Tasman District Council

WATER SUPPLY
Activity Management Plan

2012 - 2022

July 2012

Quality Assurance Statement		
Tasman District Council 189 Queen Street Private Bag 4 Richmond 7050 Telephone: (03) 543 8400 Fax: (03) 543 9524	**Version:**	V5 July 2012
	Status:	Final
	Project Manager: David Burn	
	Prepared by: **Asset Manager**..... **AMP Author**.....	
	Approved for issue by: **Engineering Manager**.....	

For full Quality Assurance Statement, Refer Appendix Z

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 KEY ISSUES FOR THE WATER ACTIVITY

The most important issues relating to the water activity are shown below in Table 1-1.

Table 1-1: Key Issues for the Water Activity

Key Issue	Discussion
Damage to water supply assets from storms and heavy rainfall events.	In December 2010 and December 2011 the Tasman District experienced extremely heavy rainfall which led to flooding, slips and debris flows resulting in damage to Council infrastructure and private property. This was particularly destructive in Golden Bay in 2011 and in Murchison and Golden Bay in 2010. Both these events depleted Council's disaster funds. The full extent and cost of the damage to Council infrastructure for the December 2011 event, including water utility infrastructure, is estimated to be approximately $10.1 million. Of these costs around $6.7 million should be recoverable from the Ministry of Civil Defence and Emergency Management or from insurance, which leaves a Council liability of around $3.4 million. Most of the repair work will be undertaken in the current 2011/2012 year. Much of the Council funding is likely to come from existing Council disaster funds or new loans. Council has budgeted for around $900,000 to help replenish the disaster funds in 2012/2013. Council has also decided to use $3 million of the Port Nelson special dividend received in 2011/2012 to replenish the General Disaster Fund. This additional funding will mean there should be sufficient money available to cover the costs of the disaster recovery work.
Motueka water supply.	In the Ten Year Plan 2009-2019 Council planned to provide a reticulated water supply to Motueka township. Motueka is the largest town in New Zealand not supplied with a reticulated water supply. Only around a third of the town currently has a reticulated water supply, with the remainder of the properties extracting water from private bores. The purposes of the water reticulation scheme would be to: • reduce the potential public health risk associated with bore water use • significantly improve the fire fighting capacity in the residential and commercial areas of the town • provide high quality water to all users in the township making sure water is available when and where it is needed • ensure there is adequate water available for the long term residential, commercial and industrial needs of the growing Motueka community. At the time when the Ten Year Plan was produced, we noted the potential to receive a Government subsidy to offset some of the costs of the project on the community. Council decided to proceed with the project only if it received a satisfactory Government subsidy. Late in 2011 Council was advised that the application was not successful. Council has, therefore, deferred the project in the Long Term Plan to start around 2021 when it will consider re-applying for a Government subsidy and undertaking further consultation with the Motueka community on any proposed scheme. The cost of the project is in the order of $25,000,000. In the meantime, Council will continue to monitor the water supply and public health issues in Motueka.
Waimea Basin water source.	The Waimea Basin is a good quality but limited groundwater resource. There is a high demand for water in the area and the sustainable allocation limit is already over allocated. This is leading to an increase in the incidents of water rationing and in drought times can lead to flows in the Waimea River that drop below what is needed for environmental flows. The Lee Valley Dam is being investigated as a potential solution to these issues. It appears to be an option to deal with the wider Waimea Basin and Council water supply issues. If a means to resolve these issues is not found, there is the possibility of reduced water takes and constraints on growth in the Waimea and Richmond settlements.

Key Issue	Discussion
Lee Valley Dam.	Council is considering being involved in the Lee Valley Dam construction project proposed by the Waimea Water Augmentation Committee. The cost of the dam is in the order of $41.6 million. This is the most significant and expensive capital works project being planned in the Tasman district over the coming 10 years. It is important for all members of the community to be aware of the project, the implications of proceeding with it and the implications if the project does not proceed. Due to the importance of the project, a separate section outlining details of the project is included in the Long Term Plan.
Coastal Tasman pipeline.	Coastal Tasman pipeline is a major capital expenditure project planned to improve the water supply capacity to Mapua and to facilitate growth in the Coastal Tasman Area (CTA). Growth in Mapua is currently constrained with only very limited new connections being allowed on to the water supply system. Water supply is the limiting factor to growth in Mapua, so once an improved supply is available growth will be able to occur. The key issue is the upfront investment in the Coastal Tasman Area pipeline infrastructure and the affordability for ratepayers of providing the pipeline. Construction of the pipeline is programmed to commence in 2018 and be completed around 2023. The cost of the project is in the order of $23,300,000 included within the 10 years of this Plan.
New Richmond water treatment plant and water source.	Richmond is currently fed from two water sources. Council has programmed the construction of a new water treatment plant in Richmond, where both the Waimea and Richmond sources will be blended. Council also needs to develop a new water source away from the coastal margin to provide a higher level of security of supply, particularly in light of climate change and sea level rise. Construction of the treatment plant is planned to occur from 2012 to 2015. The cost of the project is in the order of $8,650,000. Water source investigations are continuing.
New Drinking Water Standards.	Following introduction of the Health (Drinking Water) Amendment Act 2007 (HDWAA) it is now mandatory to comply with drinking water standards. This change will mean that the cost of providing water will increase over the coming 10 years due to the need for Council to upgrade its water supplies to meet the standards. While most supplies in the district obtain water from good quality groundwater sources, they are currently not meeting the standards. The main reason for non-compliance is a lack of protozoa treatment at the treatment plants. The HDWAA also requires the completion and implementation of Public Health Risk Management Plans (PHRMPs) for all Council water supplies. These must be completed by specific dates. Council has completed Public Health Risk Management Plans for several water supply schemes and has a programme in place to complete the rest in advance of the deadlines in the legislation. The Public Health Risk Management Plans outline what work is required to reduce public health risks within the schemes and to meet and maintain compliance with the Drinking Water Standards New Zealand (DWSNZ). The Long Term Plan Council has programmed, at considerable cost, upgrades of all remaining urban water treatment plants not currently meeting the DWSNZ during the coming 10 years. The three rural water supply schemes, however, are not covered by the upgrades and may be upgraded after the next 10 years if affordable methods of treatment can be found.
Rural water supplies.	Council's rural water supplies, including Dovedale, Redwood Valley and Eighty Eight Valley are virtually all fully allocated. There are some projects planned that will provide some capacity improvements. These projects, however, will provide only minimal improvements. There is little capacity to cope with any significant additional demand. Council has closed these water supplies to new connections.

Key Issue	Discussion
Infrastructure upgrades causing water charges to increase.	The costs of water will be increasing substantially during the coming 10 years. This is largely driven by the change in legislation requiring Council's water supplies to meet the DWSNZ, which has driven the need for major capital upgrades of the supplies. There is a large list of expensive capital expenditure projects planned to secure the long-term future of Council's water supplies. If these projects proceed the daily water charge will increase from 61.81 cents (inc GST) to $1.10 (inc GST) during the 10 year period and the volume charge will increase from $1.87 (inc GST) to $2.91 (inc GST). These projects will also contribute to an increase in Council's debt by $56.2 million over the 10 year period.
Low flow restricted water supply rates.	The low flow restricted water supply rates are also planned to increase substantially during the 10 year period. The rate is currently at $344.15 (inc GST). This rate has not been increased for the last three years. It is planned to increase from $344.15 (inc GST) in 2011/2012 to $546.91 (inc GST) in 2012/2013, and then to $849.42 (inc GST) by the end of the 10 year period.
Meeting growth needs.	There are a number of water supply projects planned that are driven fully or partially by the need to cater for future growth. Council applies development contributions to these projects so that developers meet the cost of the growth component of the projects, rather than ratepayers. The cost of development contributions can act as a disincentive for growth. The combined effect of all the contributions has led to the water supply development contribution being forecast to increase to $6.42 million.
Pohara water supply to join the Urban Water Club.	Council has decided that the Pohara water supply should be included in the urban "Water Club". The Pohara water supply provides water to the Pohara Valley residents and the camping ground. The water supply was constructed to service the Tarakohe cement workers village located in the Pohara Valley. Council gained ownership of the scheme following the closure of the cement works. The Pohara water supply is tested in accordance with the New Zealand Drinking Water Standards, however, full compliance is not achieved. The Pohara water supply has its own separate closed account. There are only 51 connections on the water supply. Consumers pay the same water rate as all other metered consumers, which means that there are insufficient funds to pay off the loan, interest, and operations and maintenance costs. At present the account is in deficit ($394,783 as at June 2011) as a result of Council installing a new reticulation main from the Pohara Valley to secure supply to the Pohara camping ground. There will be minimal change to consumers on the Pohara water supply. The present debt in the Pohara water account will be absorbed into the Urban Water Club account for all urban water users to repay. As there are a large number of ratepayers in the Urban Water Club, this change will only lead to a slight increase in the water rate for all Urban Water Club customers.

