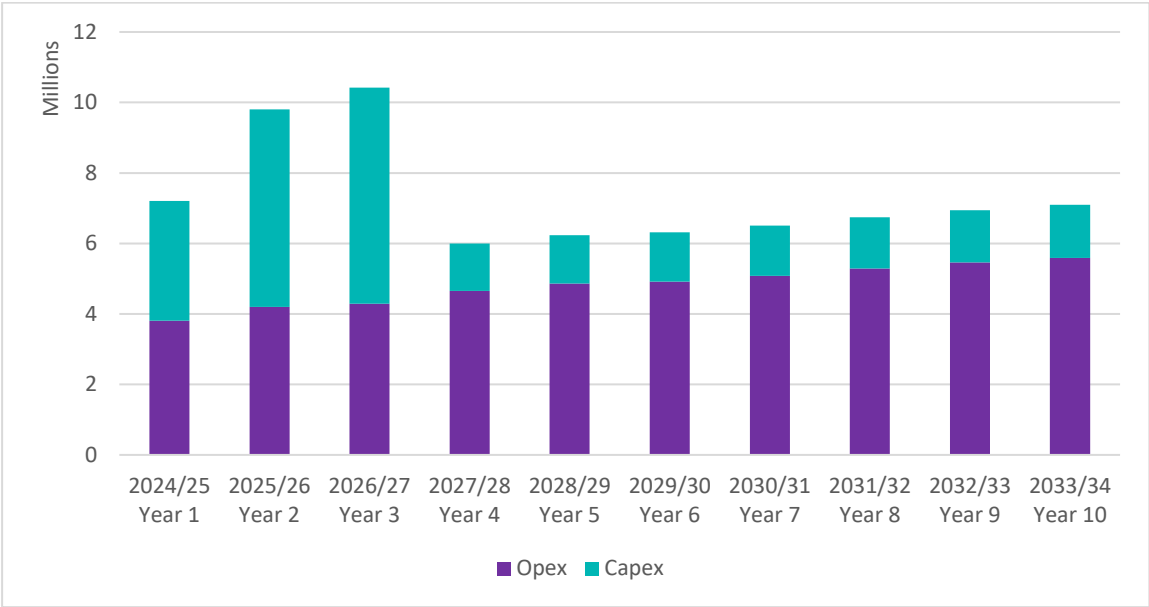


Figure 8: Total Annual Expenditure Years 1 to 10 Including Inflation

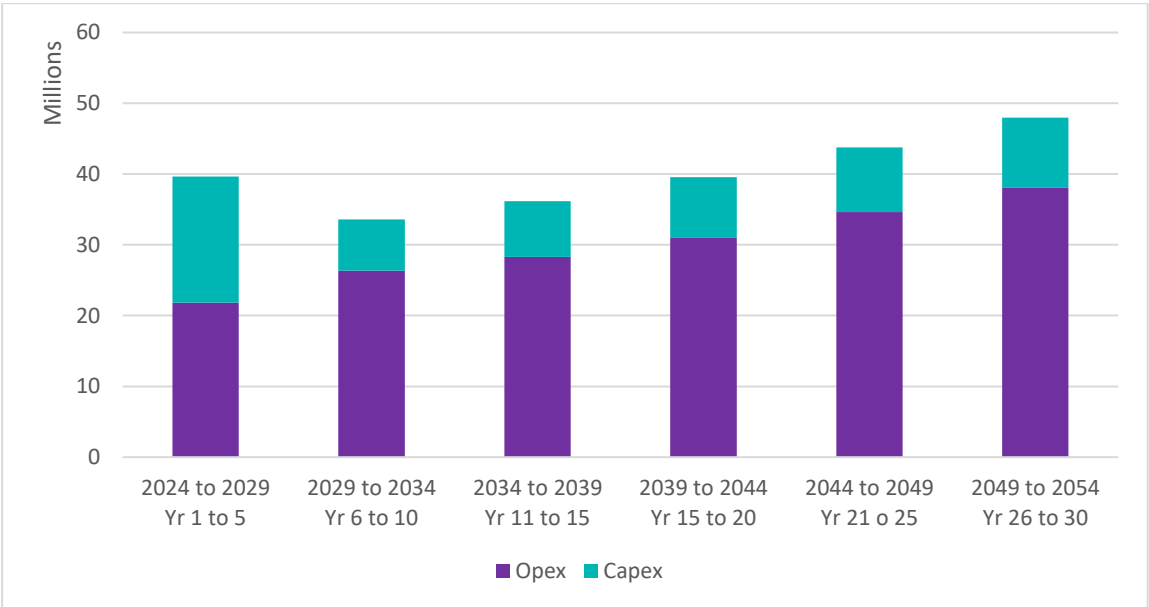


Figure 9: Five Yearly Total Expenditure Years 1 to 30 Including Inflation

8.9 Total Income

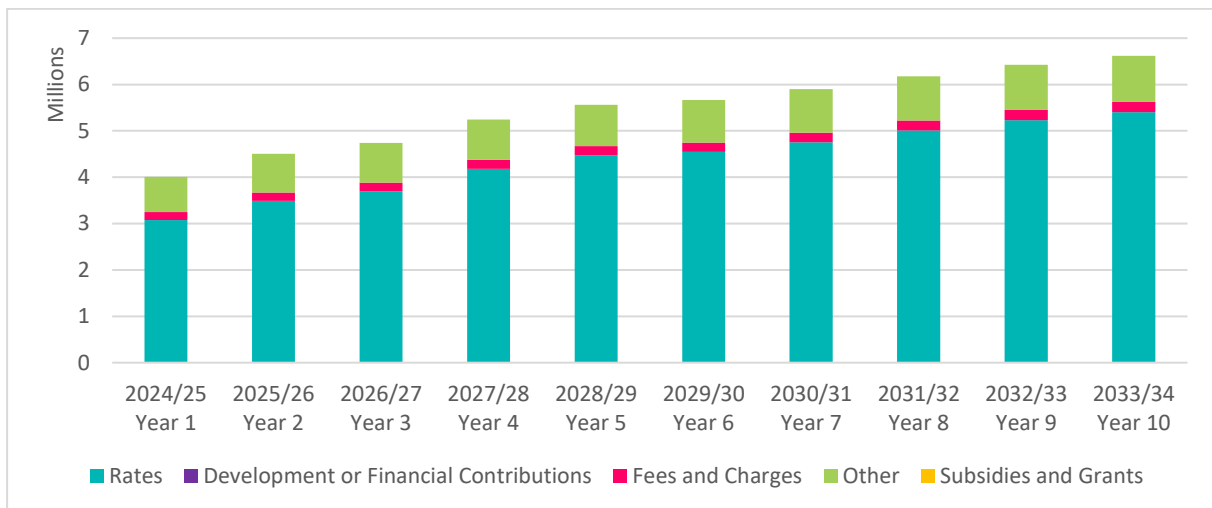


Figure 10: Total Annual Income Years 1 to 10 (inflated)

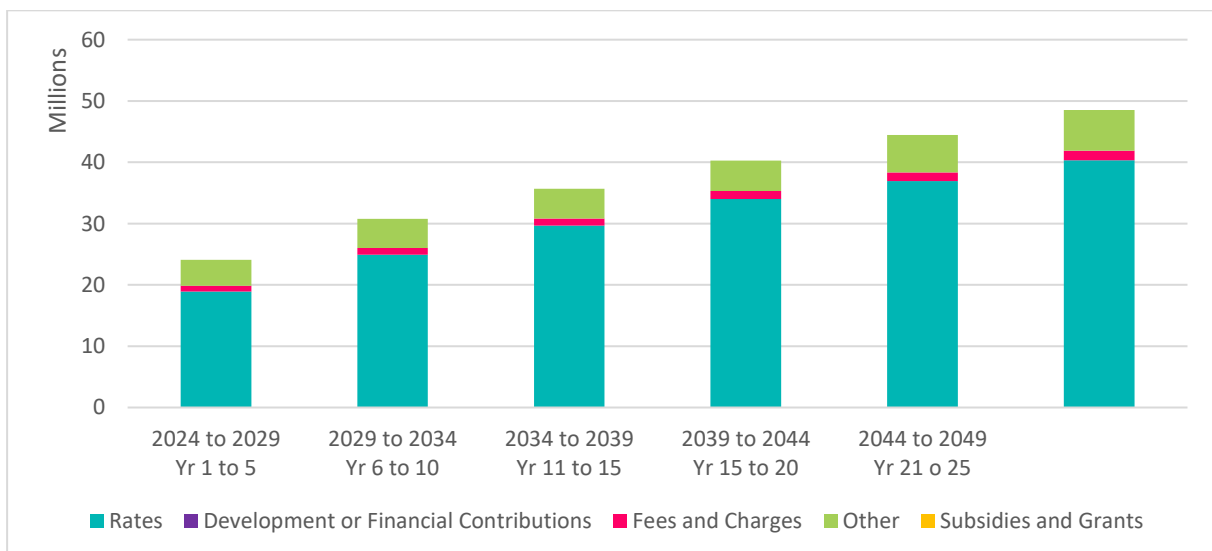


Figure 11: Five Yearly Total Income Years 1 to 30 (inflated)

8.10 Operational Costs

Figure 10 and Figure 11 show the total operating expenditure for the rivers activity for the first 10 and 30 years respectively.

Direct operational costs for the rivers and flood control activity are forecast to increase by inflation only for over the next 30 years. Within the next 10 years, direct operating expenditure will decrease after 2028/29 when the River Management Plan funding stops.

Indirect expenditure increases as this is largely driven by increases in loan interest costs associated with the capital programme for this activity. Both direct and indirect costs increase due to inflation across the 30 years.

