Water Supply Annual Report

FOR THE YEAR ENDED
30 JUNE 2012

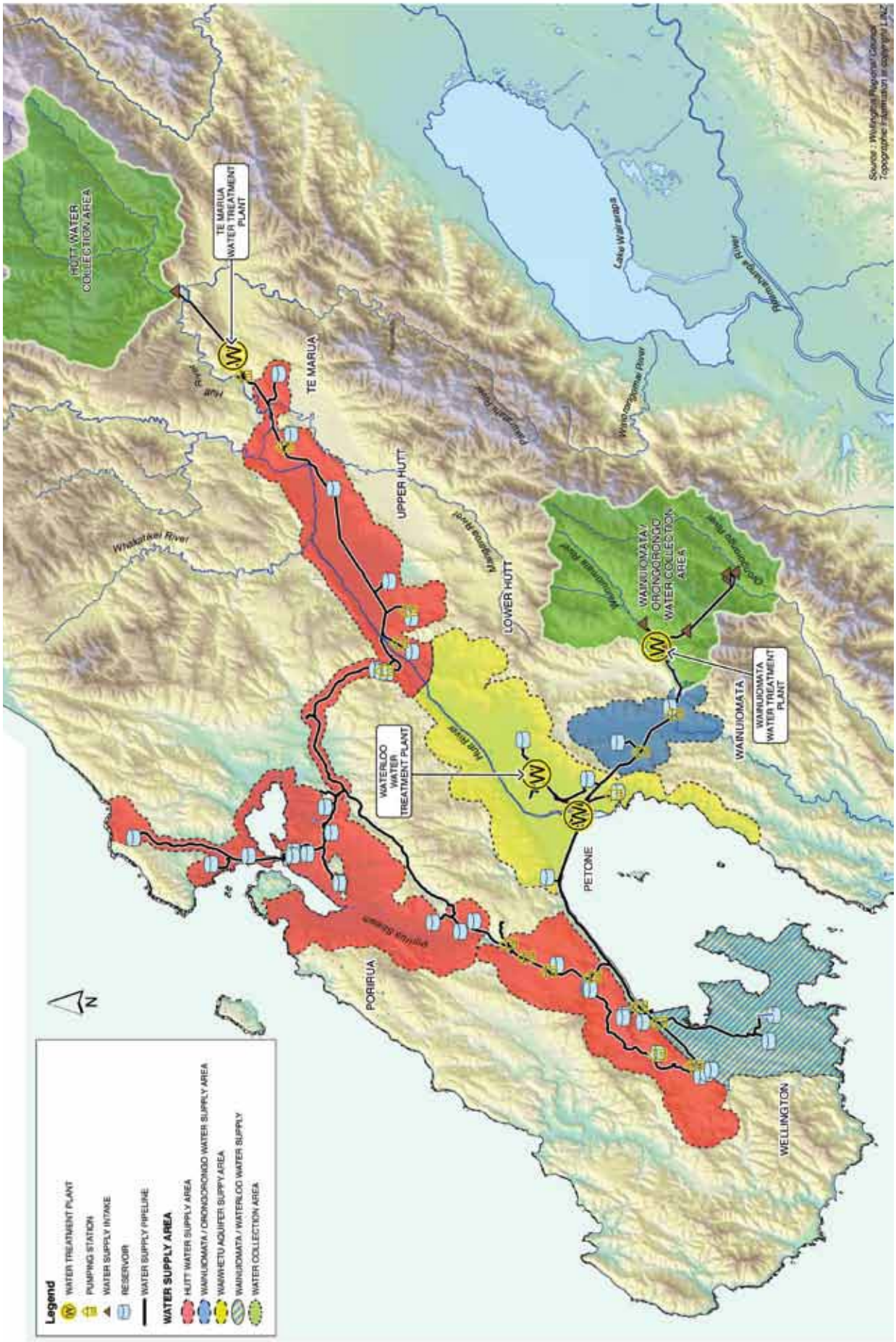
greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

Contents

Cover

The pipe yard at our new Pomare depot

Greater Wellington's bulk water supply network map



Introduction

Reporting scope

This report covers the Greater Wellington Regional Council's bulk water supply activity for the year ended 30 June 2012.

Greater Wellington's main annual report meets the Council's statutory reporting requirements under the Local Government Act 2002. This report is supplementary to the statutory annual report and provides our customers and the community with a more detailed account of our bulk water supply operation.

The commentary on p4-21 reflects significant achievements and challenges in relation to our business objectives and performance targets.