Key Issue	Discussion
Water supply agreement with Nelson City Council and Industrial Water Users.	A new services agreement is planned between Nelson City Council and Tasman District Council, for the supply of water to Nelson City ratepayers in the area of Champion Road, Garin College and the Wakatu Industrial Estate. Tasman District Council currently supplies water to these users, but under individual supply arrangements. The individual supply agreements are likely to continue until a new agreement can be negotiated between the two Councils. Further consultation on this may be needed. The proposed agreement is for Council to supply water to Nelson City Council, rather than to individual residents and businesses. If this approach proceeds, Nelson City Council will be responsible for the supply of water directly to its ratepayers who are currently supplied by Tasman District Council. The cost of the water supply from Tasman District Council to Nelson City Council is proposed to be the same as to rating units with a metered connection in Richmond. In the meantime, the charges for water supplied by the Council to rating units in Nelson City (per cubic metre supplied) will be $1.87 for 2012/2013 (2011/2012 $1.73). In addition, these properties are charged a fixed daily amount of 61.81 cents per day for 2012/2013 92011/2012 59.67 cents per day) The water supply agreements between Council and Nelson Pine Industries Limited, ENZA Foods New Zealand Limited and Alliance Group Limited (Industrial Water Users) expired on 30 June 2010. Council and the Industrial Water Users have not agreed on the terms of water supply beyond the expiry date and that dispute is going to arbitration. The Industrial Water Users currently pay the Council 40.79 cents (inc GST) per cubic metre of water supplied. Council had intended in the Draft Long Term Plan to set the same rates in relation to the rating units owned by Nelson Pine Industries Limited as it does for other rating units with a metered connection in Richmond. Council had also proposed that Nelson City Council take over responsibility for the supply of all water to all properties within Nelson City currently supplied with water from Tasman District Council, including ENZA Foods New Zealand Limited and Alliance Group Limited, with the cost of the water supply from Tasman District Council to Nelson City Council being the same as for rating units with a metered connection in Richmond. However, Council's dispute with the Industrial Water Users was unable to be resolved by 30 June 2012 so that those users pay the same charges for water as owners of rating units with a metered connection in Richmond. This has resulted in Council needing to set, in this final Plan, the higher of the potential water rates and charges that were outlined in the Draft Long Term Plan. This means that the water rates for low-flow restricted water supplies are also at the higher level. For the final Plan Council has assumed the Industrial Water Users will be paying the same cost as other water users from 2013/2014 onwards.

2 ACTIVITY DESCRIPTION

2.1 What We Do

This group of activities comprises the provision of potable water (i.e. water suitable for use and consumption by people) to properties within 16 existing water supply areas (known as the urban water club) in the Tasman district. The 16 water supply areas, which Council owns operates and maintains, consists of 11 urban water supply schemes, three rural supply schemes and two community schemes.

The Council's network is extensive and growing rapidly. At present the network comprises approximately 660km of pipeline, 34 pumping stations, 11,400 domestic connections and 44 reservoirs and break pressure tanks with a capacity of approximately 18,330 cubic metres of water. In addition, Council manages the Wai-iti water storage dam to provide supplementary water into the Lower Wai-iti River and aquifer. This enables sustained water extraction for land irrigation at times of low river flows.

A complete description of the assets included in the water activity is in Appendix B.

2.2 Why We Do It

By providing ready access to high quality drinking water, Council is primarily protecting public health. It is also facilitating economic growth and enabling the protection of property through the provision of an adequate fire fighting water supply. The service provides many public benefits and it is considered necessary and beneficial to the community that the Council undertakes the planning, implementation and maintenance of water supply services in the district.

Territorial authorities have numerous responsibilities relating to the supply of water. One such responsibility is the duty under the Health Act 1956 to improve, promote, and protect public health within the district.

3 COMMUNITY OUTCOMES AND OUR GOAL

The community outcomes that the water activity contributes to most are shown in Table 3-1.

Table 3-1: Community Outcomes

Community Outcomes	How Our Activity Contributes to the Community Outcome
Our unique natural environment is healthy and protected.	All water in the Council-owned schemes is taken from the environment (groundwater and river sources). This activity can be managed so the impact of the water take does not prove detrimental to the surrounding environment.
Our urban and rural environments are pleasant, safe and sustainably managed.	The water supply activity is a service to the community providing water that is safe to drink and is efficiently delivered to meet customer needs. It also provides a means for fire fighting consistent with the national fire fighting standards.
Our infrastructure is safe, efficient and sustainably managed.	The water activity is considered an essential service that should be provided to all properties within water supply network areas in sufficient capacity and with adequate pressure. This service should also be efficient and sustainably managed.

3.1 Our Goal

We aim to provide and maintain water supply systems to communities in a manner that meets the levels of service.

4 OPERATIONS, MAINTENANCE AND RENEWALS STRATEGY

4.1 Operations and Maintenance

The day to day operational, inspection and maintenance of the water supply systems is carried out by Downer NZ Ltd under the maintenance contract C688. This maintenance contract is administered by MWH NZ Ltd under the professional services contract C461.

Both of the contracts were competitively tendered on the open market (C461 in 2000 and C688 in 2007). C461 has been extended until March 2013 and C688 potentially runs until 2014, dependent on successful re-negotiations. Both contracts are primarily based on a comprehensive schedule of rates and a combination of lump sum payments. This provides all parties involved with a vested interest in optimising both pro-active and reactive maintenance requirements. Although they are not specifically set up as one, the contracts are in many respects similar to a partnering agreement with all parties working closely together with the same goal in mind, ie. delivering a high level of service and providing value for money for the Council ratepayers.

Some of the key aspects of this contract are:

- performance based
- emphasis on proactive maintenance
- programme management
- quality management
- detailed schedule of works
- measurement of performance
- team approach to problem solving.

Operation and maintenance is discussed in detail in Appendix E.

4.2 Renewals

Renewal expenditure is major work that does not increase asset design capacity but restores, rehabilitates, replaces or renews an existing asset to its original capacity. Work over and above restoring an asset to original capacity is new works expenditure.

Assets are considered for renewal as they near the end of their effective working life or where the cost of maintenance becomes uneconomical and when the risk of failure of critical assets is sufficiently high.

The renewal programme has been developed by the following.

- Taking asset age and remaining life predictions from the valuation database (valuation data is held in confirm), calculating when the remaining life expires and converting that into a programme of replacements based on valuation replacement costs.
- Reviewing and justifying the renewals forecasts using the accumulated knowledge and experience of asset operations and asset management staff. This incorporates the knowledge gained from tracking asset failures through the Customer Services System, the GPS location of pipe breaks and overflows, and contract reporting structures.
- Undertaking an optimising review to identify opportunities for bundling projects across assets, optimised replacement, timing across assets – especially between pipe upgrades and roading works, and smoothing of expenditure.

The renewal programme is reviewed in detail at each Activity Management Plan (ie. three yearly), and every year the annual renewal programme is reviewed and planned with the input of the maintenance contractor.

Renewals are discussed in detail in Appendix I.

5 EFFECTS OF GROWTH, DEMAND AND SUSTAINABILITY

5.1 Population Growth

The Council has developed a Growth Demand and Supply Model (GDSM) to forecast the population and business growth in the district and the implications of this growth on network infrastructure. The Growth Demand and Supply Model is described in brief in Appendix F and in more detail in a separate model description report.

The ultimate outputs of the Growth Demand and Supply Model include a projection of the district's population, and forecast of where and when new dwellings and business buildings will be built and a forecast of the number of new water connections. This is summarised in Appendix F. The population projection for Tasman District Council is shown in Figure 5-1.

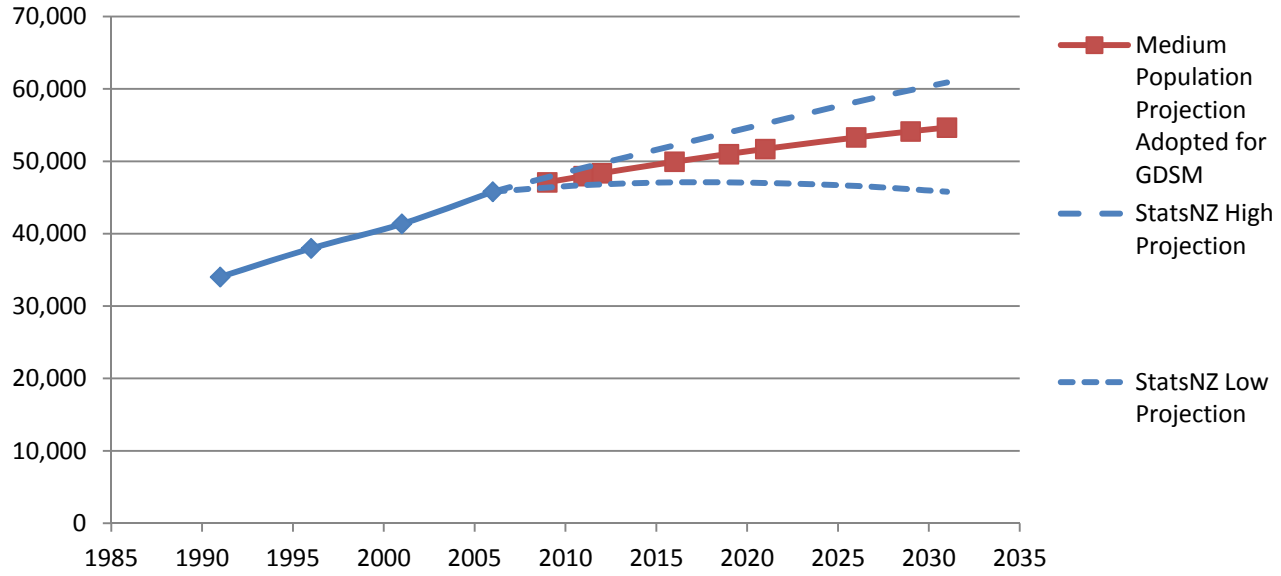


Figure 5-1: Projected Population Growth for Tasman District

Council has also considered the influence of changing demographics, community expectations, industrial/commercial demand, technology and legislation on the demand for this service.