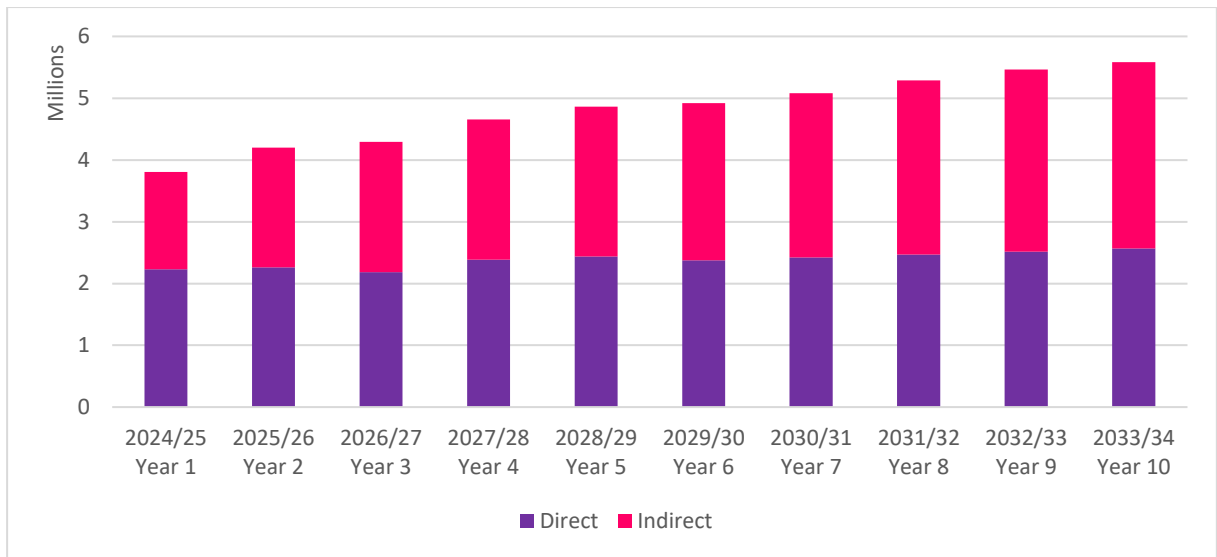


Figure 12: Annual Operating Costs Years 1 to 10 Including Inflation

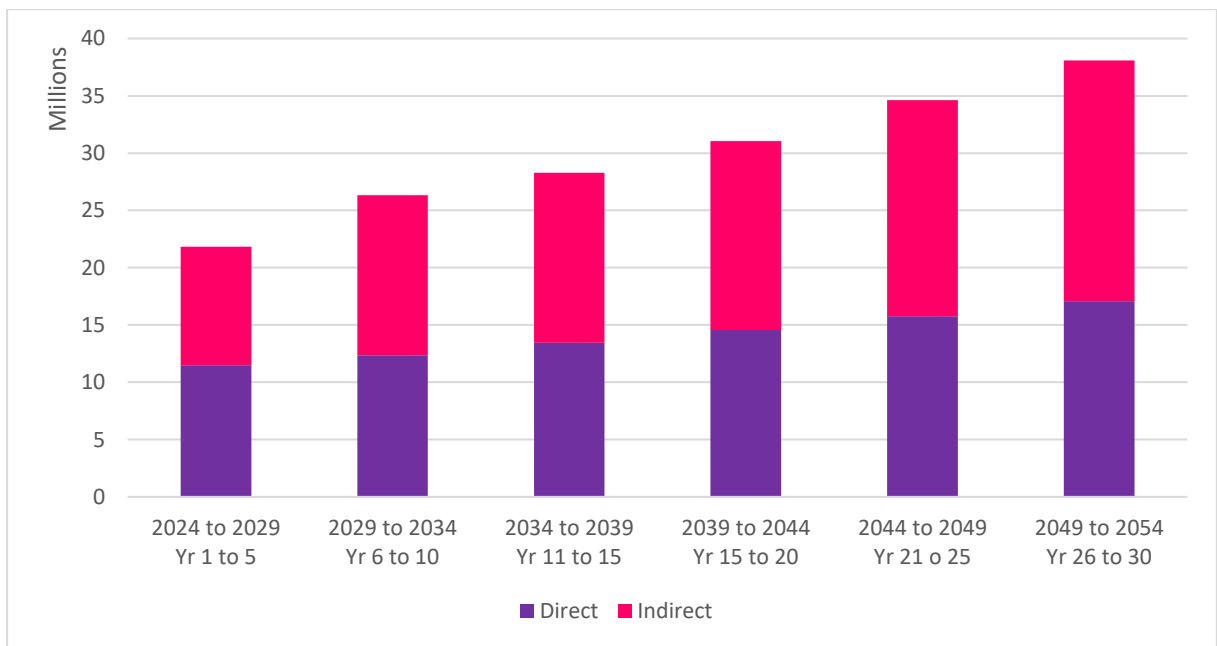


Figure 13: Five Yearly Operating Costs Years 1 to 30 Including Inflation

8.11 Capital Expenditure

Figure 12 and Figure 13 show the total capital expenditure for the rivers activity for the first 10 and 30 years respectively.

The Council has planned to spend around \$12.1 million on capital improvements over the next 10 years, and around \$36.4 million over the next 30 years. Of this, 98% is attributable to level of service improvements. The capital programme is static for the 30 years, only

increasing due to inflation.

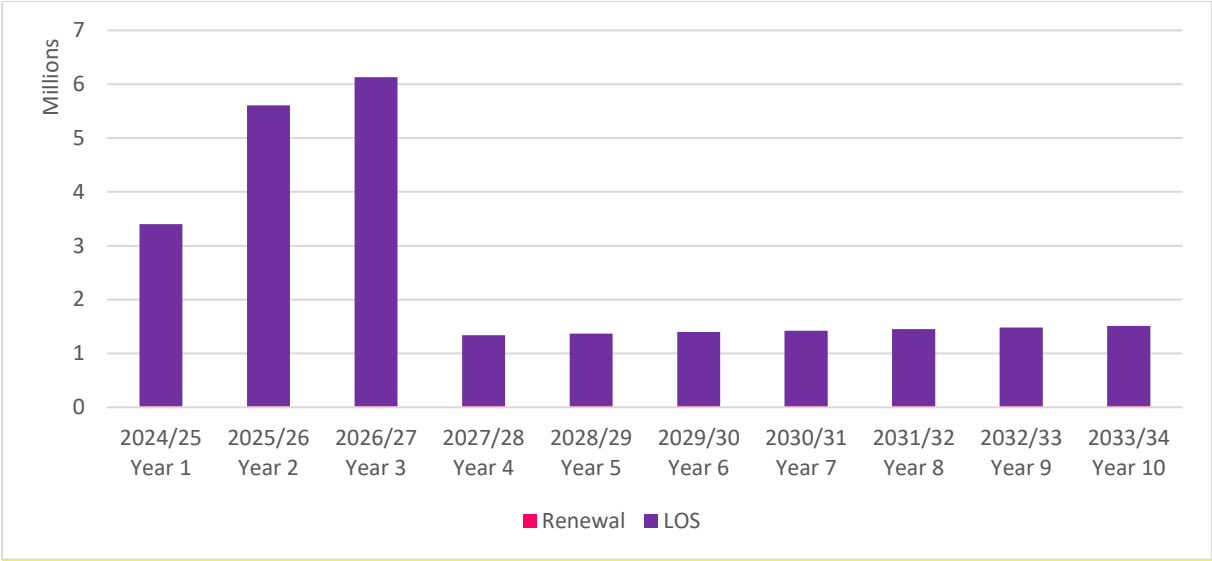


Figure 14: Annual Capital Expenditure Years 1 to 10 Including Inflation

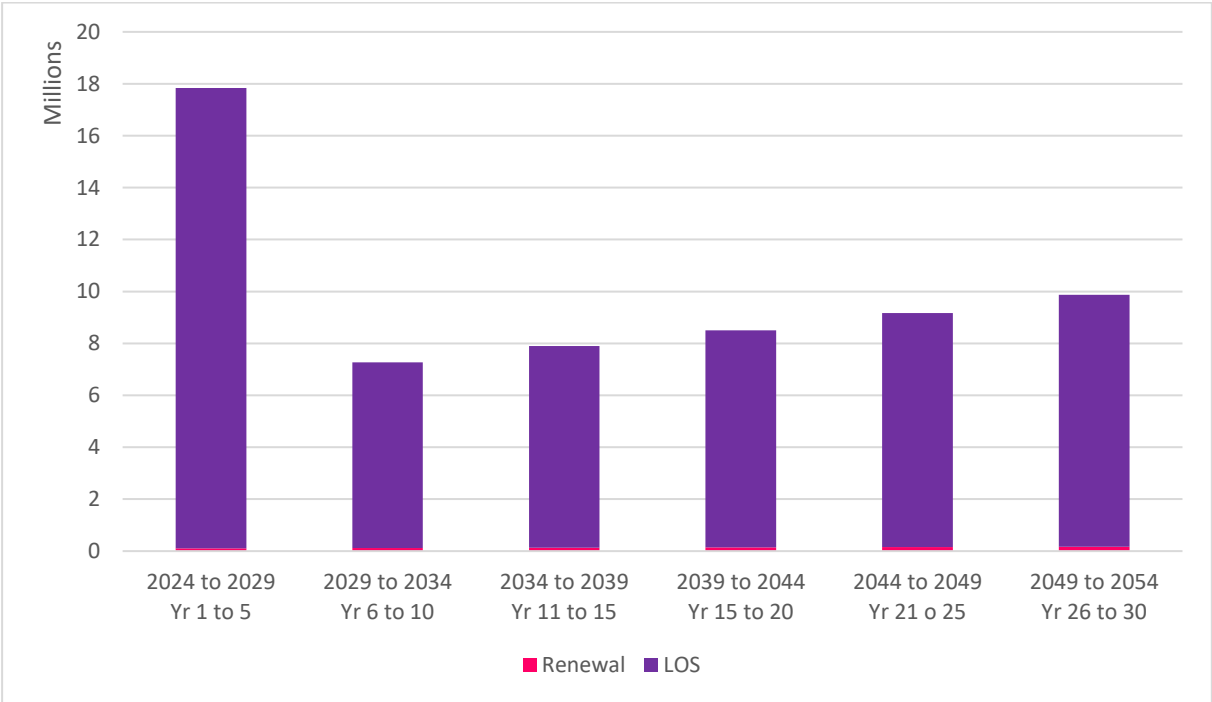


Figure 15: Five Yearly Capital Expenditure Years 1 to 30 Including Inflation

8.11.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Increasing the LoS of the Riuwaka stopbank scheme

- Upgrade all river stopbanks to a 1% AEP level of protection.
- Avoid all river erosion to protect farms and other private assets.

8.11.2 Renewals

As shown above, renewals form a very small component of the total Rivers Activity spend. Figure 16 shows the uninflated annual programmed renewals expenditure for the next 30 years and Figure 17 shows this as a cumulative graph.