Our objectives cover quality and quantity of supply, system security (risk), environmental responsibility, asset management, business efficiency, and health and safety. We have summarised our results for all annual targets for 2011/12 on p30-41.

Our purpose

We aim to provide a continuous and secure supply of safe, high-quality water in a sustainable and cost-effective way. We also aim to meet the reasonable needs, both current and future, of the people in our region's four cities.

What we do

We collect, treat and distribute water to four city councils – Hutt, Porirua, Upper Hutt and Wellington – for their supply to consumers. We:

- Operate four water treatment plants, 15 pumping stations and 183km of pipeline
- Supply about 145 million litres of water daily on average, to meet the needs of public services, industry, commerce and about 390,000 people
- Target at least an A grade quality standard for our water treatment plants and distribution system, where consistent with customer requirements
- Forecast future water needs and plan so those needs can be met at an acceptable cost to the community
- Carry out our work with care for the environment, including promoting ways to conserve water and the benefits to the public of water conservation
- Manage assets with a replacement book value of $347 million

Governance and organisation structure

The Wellington Regional Water Board Act (1972) defines Greater Wellington's bulk water supply role. The Council is responsible for setting policy. During the year, a restructure of the Council's groups saw Water Supply established as a stand-alone group (formerly part of the Utilities and Services Group).

The Council's Social and Cultural Wellbeing Committee oversees the work carried out by Greater Wellington's Water Supply Group to manage the bulk water supply. Within the Water Supply Group are five departments that share this workload:

- Assets and Compliance
- Engineering and Projects
- Marketing
- Operations and Controls
- Pipeline and Mechanical Maintenance

Other groups within Greater Wellington provide services to Water Supply. The Development Group provides long-term planning for development options for our water supply network. The Environment Management and Catchment Management groups provide water-catchment management services, which include pest monitoring and control. Greater Wellington contracts out water quality testing services and some construction and maintenance work.

Performance indicators

Greater Wellington's 10-Year Plan 2009-19 and Annual Plan 2011/12[1] group performance indicators and targets for bulk water supply under four main activities: water collection treatment and delivery; water supply infrastructure; planning for future water demand and supply; and water conservation programmes. We have cross-referenced reporting of annual targets for our seven long-term performance indicators with these four main activities, from p32. You can view the 10-Year Plan 2009-19 and Annual Plan 2011/12 on Greater Wellington's website or you can contact us for a copy (see back cover for contact details).

Management systems

We operate management systems for assets, water quality, environmental effects, health and safety, public health risk, projects and maintenance. We hold quality-management system certification to international standard ISO 9001:2008 and environmental-management system certification to ISO 14001:2004.

1. The 10-Year Plan 2009-19 contains performance indicators for three years to June 2012. The Annual Plan 2011/12 updates the 10-year plan

Chairperson's report – the year in review

Another year of achievement from our Water Supply Group comes as no surprise and highlights abound – big advances toward a more resilient water supply network, successfully negotiating a potentially tricky summer with only half our normal reserves of water, and a national excellence award recognising sound business practices. But we've also reached a turning point as we anticipate the need for a new water source to provide for our growing population, and the considerable financial impact this will have…

The Water Supply Group has worked hard over many years to keep the cost of water treatment and regional distribution to the Lower Hutt, Porirua, Upper Hutt and Wellington city councils as low as possible. Careful management and the introduction of innovative technologies have allowed us to hold the cost of supply for much of the last 15 years and this represents a saving of some $90 million to the community, when compared with the outcome of inflation-indexed price increases over that period. It's a tough balancing act managing debt levels and reducing costs, while also maintaining assets and providing an excellent service that reliably gives our customers some of the best drinking water in the country, but one that we've struck effectively.

"We've worked hard to keep costs as low as possible"

However, the prospect of needing a new water source for the region continues to loom – and added to that, we have the cost of our accelerated programme of work to improve the network's resilience. Looking ahead, we believe that the best way to manage these big capital costs, and debt, is for small annual increases in the water levy, this year's increase being 3%. By raising the levy in small steps and reducing debt steadily, we'll avoid hitting customers with a big levy hike when the time comes to build a new water source.

Greater Wellington has an obligation to develop the water supply to meet the needs of the region's city councils. Twelve months ago, I reported that we were working towards a decision between a dam at Whakatikei and a third storage-lake near Te Marua (as the next stage of system expansion), for inclusion in our 2012-22 Long-Term Plan. Projections showed that we would need to start preparing for a new source by 2014, in order to maintain an acceptable level of supply capacity, unless water use continued to decline.