As a result of the recession and general slowdown in development since 2008, Council has:

- adopted medium population growth projections for Richmond and Motueka (in 2008 Council adopted Statistics New Zealand high growth projections)
- assumed there would be no business growth until July 2012 that would have a significant demand on infrastructure.

From these analyses and assumptions, Council has a moderate forecast of growth for the district. However there are a number of projects where growth is a contributing factor and allowance has been made in the design of future works and in funding arrangements. The growth major projects are listed in Table 8-1 and are identifiable by the project driver column.

5.2 Sustainability

The Local Government Act 2002 requires local authorities to take a sustainable development approach while conducting its business, taking into account the social, economic and cultural well-being of people and communities, the need to maintain and enhance the quality of the environment for the reasonably foreseeable needs of future generations.

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

Many of the Council's cross-organisational initiatives are shaped around community well-being (economic, social, cultural and environmental) and taking into consideration the well-being of future generations. This is demonstrated in:

- Council's Integrated Risk Management approach which analyses risks and particularly risk consequences in terms of community well-being
- Council's Growth Demand and Supply Model which seeks to forecast how and where urban growth should occur taking into account opportunities and risks associated with community well-being
- Council adopting a 20 year forecast in the Activity Management Plans to ensure the long term financial implications of decisions made now are considered.

At the activity level, a sustainable development approach is demonstrated by the following.

- Securing the long term water needs of the Waimea Basin by pursuing the Lee Valley Dam which will allow for the current and long term community and business water supply and irrigation needs whilst enhancing the in-stream environmental values of the Waimea River. This will also mitigate the effects of climate change.
- Planning to construct the Coastal Pipeline and Coastal Tasman Area reticulation water supply to provide for the long term water needs of a water short area where there is high demand for rural residential development. Council has considered the best long term water resource to service this water, included water re-use in design guidelines and the challenge of funding the infrastructure in advance of development.
- The demand management planning that Council is advancing, especially the water metering and volumetric charging, and the adoption of water demand targets to reduce depletion of the water resources.
- Planning to construct a new water source for Richmond away from the coastal margin to safeguard the water supply from the long term impacts of sea level rise.
- An education programme for general public and targeting schools, including promotion of water efficient fixtures and appliances.
- Paying careful attention to the importance of fully complying with resource consent conditions to ensure natural water sources are protected and conserved.
- Ensuring that the district's likely future water supply requirements are identified at an early stage and that they, and the financial risks and shocks, are competently managed over the long term without the Council having to resort to disruptive revenue or expenditure measures (ie. financial sustainability).

6 LEVEL OF SERVICE AND PERFORMANCE MEASURES

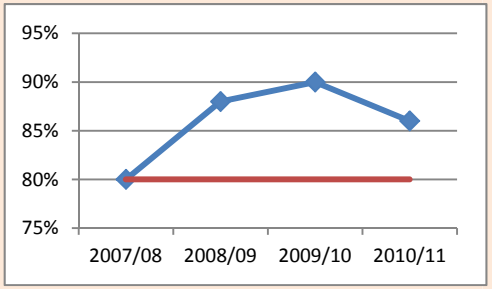
Table 6-1 summarises the levels of service and performance measures for the water activity. Development of the levels of service is discussed in detail in Appendix R. The shaded rows indicate those Levels of Service and performance measures which are included in the Long Term Plan.

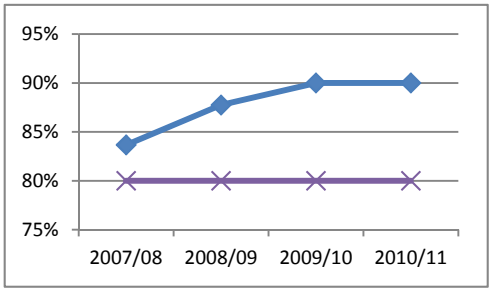
Table 6-1: Levels of Service

ID	Levels of Service (we provide)	Performance Measures (We will know we are meeting the level of service if…)	Current Performance	Future Performance			Future Performance (targets) by Year 10 2021/22
				Year 1	Year 2	Year 3	
				2012/13	2013/14	2014/15	
Community Outcome: Our unique natural environment is healthy and protected.							
1	**Our water takes are sustainable.**	All water takes have resource consents. All resource consents are held in Confirm.	**Actual = 100%** A current resource consent is in place for each water take. No abatement notices have been received for breach of resource consent conditions.	*100%*	*100%*	*100%*	*100%*
2	**Our use of the Water Resource is efficient.**	Water demand management plans are in place for each water scheme - as measured by having a Demand Management Plan.	**Actual = 5/16** Demand Management Plans are in place for Richmond, Brightwater/Hope, Wakefield, Mapua/Ruby Bay and for Waimea.	*6/16*	*8/16*	*10/16*	*12/16*
3		*The weighted average of metered residential consumption across the district reduces.* *As measured through Council's district-wide Water Demand Management Plan.*	**Actual =** 196 l/capita/day	*<250l/capita/day*	*<250l/capita/day*	*<250l/capita/day*	*<250l/capita/day*
4		*The weighted average of measured water loss across the district reduces.* *As measured through Council's district-wide Water Demand Management Plan.*	**Actual =** 239 l/connections/day	*<235l/connection/day*	*<230l/connection/day*	*<225l/connection/day*	*<175l/connection/day*

ID	Levels of Service (we provide)	Performance Measures (We will know we are meeting the level of service if…)	Current Performance	Future Performance			Future Performance (targets) by Year 10 2021/22
				Year 1	Year 2	Year 3	
				2012/13	2013/14	2014/15	
Community Outcome: Our urban and rural environments are pleasant, safe and sustainably managed.							
5	**Our water is safe to drink.**	Number of temporary advisory notices issued to boil water - as issued in consultation with the Medical Officer of Health.	**Actual = 2** Motueka due to a bacterial contamination and Pohara due to plant failure. There is a permanent notice in place at Dovedale, which is not covered in the targets as it is permanently in place.	*0*	*0*	*0*	*0*
6		There are no bacterial non-compliances for water supplies - as measured by water sampling and analysis to meet DWSNZ, recorded in Water Information New Zealand.	**Actual = 5** Bacterial contamination - three transgressions were recorded for *E.coli.* Plant - two transgressions were recorded for *E.coli.* Council carries out water compliance testing on all of its public water supplies to DWSNZ: 2005 (revised 2008). If a transgression occurs, further samples are taken and an investigation begins.	*0*	*0*	*0*	*0*
7		*P1 and P2 monitoring shows we are in compliance with DWSNZ.* *As measured by water sampling and analysis to meet DWSNZ, recorded in WINZ.*	**Actual = 98.5%** Zone – 783 samples were taken over the year. Of these, three transgressions were recorded for *E.coli* and 19 transgressions recorded in Richmond for nitrate = 97.2% Plant – 764 samples were taken over the year. Of these, two transgressions were recorded for *E.coli*. = 99.7%	100%	100%	100%	100%

ID	Levels of Service (we provide)	Performance Measures (We will know we are meeting the level of service if…)	Current Performance	Future Performance			Future Performance (targets) by Year 10 2021/22
				Year 1	Year 2	Year 3	
				2012/13	2013/14	2014/15	
8		*PHRMPs are in place, approved and being implemented for each water supply.* *As measured by approval by Ministry of Health.*	**Actual = 5/16** PHRMPs approved for Tapawera, Upper Takaka and Motueka, Waimea, Richmond Two further ready for submission (Wakefield, Brightwater) and one in appeal (Collingwood).	10/16	13/16	14/16	16/16
9	**Our water supply systems provide fire protection to a level that is consistent with the national standard.**	Urban water supply systems are able to meet FW2 standard Code of Practice for Fire Fighting Water Supplies - as measured through hydraulic modelling, revised biennially.	**Actual = 90%** 9/10 urban systems fully comply with fire fighting capability. The vast majority of Richmond complies, with the exception of Cropp Place. Rural water supplies and community supplies do not provide fire fighting capacity so are not covered by this performance measure, however, a reticulated fire fighting scheme for the central business district in Takaka was completed in 2011 and Motueka has a network of fire wells which provide a limited fire fighting service.	*90%*	*90%*	*90%*	*100%*
10		*Planned service interruptions do not exceed 4 hours.* *As measured through the maintenance contract.*	**Actual = 0** No planned service interruptions have exceeded four hours.	0	0	0	0
11		*Flow from hydrants meets fire fighting standards.* *As measured by random annual spot checks of hydrants.*	**Actual = This is not currently being measured.** Budget assigned in AMP to undertake programme of hydrant spot checks.	100%	100%	100%	100%
12		*No system shall be down for longer than two hours per week.* *As measured through the Maintenance contract.*	**Actual = 0** No system has been interrupted for more than two hours in any one week	0	0	0	0