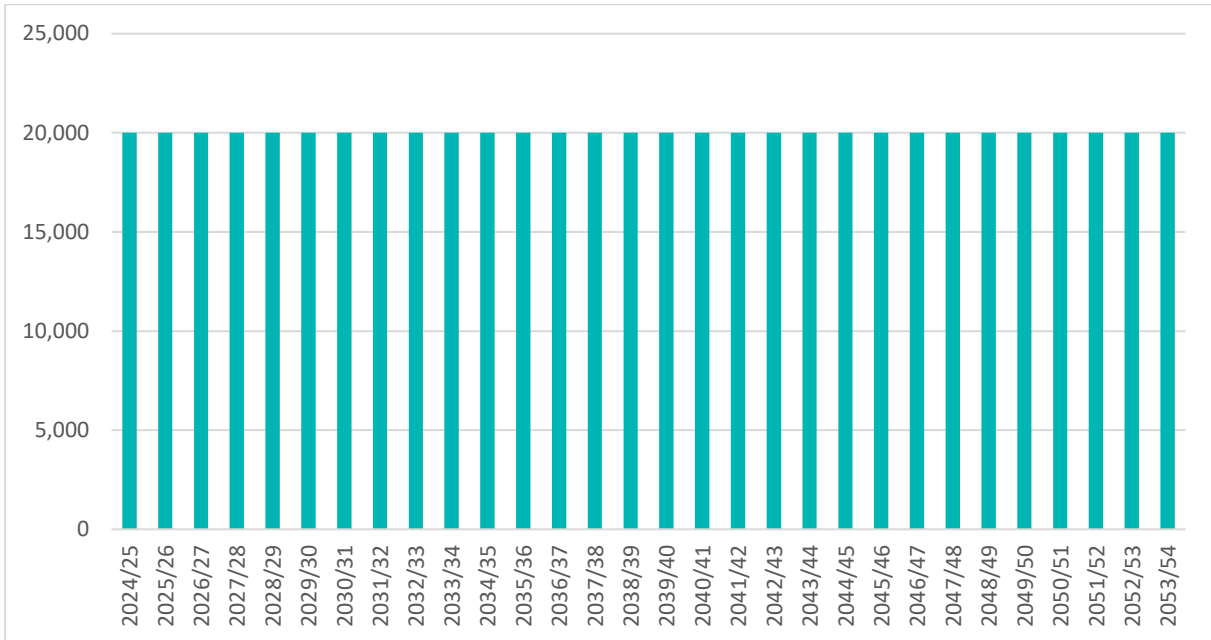


Figure 16: Annual Renewals Excluding Inflation

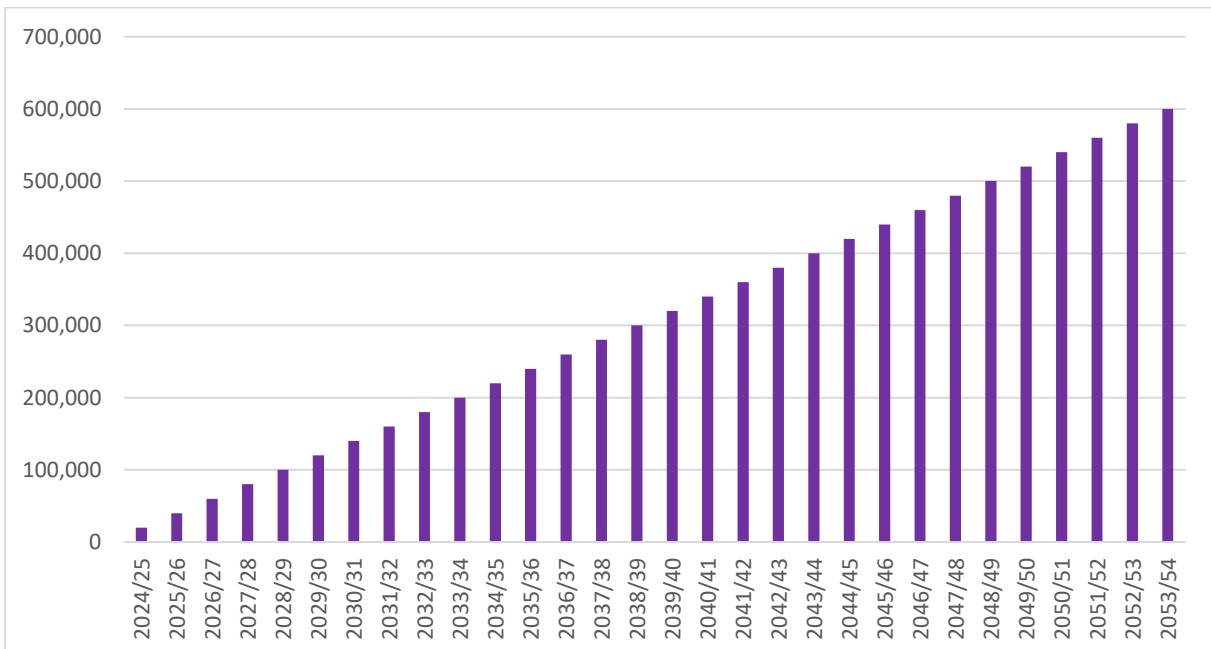


Figure 17: Cumulative Renewals Excluding Inflation

9 Climate Change, Natural Hazards and Environment

The Tasman region is susceptible to a wide range of natural hazards, some exacerbated by climate change, and the Council needs to plan for these hazards and determine whether adaptation, mitigation, or retreat is appropriate.

The Council needs to ensure it has robust planning in place and provides infrastructure that is resilient. The Council is taking a long term strategic approach by undertaking risk, resilience and recovery planning to provide better information on infrastructure resilience requirements.

The Council will also continue to focus on planning and managing its critical assets and lifelines networks to ensure that the appropriate level of effort is being made to better manage, maintain and renew critical assets.

As well as ensuring its assets are resilient, the Council has a range of financial provisions to assist with response to and recovery from major damaging events. These include:

- annual emergency funding;
- an established Emergency Fund;
- ability to reprioritise the Council's capital programme;
- insurance cover for recovery of a portion of costs of a catastrophic disaster event;
- Central Government support of up to 60% through the Local Authority Protection Programme; and
- NZ Transport Agency subsidy of at least 51% for subsidies transportation asset reinstatement.

The Local Government Act 2002 requires local authorities to take a sustainable development approach while conducting their business, taking into account the current and future needs of communities for good-quality local infrastructure, and the efficient and effective delivery of services.

Sustainable development is a fundamental philosophy that is embraced in the Council's Vision, Mission and Objectives, and is reflected in the Council's community outcomes. The levels of service and the performance measures that flow from these inherently incorporate the achievement of sustainable outcomes.

Sustainability is measured against the triple bottom line framework that aims to create a balance between the three dimensions of performance, often referred to as people, planet and profit (3Ps).

The Council operates, maintains and improves the Coastal Assets on behalf of its ratepayers. The Council uses its Financial Strategy to guide the development of an affordable work programme. The Council's finances are managed within the set debt limits and rates income

rises to ensure economic viability for current and future generations.

9.1 Climate Change

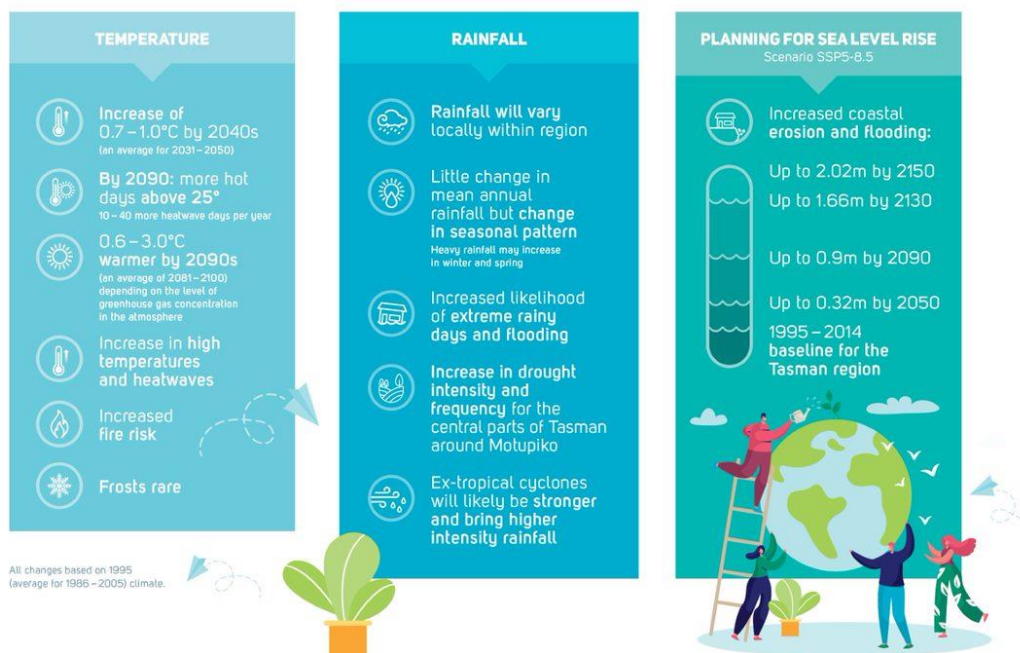
Embedding climate change, natural hazards and building risk analysis and resilience into core business is an important focus across Council infrastructural activities.

The Council has a key role to play in reducing its own corporate emissions, supporting and providing leadership on mitigation actions across the community, including understanding and accounting for risks and resilience-building associated with climate change and natural hazards, including in the following areas:

The Tasman region is susceptible to a wide range of natural hazards, some exacerbated by climate change, including:

- **Sea level rise:** sea level rise is a significant climate challenge as a large proportion of the region's urban infrastructure is coastal or low lying. These areas are likely to become more vulnerable to coastal erosion and inundation over time.
- **Heavy rainfall and flooding events:** higher intensity rainfall events mean the region is likely to experience more regular and extensive flooding from streams, rivers and stormwater overflows, with an associated increase in land instability.
- **Droughts and high temperatures:** with a warmer climate, the temperature of the water within our rivers and streams is likely to increase and affect habitats. Droughts will result in a greater risk of fires.

CLIMATE CHANGE IMPACTS FOR THE TASMAN DISTRICT



The Council needs to plan for these hazards and determine whether adaptation, mitigation, or retreat is appropriate, working in partnership with our communities. The Council has a key

role to play in reducing its own corporate gas emissions and supporting and providing leadership on mitigation actions across the community. Understanding and accounting for risks and resilience-building associated with climate change and natural hazards is another key role. Embedding climate change, natural hazards and building risk analysis and resilience into core business is an important focus across Council's activities.

9.1.1 Climate Change Assumptions

The following key assumptions have been made regarding the potential impacts of climate change on the Council's Rivers activity (see the Forecasting Assumptions section in the Council's Long Term Plan 2024-2034 for a detailed explanation of each of these assumptions):

- That Tasman's climate will change based on the NIWA-modelled climate change projections for Tasman District.
- That it is not possible to reduce the mid-century warming, due to the amount of greenhouse gas emissions already accumulated in the atmosphere.
- That different climate change scenarios apply depending on the context:
 - For infrastructure planning, subdivision, consenting and similar planning purposes, Council assumes the climate change scenario of RCP 8.5 or (for sea level rise) SSP5-8.5. This represents a "worst-case" scenario for the impacts of climate change, to avoid the risk of having to replace undersized infrastructure or abandon buildings or subdivisions.
 - For other matters, such as planning Council's proposed mitigation actions, a low-emissions scenario such as RCP 4.5 may be used as a baseline. This scenario assumes that global greenhouse gas emissions peak in the next few years and decline rapidly thereafter, leading to a global temperature increase of around 1.5°C by the end of the century.

We assume that sea levels will continue to rise and are likely to rise at an accelerated rate over time. The Tasman District is particularly vulnerable to sea level rise due to its extensive coastline. For low lying coastal land there will be increasing inundation and erosion from sea level rise and storm surge.

Our plans assume sea-level rise (SLR) of:

- 0.32m by 2050
- 0.9m by 2090
- 1.66m by 2130, and
- 2.02m by 2150
- (using a baseline of 1995-2014 with a mid-point (zero) at ~2005).

This based on the SSP5-8.5 (83rd percentile) in line with the Ministry for the Environment's Interim Guidance on the use of New Sea-level Rise Projections (August 2022) and sourced from the NZ SeaRise: Te Tai Pari O Aotearoa platform.

MfE is currently undertaking a full update to the 2017 Coastal Hazards and Climate Change Guidance which is expected to be published in 2024. This information will be used to inform Council work once available.

For coastal subdivisions, greenfield developments and major new infrastructure, Council is planning for 1.66m SLR by 2130, and also factoring in the relevant rate of vertical land

movement locally (as per the MfE 2022 guidance). The Tasman coastline is generally subsiding with rates typically in the order of -1.0mm to -4.0mm/year (i.e. -0.10 metres to -0.40 metres per 100 years) which will further exacerbate SLR.

The Council acknowledges that there is a range of potential impacts (environmental, social, economic and cultural) associated with climate change, and that these impacts may vary depending on the specific location within the Tasman District. A regional risk assessment is underway to identify the key areas of vulnerability. The next step will be to develop appropriate strategies and adaptation plans to mitigate these risks.

9.1.2 Responding to Climate Change

9.1.2.1 Tasman Climate Response Strategy and Action Plan

In 2019, the Council adopted the '*Tasman Climate Action Plan*' (Action Plan). The Action Plan is Council's initial response to the urgent need to take action on climate change, to build climate resilience and reduce greenhouse gas emissions. This document is under review and will be replaced with the '*Tasman Climate Response Strategy and Action Plan*' in mid-2024.

Council's *Tasman Climate Response Strategy and Action Plan* will guide our transition to a low-carbon, resilient, and innovative Tasman District. It outlines the key areas of focus for our efforts, including reducing greenhouse gas emissions (mitigation¹), building climate resilience (adaptation²), leading by example and empowering communities to act. The updated Climate Action Plan provides more detailed actions and initiatives to achieve these goals. It includes strategies for reducing emissions from the Council's operations, as well as measures to enhance the resilience of our infrastructure, communities and ecosystems.

9.1.3 Resiliency of Rivers assets

How the Council delivers its services will play a key role in meeting emissions reduction targets and building community resilience.

Our Council is working in collaboration with Nelson City Council on a regional climate change risk assessment, which is building a comprehensive picture of how climate change will impact the region.