ID	Levels of service (we provide)	Performance measures (We will know we are meeting the level of service if…)	Current performance	Future performance			Future Performance (targets) by Year 10 2021/22
				Year 1	Year 2	Year 3	
				2012/13	2013/14	2014/15	
13		*Hydraulic models are in place for key urban water supplies.* *As measured through professional services contracts.*	**Actual = 6 hydraulic models are in place** for Richmond, Waimea, Brightwater, Wakefield, Mapua, Motueka.	6 / 10	6 / 10	6 / 10	8 / 10
Community Outcome: Our infrastructure is safe, efficient and sustainably managed.							
14	**Our water supply activities are managed at a level that the community is satisfied with.**	% of customers are satisfied with the water supply service - as measured through the annual residents' survey.	**Actual = 86%** The Communitrak™ survey was undertaken in May/June 2011. 86% of receivers of the service were found to be satisfied with the service they receive. 	*80%*	*80%*	*80%*	*85%*
15	**Our systems are built, operated and maintained so that failures can be managed and responded to quickly.**	% of faults responded to within contract timeframes (e.g. Emergency = service restoration and four hours. Urgent = service restoration in one working day) - as recorded through Council's Confirm database.	**Actual = 97%** The operations and maintenance contractor is required to meet a target of 90% of faults to be responded to and fixed within specified timeframes. The figure reported here relates to completion within the final completion timeframe. More detailed response timeframes are monitored through contract 688.	*>90%*	*>90%*	*>90%*	*>90%*

ID	Levels of service (we provide)	Performance measures (We will know we are meeting the level of service if…)	Current performance	Future performance			Future Performance (targets) by Year 10 2021/22
				Year 1	Year 2	Year 3	
				2012/13	2013/14	2014/15	
16		*Critical assets are identified and included in the Activity Risk Register.*	**Actual = Critical assets are identified and assessed for Risk** Where mitigations measures are required, they have been included for action in the AMP.	In Place	In Place	In Place	In Place
17		*Water supply systems have the following storage:* *Urban: - one day at average annual demand* *Rural: - six hours at average annual demand* *As measured through annual demand figures vs actual storage.*	**Actual = 12 of the 13 schemes have the required storage** All three rural schemes meet storage requirements. Nine of the 10 urban supplies meet the required storage. Richmond fails to meet the requirement. Schemes are identified within the AMP to construct new reservoirs in this area. Tapawera failed to meet the required storage volume previously, however, significant reduction in water loss through leaks in this system have been resolved	13/13	13/13	13/13	13/13
18		*Assets are operated, maintained and repaired to a high standard.* *As measured through contract audits*	**Actual = 90.6%** 	80%	80%	80%	80%

7 CHANGES MADE TO ACTIVITY OR SERVICE

Table 7-1 summaries the key changes for the management of the water activity since the 2009 Activity Management Plan.

Table 7-1: Key Changes

Key Change	Reason for Change
Council have advanced its water demand management to the current state where there is an overarching Water Demand Management Plan (WDMP) and five WDMPs for individual water supplies. Council has also introduced water demand targets into the Levels of Service (LoS).	The improvement in the water demand management enables Council to be more sustainable in its use of a scarce resource and more efficient in its operations. Improving demand management and more "wise use of water" is becoming an expected part of water management. Tasman District Council is a leader in this area with water metering and volumetric charging in place. However early results show that Council can do more to achieve better results.
Water gradings are no longer carried out.	Now that it is mandatory to comply with the drinking water standards, water gradings are no longer necessary.
Council had planned to review and update its Water and Sanitary Services Assessment (WASSA) by 2009/10 but is now not planning to do this until 2015/16.	Changes to the Local Government Act in October 2009 saw the deletion of Sections 124 and 125 which related to the assessment of water and sanitary services. Local authorities are still required to assess the provision of water and other sanitary services 'from time to time', but there is no prescription of what should be included in the assessment or how often it should be performed. Council now plans to update its WASSA in 2015/16.

8 KEY PROJECTS

Table 8-1 details the key capital and renewal work programmed for years 2012 to 2022. A full list of capital and renewal projects for the 20 year period is included in Appendix F and I respectively.

Table 8-1: Significant Projects

Project Name	Description	Year 1 ($)	Year 2 ($)	Year 3 ($)	Years 4 to 10 ($)	Project Driver[1]
Mapua Coastal Pipeline.	Construct a new source, treatment plant (in Motueka) and pipelines to service Mapua and the coastal communities.				17,698,935	LoS/G
Mapua – Aranui Road Main Replacement.	Replacing the existing watermain down Aranui Road.				880,709	R
Richmond Water Treatment Plant.	Construct a new treatment plant to meet DWSNZ.	850,000	3,892,500	3,907,500		LoS/G
Pohara Water Treatment Upgrade.	Upgrade the existing treatment plant to meet DWSNZ.	81,730		356,470		LoS
Richmond Rezoning.	Upgrading pipelines within Richmond and adjusting the zonal boundary between Waimea and Richmond.		371,900	767,400	1,637,981	LoS/G/R
Motueka – Thorp Street Replacement.	Replacing the low grade class B pipe down Thorp Street.				1,629,200	R
Motueka – High Street South.	Replace Class B pipe down High Street				401,534	R
Motueka – New Supply.	Reticulating the Township				6,771,800	LOS/G
Richmond – Lower Queen Street Replacement.	Upsizing and replacing the existing 100mm main down Lower Queen Street.				783,400	R/LoS
Richmond – Queen Street Main Replacement.	Replacing the 300mm truckmain down Queen Street within the CBD.			188,150	1,693,350	R/LoS
Richmond – Fauchelle Avenue, Darcy Street and Florence	Renewing failing watermains.				951,200	R

[1] Project Drivers – LoS = increasing Levels of Service, G = Growth, R = Renewals

Project Name	Description	Year 1 ($)	Year 2 ($)	Year 3 ($)	Years 4 to 10 ($)	Project Driver[1]
Street.						
Wakefield – New Source and Water Treatment Plant.	Construct a new treatment plant to meet DWSNZ. This involves a new source.	87,370	87,370		4,193,760	LoS/G
Wakefield – Re-zoning.	Re-zoning the Wakefield and 88 Valley Zone. Involves pump stations and reservoirs.		101,167		379,337	LoS/G
Brightwater – Treatment Upgrade.	Upgrade the existing treatment plant to meet DWSNZ.				913,000	LoS/G
Brightwater – Factory Road Main.	Replacing 660m of 100mm main along Factory Road.				386,100	R/LOS
Brightwater – SH6 - Ranzau Road to Three Brothers Corner.	Upsize 1525m of 150mm pipe to 200mm PVC to meet Fire Regulations.				706,948	R/LOS
Collingwood – Treatment Upgrade.	Upgrade the existing treatment plant to meet DWSNZ.				573,200	LoS
Kaiteriteri – Treatment Upgrade.	Upgrade the existing treatment plant to meet DWSNZ.	54,821			788,579	LoS/G
Murchison – Treatment Upgrade.	Upgrade the existing treatment plant to meet DWSNZ.	58,400	525,960			LoS

9 MANAGEMENT OF THE ACTIVITY

9.1 Demand Management

The objective of the Water Demand Management Plan (WDMP) is to provide a framework and action plan to continuously improve efficient use of water and water demand management across Tasman District Council water supplies, targeting the highest demands/water loss first, to achieve a level of water demand management that is consistent with good performance in New Zealand.

By doing this Council will ensure its use of the water resource is efficient which is one of the levels of service that contributes to the community outcome "our unique and special natural environment is bountiful, healthy, clean and protected" (refer Levels of Service Appendix R).

Council has set level of service performance measures for residential water consumption (250 L/capita/day) and water loss (235 L/connection/day dropping to 175 L/connection/day by year 10) that it will report on (refer Appendix R, performance measures 3 and 4). These are weighted averages of the performance of all water supplies for which Demand Management Plans have been completed.

These targets can be compared against performance in other water supplies in New Zealand in the following graphs (note not many Councils have or publish this data and those that do are likely to be the best performers).