How climate change impacts our rivers assets will vary depending on the location and the type of services provided, as will the way in which we respond and manage those impacts. As a minimum, we consider how to manage our existing assets given potential climate change impacts for our region.

Key aspects for Rivers assets are:

- More frequent and more intense storms
- Sea Level Rise

Successfully adapting River networks to climate change presents challenges, including the need to operate under multiple uncertainties, with complex interactions and dependencies.

¹ Mitigation includes reducing greenhouse gas emissions and enhancing carbon sinks. The Council is committed to emissions reduction targets for its own activities in line with government targets.

² Adaptation is the process of responding to current and future climate related impacts and risks. To manage these impacts and risks, Council is following the Ministry for the Environment guidance and is using the Dynamic Adaptive Pathways Planning (DAPP) approach. This means managing our assets in a way that makes them more resilient, or in some instances, it may mean moving those assets.

There is uncertainty regarding the scale and location of climate hazards; when the increased frequency of these hazards will become apparent; the degree of exposure and vulnerability; and potentially cascading effects between interdependent areas and sectors.

Management of impacts and building resilience opportunities identified to date are shown in Table 14.

Table 14: Managing the Impact of Climate Change on Rivers Assets and Services

Climate Change Risk	Projected Change	Potential Impact on Assets and Services	Management
Increased storminess and rainfall	Increased flow into Rivers networks	Stopbank network capacity is overwhelmed sooner with higher volumes of water	Maintenance of Stopbanks, Communication with impacted communities
Rising sea levels	Coastal outfall flows affected by rising sea level	Increased flooding within areas of effect	Communication with impacted communities

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience can have the following benefits:

- assets will withstand the impacts of climate change;
- services can be sustained; and
- assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint.

Table 15: Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact	Build Resilience in New Works
River Hardening	More common erosive flows	Design and construct hardening works for more frequent use

9.2 Natural Hazards

The Tasman region is susceptible to a range of natural hazards including:

- Earthquakes, liquefaction, and slope instability
- Flooding, drought, tornadoes and wind; and
- Coastal inundation, erosion, and tsunamis.

Natural Hazard Assumptions - Level of Uncertainty: Medium

9.2.1 Natural Hazard Assumptions

The following key assumptions have been made regarding the potential impacts of natural hazards on the Council's rivers activity (see the Forecasting Assumptions section in the Council's Long Term Plan 2024-2034 for a detailed explanation of each of these assumptions):

- That there will be damaging natural hazard events during the term of Tasman's Long Term Plan 2024–2034. Since 2000, Tasman District has been impacted by at least 10 costly weather-related events of varying scales and it is reasonable to expect the next 10 year period to be similar. The frequency and severity of damaging weather-related events will increase into the future, due to climate change.
- There is a high likelihood of localised damaging events, such as from flooding, slope failure, strong winds, coastal erosion, wildfire etc. occurring within the next 10 years, and some of these will be costly (the 2013 Richmond flood was estimated to cost \$45m). There remains a modest chance of larger, more widespread, damaging events – such as flooding across multiple catchments, drought or a damaging regional earthquake (including the Alpine Fault) – occurring over this time, with long-lasting effects such as the damage to the Tākaka Hill roading system after Cyclone Gita.
- The Council assumes that 60% of the repairs to underground assets will be funded by central government and 51% of repairs to roading assets will be funded by New Zealand Transport Agency/ Waka Kotahi (NZTA). If the district sustains storm damage, then the current arrangement with NZTA is that the funding assistance rate increases with the scale of damage.

9.2.2 Responding to Natural Hazards

The Council is responsible for providing Rivers infrastructure that is resilient to events that disrupts 'business as usual'. Examples of river network disruption will likely include:

- Overflows due to intense or prolonged wet weather;
- Erosion of banks leading to road or bridge collapse
- A stopbank breach; and
- Sea level rise and coastal inundation that cause assets to fail.

All these types of events can limit our ability to provide adequate and reliable River service to our community. The investment required to ensure our infrastructure can withstand the effects of climate change and natural hazard shock events is significant. For example, system adaptations to the 2013 Richmond flood have not yet been fully installed and cost increases have delayed progress. To address this issue, we plan to invest in modelling so our understanding of the flows that the Rivers can handle for both higher flows or longer periods is understood. This means our networks will be more resilient and less prone to overflows and failures.

9.3 Resilience

The Council needs to ensure it has robust planning in place and provides infrastructure that is resilient and are taking a long term strategic approach by undertaking risk, resilience and

recovery planning to provide better information on infrastructure resilience requirements.

The Council will also continue to focus on planning and managing its critical assets and lifelines networks to ensure that the appropriate level of effort is being made to better manage, maintain and renew critical assets.

As well as ensuring its assets are resilient, the Council has a range of financial provisions to assist with response to and recovery from major damaging events. These include:

- debt headroom
- ability to reprioritise the Council’s capital programme
- insurance cover for recovery of a portion of costs of a catastrophic disaster event
- Central Government support of up to 60% through the Local Authority Protection Programme; and
- NZTA subsidy of at least 51% towards Transportation Asset Reinstatement.

The Council operates, maintains and improves the Rivers infrastructure assets on behalf of its ratepayers. The Council uses its Financial Strategy to guide the development of an affordable work programme. The Council’s finances are managed within the set debt limits and rates income rises to ensure economic viability for current and future generations.

9.4 Environment

9.4.1 Resource Consents

The Statutory Framework defining what activities require resource consent is the Resource Management Act (RMA) 1991 and subsequent amendments. The RMA is administered locally by the Council, as a unitary authority, through the Tasman Resource Management Plan.

The Council’s Community Infrastructure and Information Science and Technology Departments have over 200 consents to manage. Some consents require active management to ensure reporting and monitoring conditions are met allow the timely management for lodging new applications before existing consents expire. A register of all active consents including their conditions, compliance actions and expiry dates are managed in Council databases within MagiQ. The most relevant resource consents for Rivers activities are listed in Table 16 below. There are many other consents permitting a variety of activity as well as short term consents required from time to time.

Table 16: Resource Consents relating to the Rivers Activity

Location	Consent No.	Consent Type	Expiry Date
District Wide	RM100851- RM100857	River Maintenance Works	2041
District Wide	RM100851	Works in the Water	2036
District Wide	RM140869	Discharge – river spraying (aerial)	2030
District Wide	RM140870	Discharge – river spraying (ground based)	2030

Location	Consent No.	Consent Type	Expiry Date
District wide	RM153069 RM153071 RM153072	Land Use – River protection and maintenance (Gravel extraction portion)	2041

The Council's annual works programme comprises a large number of small individual jobs at many different locations. Typically, 300-400 minor jobs are carried out during a non-flood event year. Immediately after a damaging flood a revised programme must be prepared involving new works at previously unidentified locations.

Although there are many separately priced jobs in the Annual Operations and Maintenance Programme (AOMP), generally only a few different types of activity are involved. The "district wide" resource consents listed in Table 16 eliminate the need to apply for separate consents at each work site. These works are managed by an *Environmental Management Plan* (last updated in 2024) which is supported by *Best Practice Guidelines* and where needed a *Site Specific EMP*.

9.4.2 Resource Consent Reporting, Monitoring, and Auditing

An ongoing programme required of "consent renewals" for those components of the Council's activities, as well as a monitoring programme for compliance with the conditions of permitted activities or resource consents. Consent renewals have been programmed in the Capital programme. Use of the Council's monitoring databases allows the programming for consent renewal including renewal prior to expiry.

Regular inspections of key sites are completed and recorded to ensure the Council's Maintenance Contractor is operating in accordance with a number of key performance indicators including performance measures required under any consent conditions or other legislative requirements.

In addition to audit assessments, non-compliance incidents are recorded, notified to the Council's Compliance Monitoring team and mitigation measures put in place to minimise any potential impacts.

9.4.3 Council's Annual Report

The extent to which the Council has been able to meet all of the conditions of each permit is reported in its Annual Report.

9.4.4 Property Designations

Designations are a way provided by the RMA of identifying and protecting land for future public works. There are currently no designations associated with river works.

9.4.5 Potential Negative Effects

Schedule 10 of the Local Government Act 2002 requires an outline of any significant negative effects that an activity may have on the local community. Potential negative effects associated with the Rivers activity are outlined in Table 17.

Table 17: Negative Effects for Rivers infrastructure

Effect	Description	Mitigation Measures
Flooding	<p>Social/ cultural: Localised overflows may occur in residential areas due to under capacity of the Rivers network system and affect the well-being of the community.</p> <p>Economic: Localised flooding can have significant immediate and ongoing economic consequences on local business.</p> <p>Environmental: Increased stormwater flows can cause erosion of streambanks and loss of aquatic habitat.</p> <p>Social / Cultural: Discharges have adverse effect on the quality of receiving environments and how these are used by the community.</p> <p>Impact to historic/heritage sites.</p>	<p>Catchment management planning.</p> <p>River flow modelling.</p> <p>Capital works to increase network capacity and detention.</p> <p>Record of known heritage sites near Rivers and consider site-specific protection works.</p>
Impact for ngā iwi in terms of River discharges to coastal water, mahinga kai, and wahi tapu sites on land	<p>Cultural: Physical works may have an adverse effect on sites.</p> <p>Contamination of water, (fresh and coastal), mahinga kai, wahi tapu areas is offensive to ngā iwi.</p>	<p>Consultation prior to works.</p> <p>Working with te tau ihu ngā iwi on improvements to Rivers management.</p> <p>Record of known heritage sites.</p> <p>Monitoring of erosion near sites.</p>

9.4.6 Potential Positive Effects

Potential positive effects are outlined in Table 18.

Table 18: Positive Effects for Rivers infrastructure

Effect	Description
Access and Mobility	<ul style="list-style-type: none"> • The Rivers activity maximises access during and after storm events. Stream corridors are widened and integrated with walk and cycle paths. • River navigation options.
Amenity and recreation	<ul style="list-style-type: none"> • The Council’s policies promote the enhancement of recreational and environmental amenity value when developing new assets through water sensitive design.
Economic Development	<ul style="list-style-type: none"> • To enable commercial, business and residential development activities have access commercial use of rivers and to have some protection from river flooding.
Environmental Protection	<ul style="list-style-type: none"> • The Council maintains river networks to minimise the potential for erosion and excess sediment discharge to freshwater and coastal marine area.
Safety and Personal Security	<ul style="list-style-type: none"> • The Council maintains Rivers to minimise disruption to normal community activities and risk to life.

9.4.7 Water Conservation Orders

9.4.7.1 Buller River

A Water Conservation Order exists for the Buller River. Gazetted in 2001, this order details the catchment areas covered and the restrictions placed on activities in that river. In particular this Conservation Order requires fish passage to be maintained, and generally restricts the granting of resource consents for activities that would exceed water quality standards such as turbidity.

The Order does not restrict or prevent the granting of consents for the purpose of the construction or maintenance of soil conservation and river protection works undertaken in accordance with the Soil Conservation and Rivers Control Act 1941. However, any discharge of sediment within the river should comply with the aim of maintaining for the outstanding natural features of the Buller River.

9.4.7.2 Motueka River

A Water Conservation Order exists for the Motueka River. Gazetted in 2004, this order details the catchment areas covered and the restrictions placed on activities in that river. The order extends down to “Woodman’s Bend” in Lower Motueka. In particular, this Conservation Order requires fish passage to be maintained, and generally restricts the granting of resource consents for activities that would exceed water quality standards such as turbidity.

The Order does not restrict or prevent the granting of consents for the purpose of the construction or maintenance of soil conservation and river protection works undertaken in accordance with the Soil Conservation and Rivers Control Act 1941. However, any discharge of sediment within the river should comply with the aim of maintaining adequate water quality for the outstanding brown trout fishery in the Motueka River.

10 Asset Management Processes and Practices

Good quality data and asset management processes are the heart of effective planning. This section outlines our approach to asset management, our processes, and provides an overview of our data management systems and strategies that underpin the Rivers Management activity.

10.1 Appropriate Practice Levels

The Office of the Auditor General (OAG) uses the International Infrastructure Management Manual (IIMM) as the benchmark against which New Zealand councils measure their activity management practices. There are five maturity levels in the IIMM; Aware, Basic, Core, Intermediate and Advanced. The IIMM sets out what the requirements are for each level against each area of the activity management system.

In 2021, the Council reviewed its Activity Management Policy and adopted an updated version. The Policy sets out the Council's activity management objectives and appropriate levels of practice. For the Rivers activity the Council has determined that the appropriate level of practice is 'Core' with 'Intermediate' level of practice for demand forecasting, asset register data and asset condition.

10.2 Service Delivery Reviews

10.2.1 Activity and Asset Management Teams

The Council has an organisational structure and capability that supports effective asset management planning. Multiple teams across the Council have responsibility for the different aspects of activity and asset management. The focus of the teams ranges from a strategic focus at a Long Term Plan/Infrastructure Strategy level, which involves an across-Council team, through to a focussed delivery of the capital projects programme and a detailed, operational focus at the operational team level.

The Activity Management Planning function is managed by the Strategic Planning team, Operations are the responsibility of the Utilities and Transportation teams, while Projects and Contracts are managed by the Programme Delivery team.

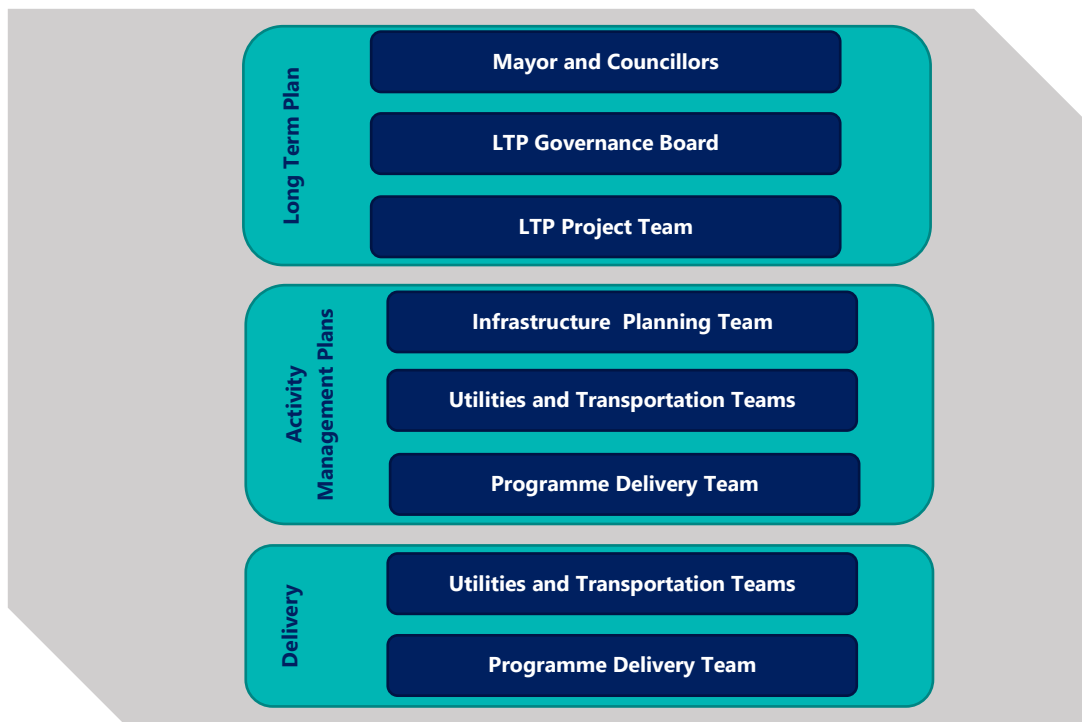


Figure 18: Teams Involved in Activity and Asset Management

The Infrastructure Planning team prepares the update of the Activity Management Plans and oversees implementation of the Improvement Plan. The Draft Plans are reviewed internally and released for consultation, then amended as required and adopted by the Council for implementation.

10.3 Staff Training

The Council allows for continued development of staff to ensure that best practice is maintained and that the Council retains the skills needed to make improvements in asset management practices.

10.4 Professional Support

The Council has a need to access a broad range of professional service capabilities to undertake investigation, design and procurement management in support of its significant capital works programme, as well as support with activity management practice. There is also a necessity on an as-needed basis to access specialist skills for design, planning and policy to support the in-house management of the Council's networks, operations and maintenance.

10.5 Procurement Strategy

The Council has a formal Procurement Strategy that it follows in order to engage contractors and consultants to assist the Council. This strategy has been prepared in part to meet NZ Transport Agency's requirements for expenditure from the National Land Transport Fund, and it considers the procurement environment that exists within the Tasman District. It is due

for review to remain aligned with the Council’s strategies. It principally focuses on Engineering Services activities but is framed in the NZ Transport Agency procurement plan format, which is consistent with whole-of-Government procurement initiatives.

10.6 Service Delivery Reviews

In 2014, Section 17A was inserted into the Local Government Act which requires the Council to review the cost effectiveness of its current arrangements for providing local infrastructure, services, and regulatory functions at regular intervals. Reviews must be undertaken when service levels are significantly changed, before current contracts expire, and in any case not more than six years after the last review.

Table 19 below summarises the reviews that have been completed to date and when the next review is required for this activity.

Table 19: Summary of Reviews

Scope of Review	Summary of Review	Review Date	Next Review
Three Waters Operations and Maintenance Contract	An initial review found that current operations and maintenance contract arrangements were appropriate and that the new contract would be procured on a similar basis. A full review is to be conducted in collaboration with Nelson City Council later.	2022	2027

In addition to the Section 17A reviews, the Council is reviewing its current capability and capacity against the requirements of the future programmes of work set out in its activity management plans. To enhance the department’s ability to deliver the capital and operational works programme the following actions are to be undertaken:

- A review of the capital programme for the next five years to better understand project complexities and delivery requirements
- Investigate a new project management system to track and report project delivery progress
- Increase the number of Project Managers to enable the project delivery requirements.

10.7 Asset Management Systems and Data

10.7.1 Information Systems and Tools

The Council has a variety of systems and tools that support effective operation and maintenance, record asset data, and enable that data to be analysed to support optimised life-cycle management. These are detailed below. There is a continual push to incorporate all asset data into the core asset management systems where possible; where not possible,

attempts are made to integrate or link systems so that they can be easily accessed.

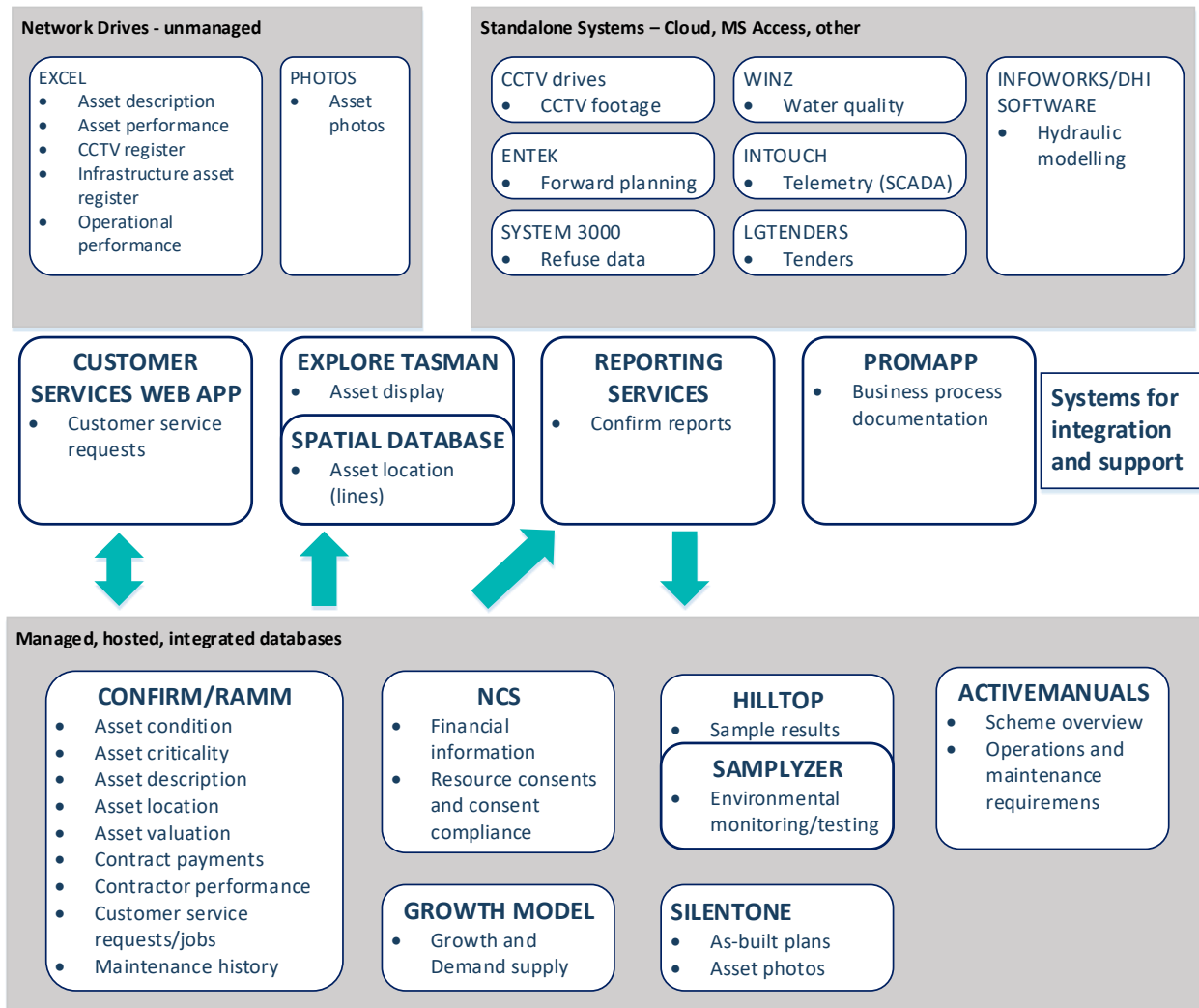


Figure 19: Council’s Information Systems and Tools

(Note the current Digital Improvement Programme is updating this information)

10.8 Asset Data

Table D-1 in Appendix D summarises the various data types, data source and how they are managed within the Council. It also provides a grading on data accuracy and completeness where appropriate. The Council is implementing a staged alignment to the NZ Asset Metadata Standards.

10.9 Critical Assets

Knowing what's most important is fundamental to managing risk well. By knowing this, the Council can invest where it is needed most, and it can tailor this investment to the right level. This will avoid over investing in assets that have little consequence of failure, and will ensure assets that have a high consequence of failure are well managed and maintained. For infrastructure, this is knowing Tasman's critical assets and lifelines. These typically include:

- arterial road links including bridges;
- water and wastewater treatment plants;
- trunk mains;
- main pump stations;
- key water reservoirs;
- stopbanks; and
- detention dams.

The Nelson Tasman Lifelines Report summarises all lifelines within Nelson and Tasman. Within the report there was a number of actions identified to improve the Region's infrastructure resilience.

The Council also recently developed an asset criticality assessment framework for water supply, waste water and stormwater. The framework is defined by:

- a 'Criticality Score' from one (very low criticality asset) to five (very high criticality asset);
- a set of 'Criteria' against which each asset will be assessed and assigned a Criticality Score (see one above); and
- a set of straightforward, logical rules, measures and proxies under each criteria that can be assessed for each asset and enable a criticality Score to be assigned in a spatial (i.e. GIS) context.