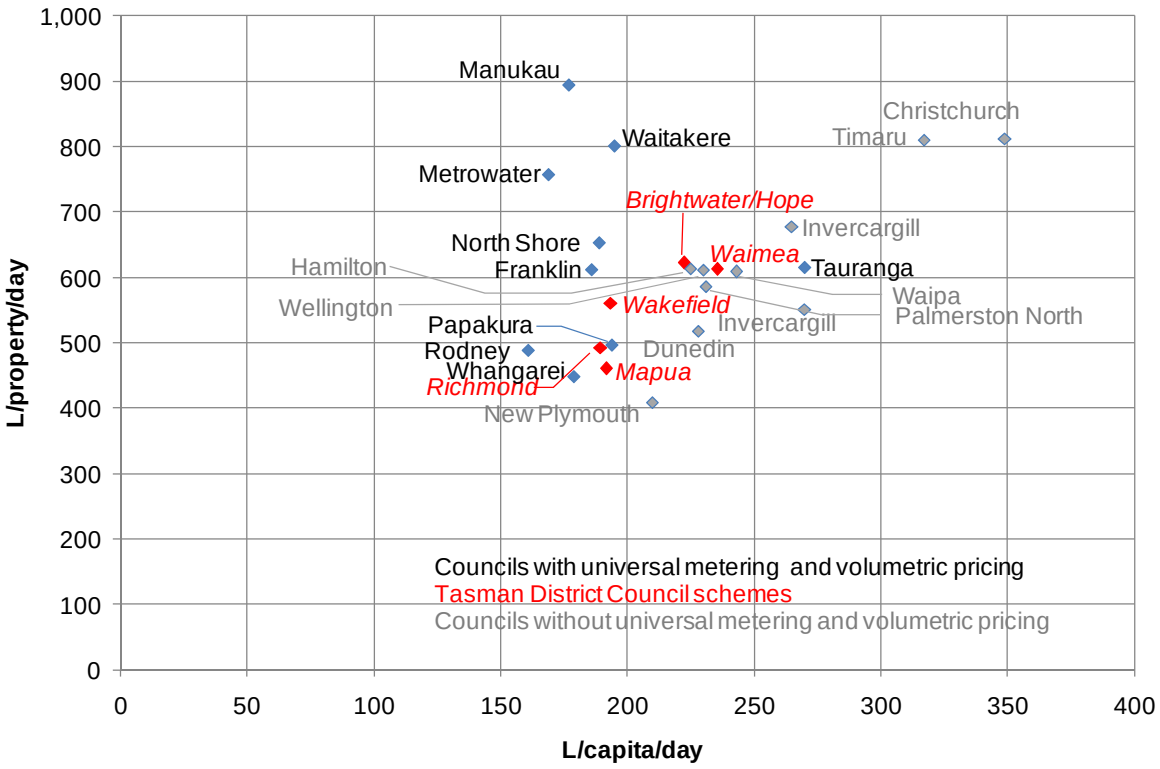


Figure 9-1: Benchmarking Metered Residential Consumption against other New Zealand Supplies

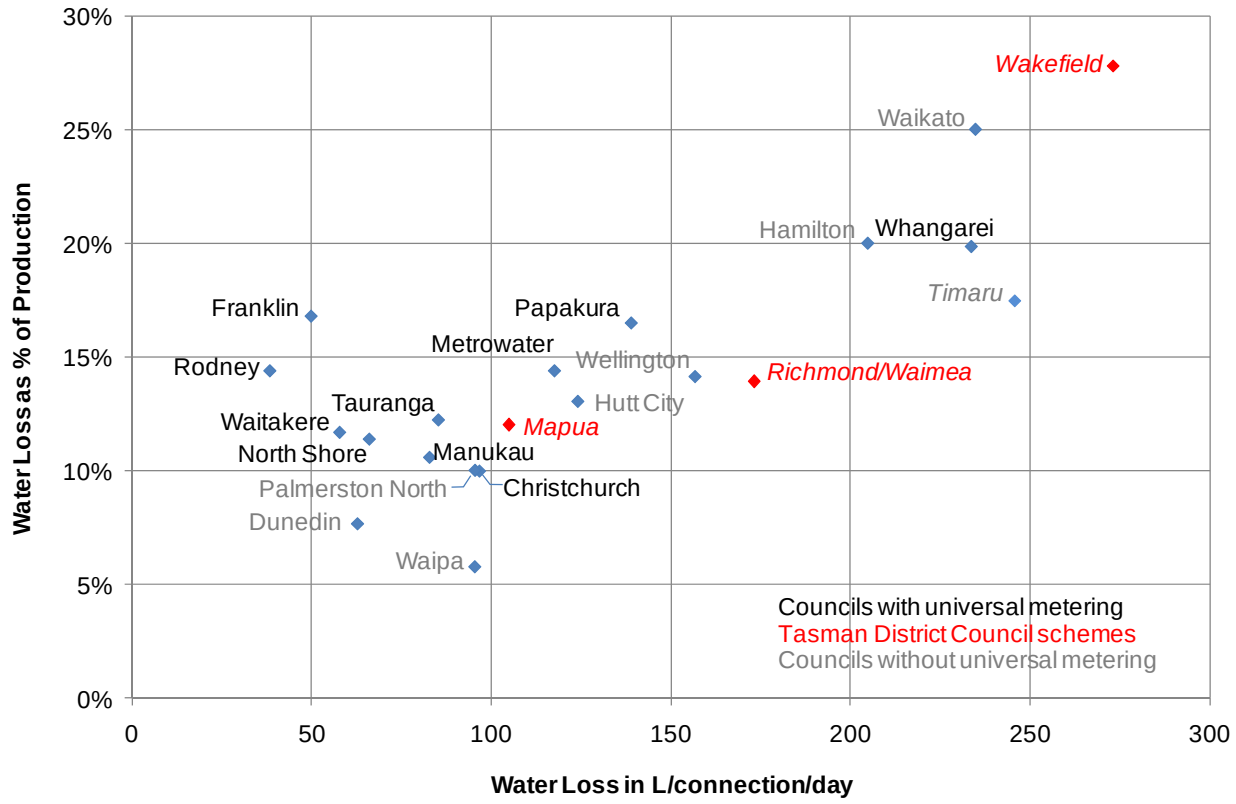


Figure 9-2: Benchmarking Water Losses against other New Zealand Supplies

The priority for Council is to bring down the water losses in Wakefield and Brightwater. The demand management programme is therefore focussed on night flow monitoring, leak detection and repairs on these supplies. Some focus will also go on Richmond water losses. Further completion of demand management plans has been spread over the period but the focus will be on the above priorities.

9.2 Significant Negative and Positive Effects

The significant negative and significant positive effects are listed below in Table 9-1 and Table 9-2 respectively.

Table 9-1: Significant Negative Effects

Effect	Council's Mitigation Measure
The costs of providing the services.	Council uses competitive tendering processes to achieve best value for money for works it undertakes.
Water is abstracted from surface water and groundwater sources. The removal of water from the natural environment can impact that environment and results in the water being unavailable for other uses such as irrigation or recreation. Water abstraction from surface water, may add strain on a river system.	Council introduces water rationing during times of drought. Resource consents are in place, so Council cannot exceed sustainable certain limits. Investigating new water sources and educating the public on water usage. Demand Management will assist with reducing the volume of water abstracted from the water source.

Effect	Council's Mitigation Measure
The installation of water supply infrastructure can cause disruption to local communities. The works can impact on traffic flow and business, and cause nuisance, noise, dust and visual impact. Shutdowns may result in properties not receiving water during the day.	Public consultation. Notifying the public of the works through various forms of the media.
Potential to affect historic and wahi tapu sites.	Council undertakes consultation with affected parties prior to undertaking works. Council also maintains a record of known heritage sites.
Water restrictions can have a large impact on commercial and industrial businesses that rely on using water for the production. Residential customers may also be affected through restrictions on watering gardens.	Council is supporting the Lee Valley Dam project and has made allowances in the AMP for new water sources. Council has made allowances for improving the demand management which will assist with making the water usage more sustainable.
Malfunctions of water assets can cause disruption to supply. This is frustrating to the local community and businesses relying on the supply.	Council has specifically written operation and maintenance contracts to ensure quick response to failures and to minimise shutdowns. Some disruptions are necessary but Council and the contractors seek to minimise these as much as possible.
Chemicals are used in water treatment plants. If these chemicals are not used correctly they have the ability to damage the environment.	Council ensures only appropriately trained staff and contractors handle all necessary chemicals. All chemicals are stored in the correct manner.

Table 9-2: Significant Positive Effects

Effect	Description
Providing drinking water to the community.	Safe drinking water supplies provide public health benefits.
Economic development.	Provision and maintenance of water supplies allows for the development of commercial businesses, industry and residential use, therefore, contributing to economic growth and prosperity in the district. Council's management of the Water Supply activities uses best practice and competitive tendering to provide value for money for ratepayers and provides jobs for contractors.
Fire fighting supply.	The majority of Council's urban water supply network is built to accommodate fire fighting requirements.

9.3 Assumptions

Council has made a number of assumptions in preparing the Activity Management Plan. These are discussed in detail in Appendix Q.

Table 9-3 lists the most significant assumptions and briefly outlines the impact of the assumption.

Table 9-3: Significant Assumptions

Assumption Type	Assumption	Discussion
Financial assumptions.	That all expenditure has been stated in 1 July 2011 dollar values and no allowance has been made for inflation.	The LTP will incorporate inflation factors. This could have a significant impact on the affordability of the plans if inflation is higher than allowed for, but Council is using the best information practically available from Business and Economic Research Limited (BERL).
Financial assumptions.	That there is likely to be reducing demand per water connection due to water conservation and water cost increases. Therefore Council has decided to budget to sell less water per connection.	The price of water per connection has a direct effect on demand and conservation. If the cost is higher, the demand is typically lower. If the cost for water is lower, the demand is typically higher. This can then have an effect on water conservation as more or less water is used depending on the price.
Financial assumptions.	That the dispute with the Industrial Water Users will be resolved during the latter half of 2012 so that the charges to those industries for water will be the same as those to with rating units with metered connections in Richmond from 2013/2014 onwards.	Council's dispute with the Industrial Water Users was unable to be resolved by June 2012. This has resulted in Council needing to set the higher rate of the potential water rates. Council have now made the assumption that the Industrial Water Users will be paying the same cost as other water users from 2013/2014 onwards.
Asset data knowledge.	That Council has adequate knowledge of its assets to adequately forecast planned renewal works to meet the proposed levels of service.	There are several areas where 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.	A reasonable degree of reliability can be placed on the population and other growth projections that have been used as forecast assumptions for the priorities in the Water Supply group of activities. However, these are projections and need to be carefully tracked to ensure that they continue to be a reliable indicator of likely future trends.	If the growth is significantly different it will have a significant impact. If higher, Council may need to advance capital projects. If it is lower, Council may have to defer planned works.
Network capacity.	That Council's knowledge of network capacity is sufficient enough to accurately programme capital works.	If the network capacity is lower than assumed, Council may be required to advance capital works projects to address congestion. The risk of this occurring is low; however the impact on expenditure could be large. If the network capacity is lower than assumed, Council may be able to defer works. The risk of this occurring is low and is likely to have little impacts.

Assumption Type	Assumption	Discussion
Timing of capital projects.	That capital projects will be undertaken when planned.	The risk of the timing of projects changing is high due to factors like, resource consents, funding and land purchase. Council tries to mitigate this issue by undertaking the consultation, investigation and design phases sufficiently in advance of the construction phase. If delays are to occur, it could have major effects on the level of service.
Land purchase.	That Council will be able to purchase land to undertake the capital works projects.	The risk of the timing of projects changing is high due to a delay in land purchase. Council tries to mitigate this issue by undertaking consultation with landowners sufficiently in advance of the construction phase. If delays are to occur, it could have major effects on the level of service.
Accuracy of capital project cost estimates.	That the capital project cost estimates are sufficiently accurate to determine the required funding level.	The risk of large under estimation is low; however the potential impact is moderate as Council may not be able to afford the true cost of the projects. Council tries to reduce the risk by including a standard contingency based on the projects lifecycle. Inflation adjustments are provided for in the Long Term Plan budgets.
Changes in legislation and policy.	That there will be no major changes in legislation or policy.	The risk of major change is high due to the changing nature of the government and politics. If significant changes occur it is likely to have a significant impact on the required expenditure. Council has not mitigated the effect of this.
Lee Valley dam.	That the Lee Valley dam will proceed and Council will be able to increase its water allocations on the Waimea Plains, including the allocation for water supply purposes.	If Lee Valley dam does not proceed, Council's current allocations may be reduced and Council would need to find alternative water sources. Any alternative is likely to be expensive for Council.
Motueka water supply subsidy.	That Council will be granted a subsidy to help fund the proposed Motueka water supply when it reapplies towards the end of the 10 year period.	Council applied for a government subsidy towards the Motueka Water Supply project in 2010, but was unsuccessful at that stage. Council will have to consult with the community to determine whether the project proceeds or whether alternative arrangements are made. Therefore, the project has been deferred until Year 9 to enable council to re-examine the options available to it and to consider re-applying for a government subsidy at a later date.

Assumption Type	Assumption	Discussion
Resource consent.	That Council will be granted resource consents for key capital works projects, including consent to abstract water from the Motueka aquifers to supply Motueka, Mapua and the CTA areas, and renewal of existing resource consents for existing assets.	Council has been granted consent for abstracting from the Motueka Aquifier but this has been appealed to the Environment Court. If Council does not get this consent granted, Council will have to consider alternative arrangements for supplying these communities. In the event other capital project consents are not granted, then this can significantly affect the future of the project, cost and timing. If a consent is not renewed, then a new capital project may be required to replace the existing asset, this has not been allowed for.
Water source quantity and quality.	That Council will be able to find and develop new water sources of sufficient quality and quantity to meet the needs of Richmond and Wakefield.	If the proposed water sources do not have sufficient water to cope with the projected demand, Council will need to investigate new source locations, this could have an effect on the timing and cost of the jobs. If the water quality is poor, ie. high nitrate levels, then the cost of treatment may increase.
Changes in the fire fighting standard.	The New Zealand Fire Service Fire Fighting Water Supplies Code of Practice 2003 was updated in 2008. Where the network met the 2003 fire fighting standard, it has been assumed that the same areas meet the updated 2008 fire fighting standard.	Modelling had been undertaken in various water supplies in 2007 to confirm whether the networks met the 2003 fire fighting standard. Since the introduction of the 2008 standard, only Richmond has been modelled to check compliance with this standard. An allowance has been made in this AMP to confirm whether the rest of the urban water supplies meet the standard. In the event new areas do not, additional projects may need to be introduced to meet the standard.
Disaster fund reserves.	That the level of funding held in Council's disaster fund reserves and available from insurance cover will be adequate to cover reinstatement following emergency events.	The risk of inadequate reserves and insurance cover would mean deferral of future capital projects to provide any financial shortfall required to cover reinstatement costs.

The major capital projects and their main uncertainties are listed in Appendix Q.

9.4 Risk Management

Council's risk management approach is described in detail in Appendix Q.

This approach includes risk management at an organisational level (Level 1). The treatment measures and outcomes of the organisational level risk management are included within the Long Term Plan.

At an asset group level (Level 2), Council has identified eight high risks and planned mitigations measures to reduce these risks to two high risks. Council has planned controls for the remaining two high risks but even with the controls, they remain high. Council has decided to accept these risks. These are listed in Table 9-4.

Table 9-4: Significant Risks and Control Measures

Risk Description	Current Control	Proposed Control	Target Risk Level
Iwi: Ineffective relationship impacts operations and maintenance and renewal works.	Regular meetings.	Monitor.	HIGH
Earthquake (1:400): Significant damage to infrastructure.	Seismic protection for reservoirs. Reticulation planning. Hazard register. Lifelines planning.	Review planning. Consider retrofitting additional infrastructure.	HIGH

Council has also identified and assessed critical assets (Level 3), the physical risks to these assets and the measures in place to address the risks to the asset. This has led to a list of projects to mitigate the risks to acceptable levels as detailed in Table Q-7 in Appendix Q.

The specific risk mitigation measures that have been planned within the 20 year water programme include:

- completing PHRMPs for all water supply systems
- a programme of telemetry installation and upgrade
- a programme of well head security improvements
- a programme of backflow installation
- seismic protection at key reservoirs
- inspection of water retaining structure throughout the district
- Wai-iti Dam safety audits
- hydraulic modelling.

9.5 Improvement Plan

This Activity Management Plan document was subject to a peer review in its Draft format by Waugh Infrastructure Management Ltd in October 2011. The document was reviewed for compliance with the requirements of the LGA 2002. The findings and suggestions were assessed and prioritised by the asset management team and either implemented for the final version of the document or added to the Improvement Plan.

Development of the improvement plan is discussed in Appendix V. It includes a table (Table V-3) of planned improvements that are still to be implemented and information on how they have been budgeted. It is a snapshot of the improvement plan as at February 2012 and includes. It is intended that the Improvement Plan is continually updated and monitored as a live document.

Version 4 of this document and the Improvement Plan was then reviewed a final time by Waugh Infrastructure Management Ltd in May 2012. The report produced has been included in Appendix V along with key improvements that have been achieved since the 2009 AMP.

10 SUMMARY OF COST FOR THE ACTIVITY

A full cost summary is included in Appendix L. The graphs below represent the key financial elements for the water supply activity.