For each asset, the criticality has been assessed against the following five criteria:

1. Number of people that would be effected if the asset failed.
2. Asset failure would prevent/impair use of a critical facility.
3. Ease of access/complexity of repair.
4. Asset failure has potential for environmental/health/cultural impacts.
5. Asset failure has potential to initiate cascading failures and/or asset has interdependencies with other assets.

Based on the above, asset criticality has been assessed for all assets across the district and mapped spatially in a GIS viewer. The vulnerability of critical assets to natural hazards has been identified through the overlay of natural hazards information such as coastal inundation and sea level rise, stormwater and river flooding, fault lines, tsunami risk and liquefiable soils.

The asset criticality framework will help to ensure that the appropriate level of effort is being made to manage, maintain and renew them, and will extend to ensuring that the Council has adequate asset data to enable robust decisions to be made regarding the management of those assets.

10.10 Quality Management

The Council has not implemented a formal Quality Management system across the organisation. Quality is ensured by audits, checks and reviews that are managed on a case by case basis.

Table 20 below outlines the quality management approaches that support the Council’s asset management processes and systems.

Table 20: Quality Management Approaches

Activity	Description
Process documentation	The Council uses Promapp software to document and store process descriptions. Over time, staff are capturing organisational knowledge in an area accessible to all, to ensure business continuity and consistency. Detailed documentation, forms and templates can be linked to each activity in a process. Processes are shown in flowchart or swim lane format, and can be shared with external parties
Planning	The Long Term Plan (LTP) and associated planning process are formalised across the Council. There is a LTP project team, LTP governance team, and Asset Management Plan (AMP) project team that undertakes internal reviews prior to the Council approval stages. Following completion of the AMPs, a peer review is done, and the outcomes used to update the AMP improvement plans.
Programme Delivery	This strictly follows a gateway system with inbuilt checks and balances at every stage. Projects cannot proceed until all criteria of a certain stage have been completely met and formally signed off.
Subdivision Works	Subdivision sites are audited for accuracy of data against the plans submitted. CCTV is performed on all subdivision stormwater and wastewater assets at completion of works and again before the assets are vested in the Council. If defects are found, the Council requires that they are repaired before it will accept the assets.
Asset Creation	As-built plans are reviewed on receipt for completeness and adherence to the Engineering Standards and Policies. If anomalies are discovered during data entry, these are investigated and corrected. As-built information and accompanying documentation is required to accompany maintenance contract claims.
Asset Data Integrity	Monthly reports are run to ensure data accuracy and completeness. Stormwater, water, wastewater, coastal structures, solid waste and streetlight assets are shown on the corporate GIS browser, Explore Tasman, and viewers are encouraged to report anomalies to the Engineering Data Management team.
Operations	Audits of a percentage of contract maintenance works are done every month to ensure that performance standards are maintained. Failure to comply with standards is often linked to financial penalties for the contractor.
Levels of Service	Key performance indicators are reported annually via the Council's Annual Report. This is audited by the Office of the Auditor General.

Activity	Description
Reports to the Council	All reports that are presented to the Council by staff are reviewed and approved by the Executive Leadership Team prior to release.

11 Improvement Planning

The Activity Management Plans have been developed as a tool to help the Council manage their assets, deliver on the agreed levels of service and identify the expenditure and funding requirements of the activity. Continuous improvements are necessary to ensure the Council continues to achieve the appropriate level of activity management practice along with delivering services in the most sustainable way while meeting the community’s needs.

Establishment of a robust, continuous improvement process ensures that the Council is making the most effective use of resources to achieve an appropriate level of asset management practice. Assessment of our Activity Management Practices.

11.1 Assessment of our Activity Management Practices

In 2021 the Council undertook an asset management maturity review and targets were developed in consultation with Waugh Infrastructure Management Ltd. The maturity levels were based on the International Infrastructure Management Manual descriptions to maturity. Figure 20 shows that focus areas for improvements were Asset Register Data, Asset Condition, Decision Making, Risk Management, and Operational Planning. Improvements have been incorporated and previously identified gaps have been addressed. Further improvements will be needed to be implemented over the next couple of years to meet the target and actions have been included in the Improvement Plan.

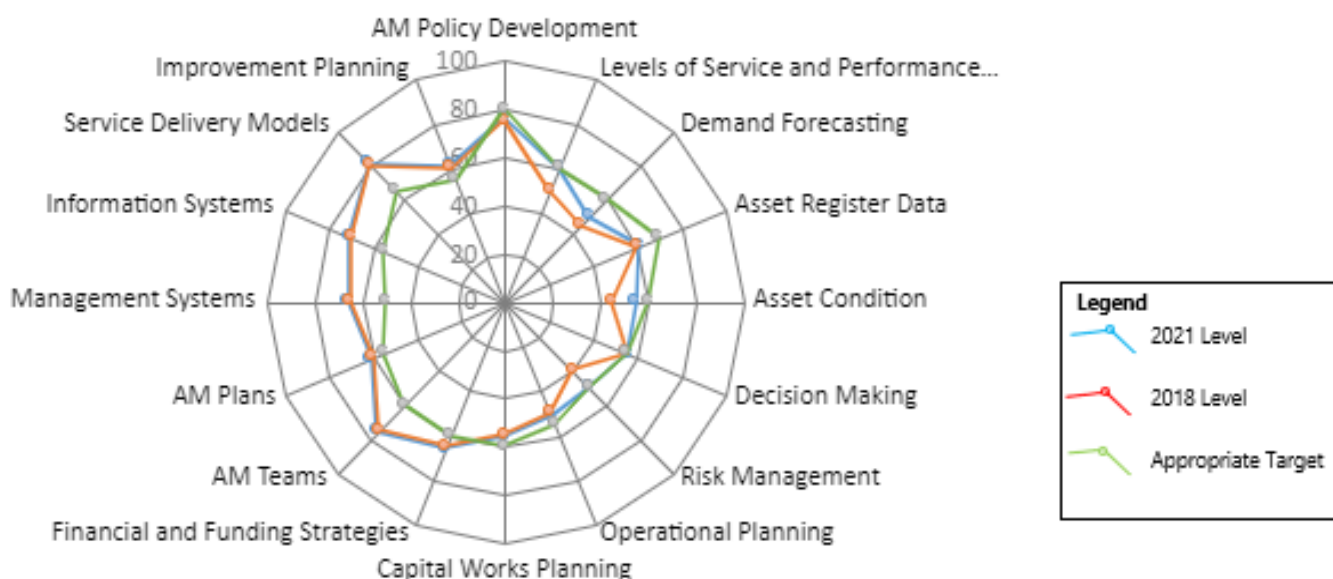


Figure 20: Rivers Assets Maturity Levels

11.2 Peer Reviews

The Council staff reviews and prioritises the feedback received in the peer review reports and incorporates improvements in the activity management plan where possible.

11.2.1 Utility NZ 2021 review

The Council engaged Utility NZ to review the 2021 consultation versions of the Three Waters and Transportation Activity Management Plans (AMPs). The review focussed on the strategic purpose of activity planning and its application within the AMPs. The four recommended actions were incorporated into a new template that this AMP is built upon.

11.3 Improvement Plan

Establishment of a robust, continuous improvement process ensures that the Council is making the most effective use of resources to achieve the appropriate level of asset management practice. The continuous improvement process includes:

- identification of improvements;
- prioritisation of improvements;
- establishment of an improvement programme;
- delivery of improvements; and
- ongoing review and monitoring of the programme.

All improvements identified are included in a single programme encompassing all activities. In this way opportunities to identify and deliver cross-activity or generic improvements can be managed more efficiently, and overall delivery of the improvement programme can be monitored easily.

11.4 Summary of Recent Improvements

Based on the peer review and internal evaluations and reviews, the Council has made improvements to its Activity Management Plan and specific asset management processes.

Some of the Council's key achievements in the Asset Management Processes over the previous three years include:

- A review of the rivers rating strategy to address the inconsistencies between the River X, Y and Z rating levels and re-assess the rating areas has been completed as part of this AMP.

11.5 Summary of Planned Improvements

A list of the planned activity specific improvement items is in Table 21.

Table 21: Specific Improvement Items

Improvement Item	Further Information	Priority	Status	% Complete	Expected Completion Date	Cost/Resource Type	Comments
River Management Plans	Integrated river management plans.	High	Not started	0	Ongoing	Staff time and budgets	
Measure carbon emissions	In accordance with Tasman Climate Action Plan.	Medium	Not started	0	Ongoing	Staff time and budgets	

Table 22: General Activity Management Improvement Items

Improvement Item	Further Information	Need for Improvement	Priority	Status	Expected Completion Date	Cost/Resource Type
Provide data confidence ratings for groups of assets within the valuation for each activity.		In the valuation reports data confidence is only assessed across the activity and not for the different types of asset groups. It is likely that data confidence varies considerably between buried assets and above ground assets, and this is not reflected in the reports.	Medium	Not started	June 2025	Consultants and staff time Budget \$33,500 in 2024/2025
Consider how levels of service options are presented to the community.	Consider how to better engage the community in agreeing appropriate levels of service through specific work streams (e.g. Risk, Resilience, and Recovery Planning).	Engagement is required to determine an appropriate level of service.	Medium	Not started	2025	Staff time

Improvement Item	Further Information	Need for Improvement	Priority	Status	Expected Completion Date	Cost/Resource Type
Capture and track maintenance data.	Historical costs should be analysed to calculate forward budgets.	Improve the consistency and confidence when planning operations and maintenance budgets.	Medium	Not started	Ongoing	Staff Time

Appendix A: Detailed Operating Budgets

ID	Name	Description	Total Budget 2024-54	Financial Year Budget (\$)										Total Budget	
				2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	3030/31	2028/29	2029/30	2030/31	2034-44	2044-54
32001	Activity Management Plan	Update of Activity Management Plan	300,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	100,000	100,000
32003	Professional Services	Professional fees for expert advice i.e geomorphology, ecology, modelling etc	1,500,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	500,000	500,000
32004	Rivers Asset Insurance		5,250,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	1,750,000	1,750,000
32005	Rivers General Z	All operational costs with class Z rivers	12,150,000	405,000	405,000	405,000	405,000	405,000	405,000	405,000	405,000	405,000	405,000	4,050,000	4,050,000
32006	Class Y Operations	Operational costs for class Y rivers	34,939,868	1,170,000	1,150,242	1,029,626	1,170,000	1,170,000	1,170,000	1,170,000	1,170,000	1,170,000	1,170,000	11,700,000	11,700,000
32007	RIVER BERM RATES		1,050,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	350,000	350,000
32010	River Management Plans	Operational plans for rivers X & Y setting out a maintenance strategy and prioritised work programme	500,000	100,000	100,000	100,000	100,000	100,000	0	0	0	0	0	0	0
32011	Class X Operations	Operational costs for class X rivers	6,000,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	2,000,000	2,000,000
32012	Asset data collection and monitoring	Asset data collection to inform River Management Plans	6,000,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	2,000,000	2,000,000