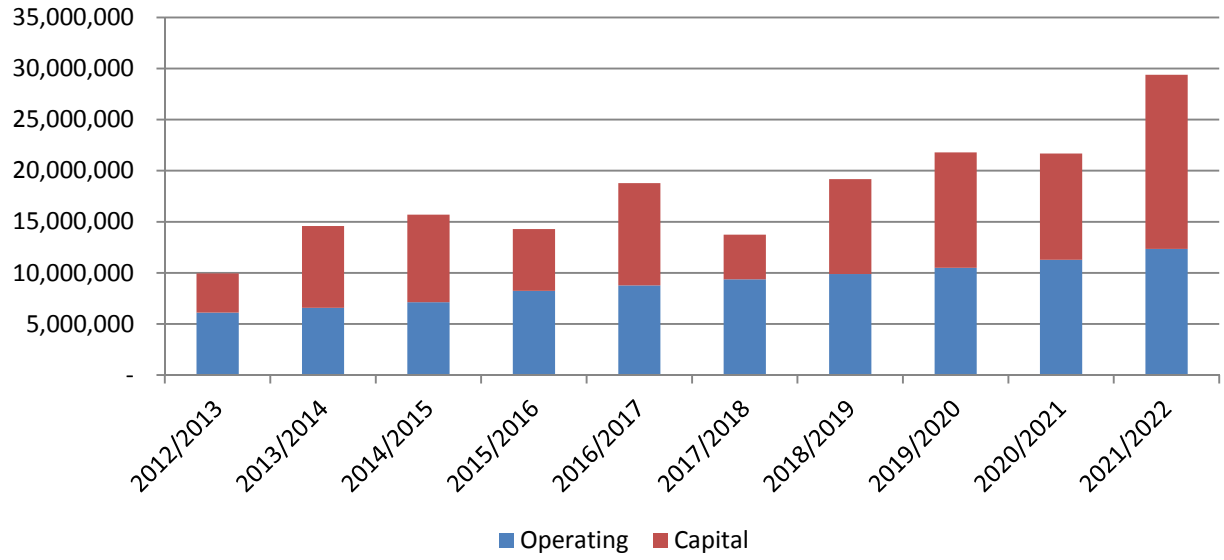


Figure 10-1: Total Expenditure

- The Total Expenditure fluctuates over the 10 year period. The notable peaks in years 2016/17 and 2018 to 2022 are due to Wakefield New Source and Treatment Plant, CTA and Costal Pipeline and Motueka New Supply.
- Operating Expenditure increases from $6.1 to $12.3 million over the 10 year period. This is due to inflation, increase loan servicing costs and network growth.

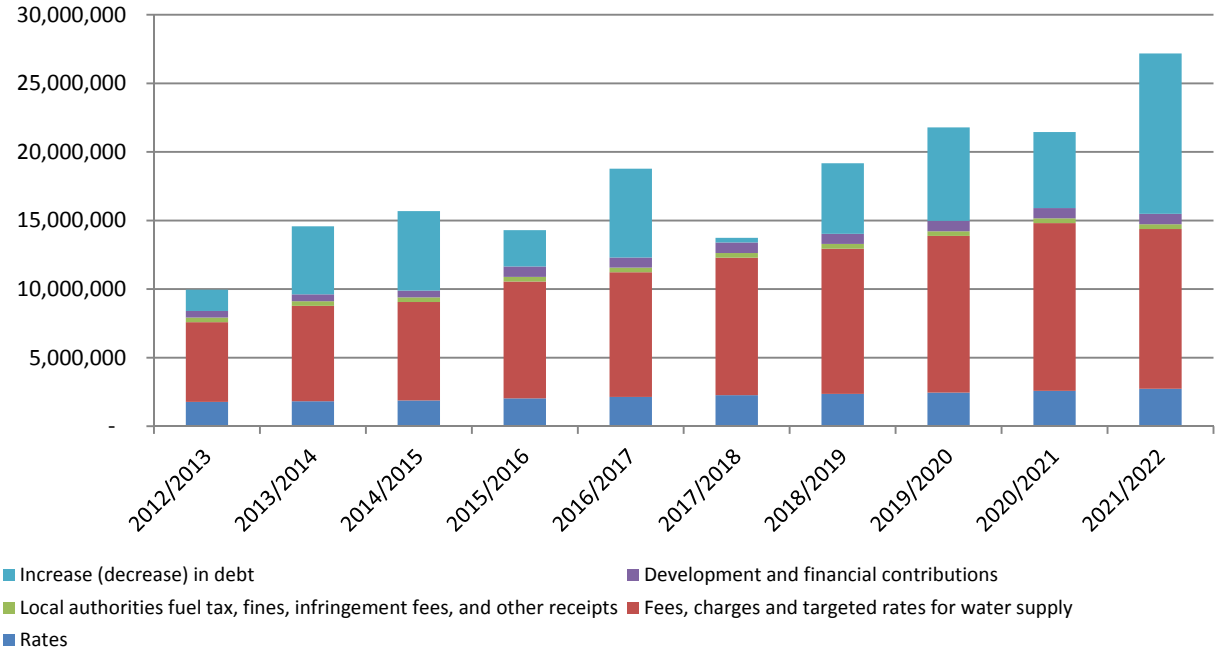


Figure 10-2: Total Income

- The income proposed for the next 10 years corresponds with the proposed expenditure in Figure 10-1.
- Rate increases account for the majority of the increase in income. Debt increases are in conjunction with major capital projects.

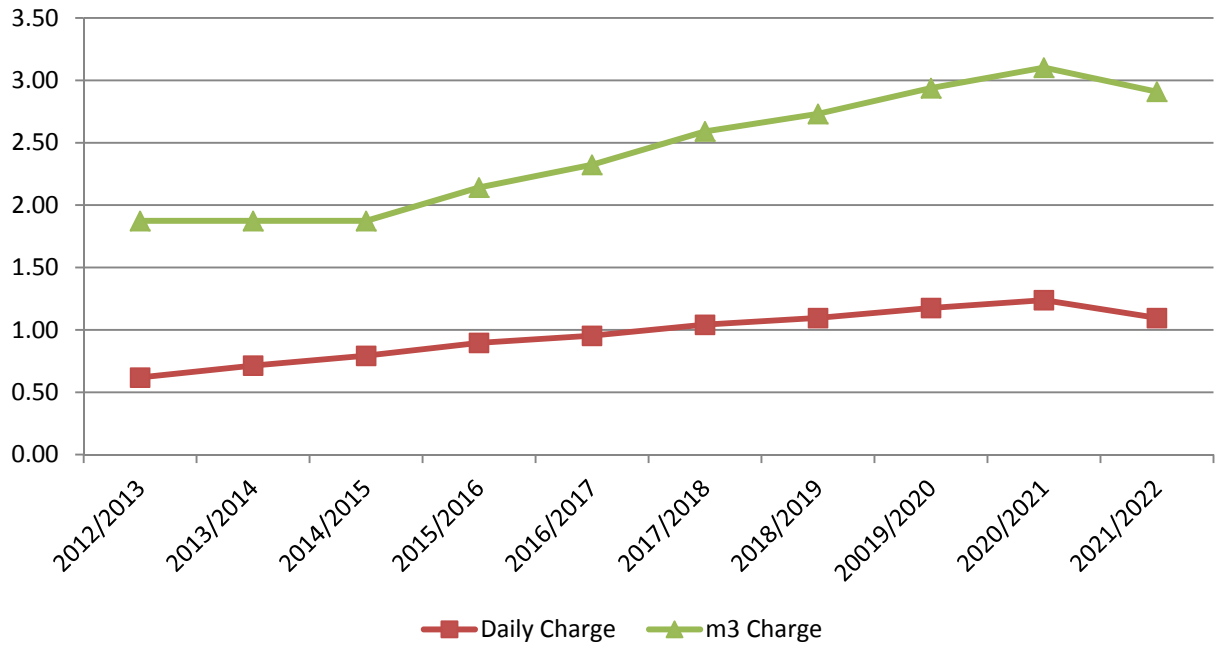


Figure 10-3: Urban Water Charges from Final Ten Year Plan ($)

- The Daily Charge rises from $1.87 to $2.91 over the 10 year period peaking at $3.10 in 2020/2021.
- The Volume per cube rises from $0.62 to $1.09 over the 10 year period peaking at $1.24 in 2020/2021.

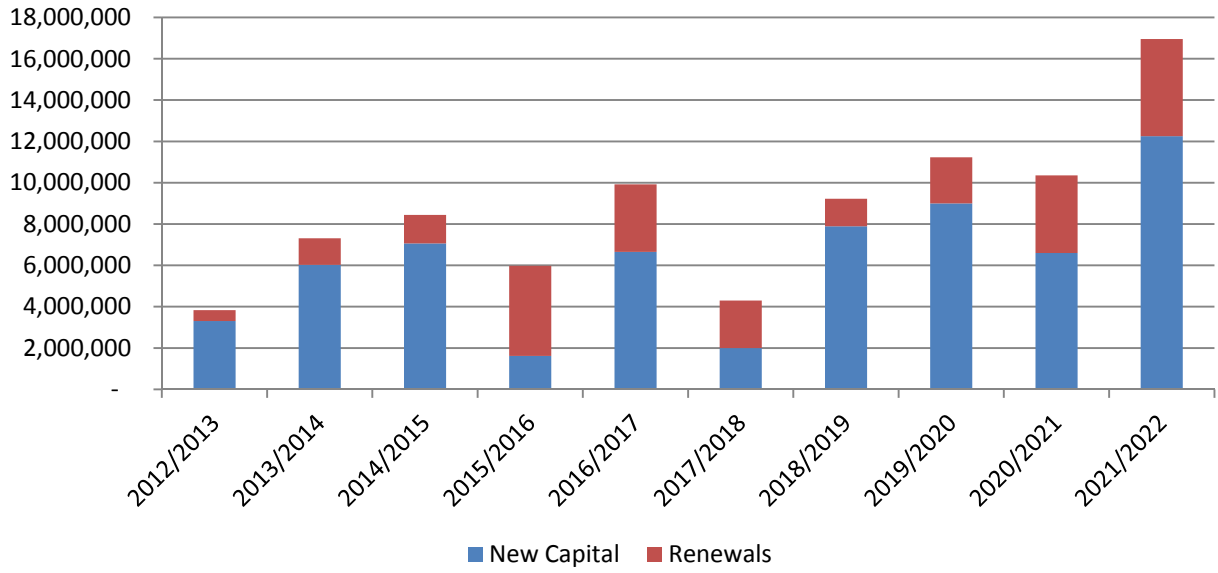


Figure 10-4: Capital Expenditure

The Capital Expenditure fluctuates over the 10 year period. The notable peaks in years 2013/14, 2016/17 and 2018 to 2022 are due to the following capital projects:

- The New Richmond Water Treatment Plant, years 2012-2015 - $8,650,000
- Wakefield New Source and Treatment Plant years 2016/17 - $4,368,500
- CTA and Coastal Pipeline, years 2017-2022 - $17,698,935
- Motueka New Town Supply, years 2020-2022 - $6,771,800.

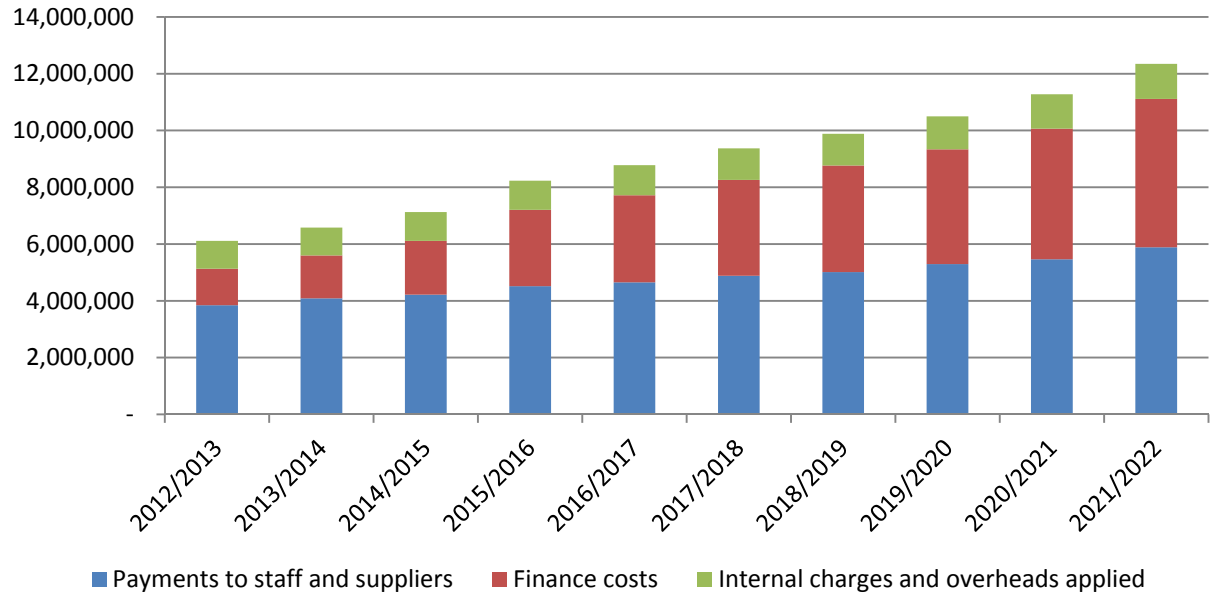


Figure 10-5: Operating Expenditure

- The Payments to Staff and Suppliers includes maintenance contract costs and professional service fees.
- Finance costs increase over the next 10 years due to an increase in the level of debt shown in Figure 10-6.

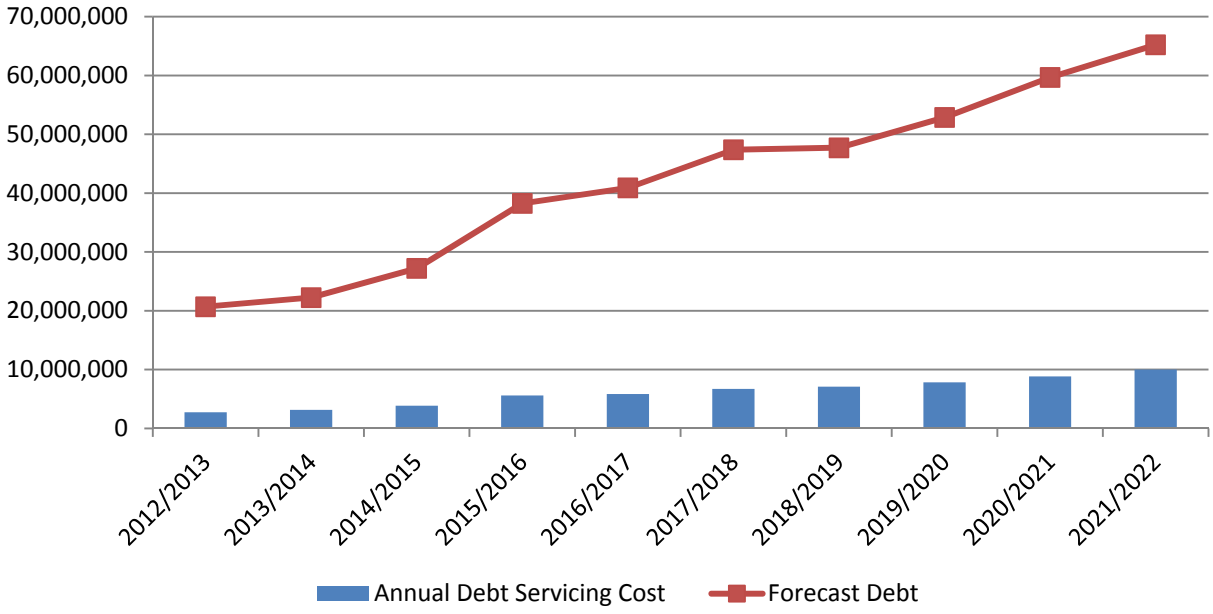


Figure 10-6: Debt

- Council's debt associated with the Water activity is forecast to increase from $20.7 to $65.2 million over the next 10 years. This will also increase the debt servicing costs as shown.

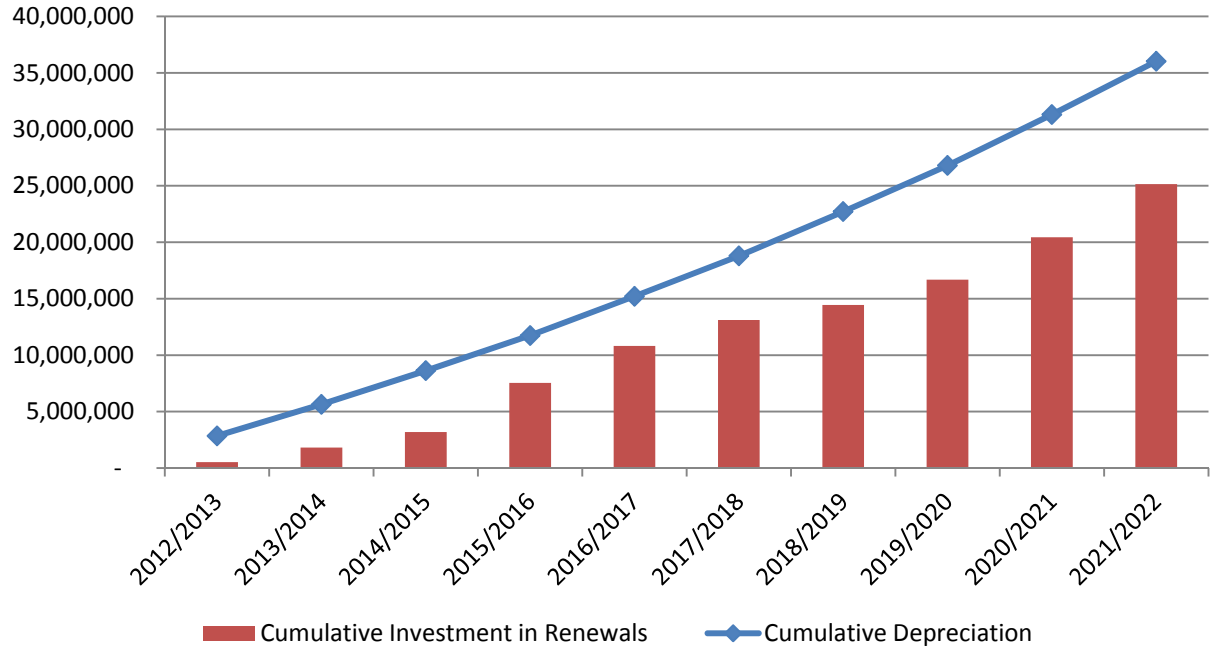


Figure 10-7: Investment in Renewals

The above figure covers a relatively short time period when compared with the useful life span of the water assets. The investment in renewals appears to be adequate for the next 10 years. There is a slight divergence apparent however Council has mitigation measures in place to manage deferred renewals such as:

- critically assessing remaining life of pipelines with known condition problems
- capturing asset data to reduce the high level of "unknown" pipelines
- using a risk based approach to identifying pipeline replacement programmes
- improving condition knowledge of some of the "high risk" pipelines, especially to identify:
    - asset condition may be worse than expected
    - situations where remaining life is under-estimated.