Appendix B: Detailed Capital Budgets

ID	Name	Description	Project Driver %			Total Budget	Financial Year Budget (\$)											Total Budget	
			Growth	Inc LOS	Renewals		2024-54	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	3030/31	2031/32	2032/33	2033/34	2034-44	2044-54
36002	Flood Mitigation Works Motueka	Flood Mitigation Works Motueka	0	100	0	12,500,000	2,500,000	4,750,000	5,250,000	0	0	0	0	0	0	0	0	0	
36003	River Flapgates Asset Renewal	River Flapgates Asset Renewal	0	0	100	600,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	200,000	200,000	
36004	River X and Y Rock Work	Capitalised rock work, not loan funded	0	100	0	28,507,500	592,500	592,500	592,500	990,000	990,000	990,000	990,000	990,000	990,000	990,000	9,900,000	9,900,000	
36005	Flood Mitigation Works 23-24	Flood Mitigation Works 23-24	0	100	0	61,000	61,000	0	0	0	0	0	0	0	0	0	0	0	
36006	Class X Capital Works	Capital works on class X rivers	0	100	0	6,075,000	202,500	202,500	202,500	202,500	202,500	202,500	202,500	202,500	202,500	202,500	2,025,000	2,025,000	

Appendix C: Funding Impact Statement

Actual 2023 \$000	Plan 2023/24 \$000	Plan 2024/25 \$000	Plan 2025/26 \$000	Plan 2026/27 \$000	Plan 2027/28 \$000	Plan 2028/29 \$000	Plan 2029/30 \$000	Plan 2030/31 \$000	Plan 2031/32 \$000	Plan 2032/33 \$000	Plan 2033/34 \$000
SOURCES OF OPERATING FUNDING											
0	0	0	0	0	0	0	0	0	0	0	0
2,035	2,256	3,119	3,475	3,682	3,913	4,171	4,205	4,402	4,618	4,830	4,971
0	109	0	0	0	0	0	0	0	0	0	0
150	556	171	183	188	193	198	203	208	213	219	224
0	0	0	0	0	0	0	0	0	0	0	0
925	578	763	836	855	875	895	915	935	955	975	996
3,110	3,499	4,053	4,494	4,725	4,981	5,264	5,323	5,545	5,786	6,024	6,191
APPLICATIONS OF OPERATING FUNDING											
2,126	2,317	2,792	2,960	3,032	3,107	3,179	3,138	3,206	3,275	3,343	3,413
96	180	187	233	289	387	437	462	504	517	553	569
829	769	861	1,025	1,064	1,074	1,124	1,155	1,197	1,284	1,345	1,352
0	0	0	0	0	0	0	0	0	0	0	0
3,051	3,266	3,840	4,218	4,385	4,568	4,740	4,755	4,907	5,076	5,241	5,334
57	233	213	276	340	413	524	568	638	710	783	857
SOURCES OF CAPITAL FUNDING											
3,253	2,499	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
2,310	1,674	1,075	1,039	1,006	963	882	827	786	743	699	653
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
5,563	4,173	1,075	1,039	1,006	963	882	827	786	743	699	653
APPLICATIONS OF CAPITAL FUNDING											
Capital expenditure											
0	0	0	0	0	0	0	0	0	0	0	0
6,494	4,406	1,228	1,255	1,285	1,315	1,344	1,372	1,401	1,429	1,458	1,485
12	0	21	21	22	22	23	23	23	24	24	25
(886)	0	39	39	39	39	39	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
5,620	4,406	1,288	1,315	1,346	1,376	1,406	1,395	1,424	1,453	1,482	1,510
(57)	(233)	(213)	(276)	(340)	(413)	(524)	(568)	(638)	(710)	(783)	(857)
0	0	0	0	0	0	0	0	0	0	0	0

Appendix D: Asset Data

Table D-1: Data Types and Information Systems

Data Type	Information System	Management Strategy	Data Accuracy	Data Completeness
As-built plans	DORIS (The Council's Digital Office and Record Information System)	As-built plans are uploaded to DORIS, allowing digital retrieval. Each plan is audited on receipt to ensure a consistent standard and quality.	2	2
Asset condition	Confirm	Assets are inspected by a consultant or staff and the inspection information is entered directly into Confirm using the Connect mobile application.	N/A	N/A
Asset criticality	Confirm	When a new asset is created, the activity planner and engineer will make an assessment on criticality. Criticality of asset can be modified by authorized users should circumstances change.	N/A	N/A

Data Type	Information System	Management Strategy	Data Accuracy	Data Completeness
Asset description	Confirm / spreadsheets	<p>All assets are captured in Confirm's Site and Asset modules, from as-built plans and maintenance notes. Hierarchy is defined by Site and three levels of Asset ID (whole site, whole asset or asset). Assets are not broken down to component level except where required for valuation purposes. It is also possible to set up asset connectivity, but this hasn't been prioritised for the future yet.</p> <p>Detail on some datasets held in spreadsheets relating to Utilities Maintenance Contract 1065; work is in progress to transfer this detail to Confirm as resourcing allows.</p>	2	2
Asset location	Confirm (point data) / GIS (line data)	Co-ordinates for point data completely (NZTM) describe spatial location. Line data links to GIS layers that describe the shape.	2	2
Asset valuation	Confirm	Valuation of assets done based on data in Confirm and valuation figures stored in Confirm.	2	2
Contract payments	Confirm	All maintenance and capital works contract payments are done through Confirm. Data on expenditure is extracted and uploaded to NCS.	N/A	N/A
Contractor performance	Confirm	Time to complete jobs is measured against contract KPIs through Confirms Maintenance Management module.	N/A	N/A

Data Type	Information System	Management Strategy	Data Accuracy	Data Completeness
Corporate GIS browser	Explore Tasman	Selected datasets are made available to all the Council staff through this internal GIS browser via individual layers and associated reports.	N/A	N/A
Customer service requests	Customer Services Application / Confirm	Customer calls relating to asset maintenance are captured in the custom-made Customer Services Application and passed to Confirm's Enquiry module or as a RAMM Contractor Dispatch.	N/A	N/A
Environmental monitoring / testing	Hilltop / spreadsheet	Laboratory test results performed on monitoring and testing samples (from treatment plants and RRCs) are logged direct into Hilltop via an electronic upload from the laboratories. Due to historical difficulties in working with Hilltop data, it is duplicated in spreadsheets.	2	2
Financial information	NCS	<p>The Council's corporate financial system is NCS, a specialist supplier of integrated financial, regulatory and administration systems for Local Government. Contract payment summaries are reported from Confirm and imported into NCS for financial tracking of budgets.</p> <p>NCS also holds Water billing information, while asset details and spatial component are recorded in Confirm and cross-referenced.</p>	N/A	N/A

Data Type	Information System	Management Strategy	Data Accuracy	Data Completeness
Infrastructure Asset Register	Spreadsheet	High level financial tracking spreadsheet for monitoring asset addition, disposals and depreciation. High level data is checked against detail data in the AM system and reconciled when a valuation is performed.	2	2
Forward planning	Spreadsheets, GIS Mapping	Forward programmes for the Council's activities are compiled in excel, These are loaded onto GIS based maps for information and in order to identify clashes and opportunities.	N/A	N/A
Growth and Demand Supply	Growth Model	A series of linked processes that underpin the Council's long term planning, by predicting expected development areas, revenues and costs, and estimating income for the long term.	2	2
Hydraulic modelling	Infoworks / TufLOW Software	Models have been developed for several schemes and catchments. Copies of the models are held on the Council's network drives.	2	4
Maintenance history	Confirm	Contractor work is issued via Confirms Maintenance Management module. History of maintenance is stored against individual assets. Prior to 2007 it was logged at a scheme level.	2	2

Data Type	Information System	Management Strategy	Data Accuracy	Data Completeness
Photos	Network drives / DORIS (Digital Office and Record Information System)	Electronic photos of assets are mainly stored on the Council's network drives.	N/A	N/A
Processes and documentation	Promapp	Promapp is process management software that provides a central online repository where the Council's process diagrams and documentation is stored. It was implemented in 2014 and there is a phased uptake by business units.	2	5
Resource consents and consent compliance	NCS	Detail on Resource Consents and their compliance of conditions (e.g. sample testing) are recorded in the NCS Resource Consents module.	2	2
Reports	Confirm Reports	Many SQL based reports from Confirm and a few from RAMM are delivered through Confirm Reports. Explore Tasman also links to this reported information to show asset information and links (to data in DORIS and NCS).	N/A	N/A
Tenders	GETS (NZ Government Electronic Tendering Service)	Almost all New Zealand councils use this system to advertise their tenders and to conduct the complete tendering process electronically.	N/A	N/A

Table D-2: Data Accuracy and Completeness Grades

Grade	Description	% Accurate	Grade	Description	% Complete
1	Accurate	100	1	Complete	100
2	Minor Inaccuracies	+/- 5	2	Minor Gaps	90 – 99
3	50 % Estimated	+/- 20	3	Major Gaps	60 – 90
4	Significant Data Estimated	+/- 30	4	Significant Gaps	20 – 60
5	All Data Estimated	+/- 40	5	Limited Data Available	0 – 20

11.6 Critical Assets

Knowing what’s most important is fundamental to managing risk well. By knowing this, the Council can invest where it is needed most, and it can tailor this investment at the right level. This will avoid over investing in assets that have little consequence of failure, and will ensure assets that have a high consequence of failure are well managed and maintained. For infrastructure, this is knowing Tasman’s critical assets and lifelines. These typically include:

- Arterial road links including bridges
- Water and wastewater treatment plants
- Trunk mains
- Main pump stations
- Key water reservoirs
- Stopbanks
- Detention dams.

During 2016, the Council in partnership with Nelson City Council, the Regional Civil Defence Emergency Management Group and other utility providers, prepared the Nelson Tasman Lifelines Report. This report summarises all lifelines within Nelson and Tasman. Within the report there was a number of actions identified to improve the Region’s infrastructure resilience.

The Council also recently developed an asset criticality assessment framework for water supply, waste water and stormwater. The frameworks is defined by:

- A ‘Criticality Score’ from one (very low criticality asset) to five (very high criticality asset)
- A set of ‘Criteria’ against which each asset will be assessed and assigned a Criticality Score (see one above)

- A set of straightforward, logical rules, measures and proxies under each criteria that can be assessed for each asset and enable a criticality Score to be assigned in a spatial (i.e. GIS) context.

For each asset, the criticality has been assessed against the following five criteria:

1. Number of people that would be effected if the asset failed.
2. Asset failure would prevent/impair use of a critical facility.
3. Ease of access/complexity of repair.
4. Asset failure has potential for environmental/health/cultural impacts.
5. Asset failure has potential to initiate cascading failures and/or asset has interdependencies with other assets.

Based on the above, asset criticality has been assessed for all assets across the district and mapped spatially in a GIS viewer. The vulnerability of critical assets to natural hazards has been identified through the overlay of natural hazards information such as coastal inundation and sea level rise, stormwater and river flooding, fault lines, tsunami risk and liquefiable soils.

The asset criticality framework will help to ensure that the appropriate level of effort is being made to manage, maintain and renew them, and will extend to ensuring that the Council has adequate asset data to enable robust decisions to be made regarding the management of those assets.

Appendix E: Key Risks, Assumptions and Uncertainties

Table E-1: Key Risks

Risk Event	Mitigation Measures
Catastrophic failure of a river structure.	<p>Current:</p> <ul style="list-style-type: none"> • routine maintenance is included in the Rivers budgets. • reactive inspection following extreme weather events. • maintain a complete inventory of the Council owned Rivers structures and their current condition.
Premature deterioration or obsolescence of an asset.	<p>Current:</p> <ul style="list-style-type: none"> • maintain the increased number of routine inspections and scheduling of maintenance programme.
Failure to adequately prepare for climate change and failure to respond to changing coastline.	<p>Current:</p> <ul style="list-style-type: none"> • reactive inspections and maintenance/repairs following extreme weather events. • continuation of the current interim rivers policy statement which states what the Council is prepared to protect. <p>Future:</p> <ul style="list-style-type: none"> • Combined Climate adaptation planning work streams.
Customer perception of the Council not doing enough to protect private property and public assets.	<p>Current:</p> <ul style="list-style-type: none"> • Review of Stop bank LoS. • management of resource consents and CSRs.
Failure to manage erosion of public land.	<p>Current:</p> <ul style="list-style-type: none"> • routine inspections. • resource consent management. • maintain the annual routine inspections and scheduling of maintenance programme.

Table E-2: Generic Assumptions and Uncertainties

Type	Uncertainties	Assumption	Discussion
Financial	Unless stated, it can be unclear whether financial figures include inflation or not, as well as whether GST has been included or not.	That all expenditure has been stated in 1 July 2023 dollar values and no allowance has been made for inflation and all financial projections exclude GST unless specifically stated.	The LTP will incorporate inflation factors. This could have a significant impact on the affordability of each activity if inflation is higher than allowed for. The Council is using the best information practically available from Business and Economic Research Limited (BERL) to reduce this risk.
Asset Data Knowledge	The Council has inspection and data collection regimes in place for assets. These regimes do not allow for entire updated coverage at all times. The Council's aim is to strike the right balance between adequate knowledge and what is practical.	That the Council has adequate knowledge of the assets and their condition so that planned renewal works will allow the Council to meet the levels of service.	There are several areas where the Council needs to improve its knowledge and assessments, but there is a low risk that the improved knowledge will cause a significant change to the level of expenditure required.
Growth Forecasts		That the district will grow or decline as forecast in the Council's Growth Model. The overall population of Tasman is expected to increase by 7,400 residents between 2024 and 2034, to reach 67,900. The District will experience ongoing population growth over the next 30 years, but the rate of growth will slow over time. Based on these assumptions, the Council	Growth forecasts are used to determine infrastructure capacity and when that capacity will be required. If actual growth varies significantly from what was projected, it could have a moderate impact on the Council's plans. If growth is higher than forecast, additional infrastructure may be required quicker than anticipated. If growth is lower, the Council may be able to defer the

Type	Uncertainties	Assumption	Discussion
		is planning a further 4,200 dwellings and 13 hectares of business land will be required by 2034.	delivery of new or additional infrastructure.
Project Timing	<p>Multiple factors affect the actual timing of projects e.g.:</p> <ul style="list-style-type: none"> • Consents • Access to and acquisition of land • Population growth • Timing of private developments • Funding and partnership opportunities 	That projects will be undertaken when planned.	The risk of the timing of projects changing is high due to factors like resource consents, third party funding, and land acquisition and access. The Council tries to mitigate these issues by undertaking the investigation, consultation and design phases sufficiently in advance of when construction is planned. If delays occur, it could have an impact on the levels of service and the Council's financing arrangements.
Project Funding	The Council cannot be certain that it will receive the full amount of anticipated subsidy or contribution. It depends on the funder's decision making criteria and their own ability to raise funds.	That projects will receive subsidy or third party contributions at the anticipated levels.	The risk of not securing funding varies and depends on the third party involved. If the anticipated funding is not received it is likely that the project will be deferred which may impact levels of service.
Accuracy of Cost Estimates	Project scope is often uncertain until investigation and design work has been completed, even	That project cost estimates are sufficiently accurate enough to determine the required funding level.	The risk of large underestimation is low; however, the importance is moderate as the Council may not be able to afford the true

Type	Uncertainties	Assumption	Discussion
	then the scope can change due to unforeseen circumstances. Even if the scope has certainty there can be changes in the actual cost of work due to market competition or resource availability.		cost of the project. The Council tries to reduce this risk by undertaking reviews of all estimates and including an allowance for scope risk based on the complexity of the project.
Land Access and Acquisition	Land access and acquisition is inherently uncertain. Until negotiations commence, it is difficult to predict how an owner will respond to the request for access or transfer	That the Council will be able to secure land and/or access to enable completion of projects.	
Legislation Changes	Often Central Government changes legislation to respond to emerging national issues and opportunities. It is difficult to predict what changes there will be to legislation and their implications for the Council.	The Council assumes that it will be affected by changes to Government legislation. However, as the nature of these changes is not known no financial provision has been made for them except where noted elsewhere in the LTP 2024-2034 forecasting assumptions.	The risk of major changes that impact the Council is high as the new coalition government has flagged changes to freshwater management laws and repeal of regulations that impact farming activities. This is likely to have an impact on the required expenditure. The Council has not planned expenditure to specifically mitigate this risk. It may be necessary for the Council to reprioritize planned work to respond to future legislation.
Emergency	It is impossible to accurately	That the level of funding reserves	Funding levels are based on historic

Type	Uncertainties	Assumption	Discussion
Reserves	predict when and where a natural hazard event will occur. Using historic trends to predict the future provides an indication but is not comprehensive. The effects of climate change are likely to include more frequent emergency events.	combined with insurance cover and access to borrowing capacity will be adequate to cover reinstatement following emergency events.	requirements. The risk of requiring additional funding is moderate and may have a moderate effect on planned works due.
Network Capacity	The Council uses a combination of as built data, network modelling and performance information to assess network capacity. The accuracy of the capacity assessment is based on the accuracy of asset and performance data.	That the Council's knowledge of network capacity is sufficient to accurately programme works.	If the network capacity is higher than assumed, the Council may be able to defer works. The risk of this occurring is low, however it should have a positive impact on the community because the level of service can be provided for longer before requiring additional capital expenditure. If the network capacity is lower than assumed, the Council may be required to advance capital works projects to provide the additional capacity sooner than anticipated. The risk of this occurring is low, however it could have a significant impact on expenditure.
Climate change	Continued greenhouse gas emissions will cause further warming and changes in all parts	The Council uses the latest climate predictions that have been prepared by	The risk of low lying land being inundated from the sea, and damage to the Council property and infrastructure from severe

Type	Uncertainties	Assumption	Discussion
	<p>of the climate system. The level of continued emissions of greenhouse gases and the effectiveness of worldwide efforts to reduce them are not known. The full extent of the impacts of climate change and the timing of these impacts are uncertain.</p>	<p>NIWA for the Tasman District.</p> <p>The Council assumes that it is not possible to reduce the mid-century warming, due to the amount of carbon dioxide already accumulated in the atmosphere–i.e. that the projections for mid-century are already ‘locked in’.</p> <p>Because of climate change, natural disasters will occur with increasing frequency and intensity. The weather-related and wildfire events the District has experienced in recent years are consistent with predictions of climate change impacts. For low lying coastal land there will be increasing inundation and erosion from sea level rise and storm surge. Adaptation can help reduce our vulnerability and increase our resilience to natural hazards.</p> <p>It is assumed that sea levels will continue to rise and are likely to rise at an accelerated rate over time. Our plans assume a sea level rise (SLR) of up to 0.32m by 2050, 0.9m by 2090 and 1.66m to 2130 and 2.02m by 2150 (metres above 1995-2014 baseline), in line with the Ministry for the Environment’s interim guidance (2022). For coastal subdivisions,</p>	<p>weather events, is predicted to increase.</p> <p>The Council will need to monitor the level of sea level rise and other impacts of climate change over time and review its budgets, programme of work and levels of service accordingly.</p> <p>The Council will continue to take actions to mitigate its own greenhouse gas emissions, to work with the community on responses to climate change and show leadership on climate change issues.</p>

Type	Uncertainties	Assumption	Discussion
		greenfield developments, and major new infrastructure, we are planning for 1.9m SLR based on the RCP8.5H+ scenario set out in the Ministry for the Environment guidance (2017).	

Appendix F: Strategic and Legislative Links

Table F-1: Summary of Key Legislation that Relates to Rivers Activity

Legislation	Effect on the River Activity
The Local Government Act 2002	The Local Government Act requires local authorities to prepare a ten-year Long Term Plan and 30-year Infrastructure Strategy, which are to be reviewed every three years. The Act requires local authorities to be rigorous in their decision-making by identifying all practicable options and assessing those options by considering the benefits and costs in terms of the present and future well-being of the community. This activity management plan provides information to support the decisions considered in the Long Term Plan.
Te Tiriti o Waitangi – Treaty of Waitangi	The Treaty of Waitangi is an agreement between Māori and the Crown. Under Section 4 of the Local Government Act 2002 local authorities are required to ‘recognise and respect the Crown’s responsibility to take appropriate account of the principles of the Treaty of Waitangi and to maintain and improve opportunities for Māori to contribute to local government decision-making processes’. Further sections of the Act, particularly 77 and 81, detail the scale of requirement for local authorities to seek contributions and involvement from Māori in consultation and decision-making processes.
The Soil Conservation and Rivers Control Act 1941	This Act defines the catchment boards and their powers and responsibilities. The overriding purpose of the Soil Conservation and Rivers Control Act 1941 is to make provision for the conservation of soil resources, the prevention of damage by erosion and to make better provision for the protection of property from damage by floods.
The Biosecurity Act 1993	This Act defines, pest surveillance, prevention and management.
The Civil Defence Emergency Management Act 2002 (Lifelines)	This Act promotes the management of hazards. This includes mitigating flood risk which includes planning for emergencies, response and recovery from an event.
The Resource Management Act 1991	This Act sets out obligations to protect New Zealand’s natural resources such as land, air, water, plants, ecology, and stream health. Resource consents draw their legal authority from the Resource Management Act 1991.

Legislation	Effect on the River Activity
The Land Drainage Act 1908	This Act details drainage of land and the responsibilities of each entity. This includes requirements and powers of the controlling authority.
The Building Act	This Act requires that buildings and site works are constructed to protect people and other property from the adverse effects of surface water. The Environment and Planning Department is responsible for the enforcement of the Building Code which is enabled through the Building Act.

Table F-2: Summary of National Documents that Relates to Rivers Activity

Documentation	Effect on the River Activity
National Policy Statement – Freshwater Management 2020 (NPS-FM)	<p>The NPS-FM directs regional councils, in consultation with their communities, to set objectives for the state of fresh water bodies in their regions and to set limits on resource use to meet these objectives.</p> <p>Some of the key requirements of the NPS-FM are to:</p> <ul style="list-style-type: none"> • Manage freshwater in a way that gives effect to Te Mana o te Wai • Improve degraded water bodies and maintain or improve all others using bottom lines defined in the Freshwater NPS. • Avoid any further loss or degradation of wetlands and streams, map existing wetlands and encourage their restoration. • Identify and work towards target outcomes for fish abundance, diversity and passage and address in-stream barriers to fish passage over time. • Set an aquatic life objective for fish and address in-stream barriers to fish passage over time. • Monitor and report annually on freshwater (including the data used); publish a synthesis report every five years containing a single ecosystem health score and respond to any deterioration.
The New Zealand Coastal Policy Statement 2010	The Policy Statement informs the Tasman Regional Management Plan and the Council must give consideration to the policy statement during consent consideration on anything around the coast.

Coastal Hazards and
Climate Change (Guidance
for Local Government)

This provides guidance for assessing, planning and managing increasing risks facing communities along the coast along with tools and techniques to determine how it will effect property.

Table F-3: Summary of Local Documents that Relates to Rivers Activity

Documentation	Effect on the River Activity
Tasman District Council District Plan – Tasman Resource Management Plan	A combined regional and district plan with statements of issues, objectives, policies, methods and rules addressing the use of land, water, coastal marine area and discharges into the environment.
Tasman Regional Policy Statement	An overview of significant resource management issues with general policies and methods to address these. Part 8 River and Lake Resources outlines the control of river channels and management of floodplains to avoid or mitigate flooding of riparian lands.
Hydrology Flood Manual	An Operational Manual that covers emergency response procedures for both Nelson and Tasman Districts

Table F-4: Summary of Standards that Relates to Rivers Activity

Standard	Effect on the River Activity
AS/NZS 9401:2008 Managing Flood Risk – A Process Standard	This standard uses a risk based approach to manage flood risk. This is used to help inform decisions around flooding by analysing the risk.