This year, water use has reduced again (more on this in a moment). After careful deliberation, we have deferred planned borrowing for a new long-term water source – in excess of $100 million – to beyond June 2022, the extent of the Council's new 10-year plan. Instead, we have earmarked $10 million for shorter-term supply development measures. There are significant savings, over $7 million a year in interest costs alone, in deferring a major new source. This approach also accommodates our customers' preference to target further gains in water use efficiency and conservation collaboratively, in order to delay the larger infrastructure investment.

"Resilient water supply is a key focus"

Investigations during the last 12 months indicate that a more gradual "stepped" source development process is feasible. By the end of 2012 we expect to have identified – in consultation with our customers – which of several strategic approaches are worthy of further, more detailed, investigation. We now expect to include a revised source development strategy in our Long-Term Plan 2015-25.

A water supply system that is resilient in the face of disaster – such as a big earthquake or a drought – has long been a key focus for the Water Supply Group. And this year we've made great strides in that direction, most notably reaching the half-way point of the Stuart Macaskill storage lakes' upgrade project, to increase their resistance to earthquake damage and boost capacity by 13%. We've also been heavily involved with coordinated regional strategy development for the response and recovery of water supply and other "lifeline" services and worked closely with city councils to provide new emergency water connections to their networks, as part of a long-standing preparedness strategy. We have allocated additional capital expenditure for the next three years, with the aim of reducing further the impact of major civil emergency events.

"Low water use could delay the need for a new water source"

The Stuart Macaksill Lakes project has contributed indirectly to another exciting milestone – the lowest summer water use in over 25 years. With

one storage lake down, there was less stored water and a higher risk of water shortages in the summer months, so our summer water conservation communications programme was expanded, with support from the city councils. As it happened, the summer wasn't dry – but the very low water use is still a fantastic achievement and testament to what can be achieved through the collective efforts of the community to use water sparingly.

The growing evidence of a trend towards lower water use could have a very significant implication – if our community can build on it, it could mean the need for a big, new water source is delayed well beyond 2022. This would also push out the debt required to build the new source. All good stuff, but we'll need a lot of support to encourage widespread water conservation efforts as routine. The cooperation between Greater Wellington's Water Supply Group and the four city councils to encourage lower use has garnered welcome results. I hope that we'll see a continuing pattern of lower use, even when both the Stuart Macaskill lakes are back in commission. Lower water use is something that communities can clearly achieve – and long may it continue.

Fluoride – and whether or not to adjust for the low level found in our drinking water sources – has continued to be a hot topic around the country

"We strongly advocate public ownership and management of water supply"

and increasingly in the Wellington region, with the Council receiving a number of submissions on this issue. Our policy is to follow the Ministry of Health's recommendation to fluoridate drinking water, and we will continue to do this.

Some thoughts on the amalgamation of the four cities' water services – a possibility that has been in the air for some time. Greater Wellington strongly advocates the benefits of public ownership and management of the water supply in Wellington, a view that has widespread public support. We have always been ready to play a constructive role in any informed debate regarding integrating the management of drinking water, stormwater and wastewater. This will require the involvement of all stakeholders and we welcome any initiatives towards this goal.

Finally, in June Greater Wellington received an IPANZ* special recognition award for transforming our water supply operation into a world-class business. What a wonderful acknowledgement of the Water Supply Group's outstanding performance over many years and indeed a tribute to all the staff involved, underlining the fact that a local government body can run a large utility business to the very highest standard.

Councillor Nigel Wilson
Chair, Social and Cultural Wellbeing Committee

* Institute of Public Administration New Zealand

Group Manager's report – the year in review

Achievement against objectives – silence is golden

This year the Water Supply Group has collected, treated and delivered over 51 billion litres of high-quality water to our customers, the Wellington region's four city councils. That's 140,000 tonnes of water per day, every day, without fail, to exacting Ministry of Health standards.

Delivering this essential service reliably is a complex business, which requires a high degree of planning, organisation, expertise and emergency response capability to an extent that would surprise, if not impress most consumers.

While it would be nice to find water supply the subject of frequent and enthusiastic conversation within the community, the fact that the majority of our work goes unremarked is testament to the reliability with which we meet our two primary objectives: our water is safe and it's always there.

Similarly, we don't get complaints about the cost of our service which, at 4.2% less than it was in 1996/97, reflects our strong focus on our objective of being cost effective. This year, a saving of around $45,000 from innovative treatment process improvements at our Waterloo Water Treatment Plant is one example of that continuing focus.

We continue to work to minimise the environmental impacts of our operations and have made excellent progress on reducing our carbon footprint. To that end, we met 13% of our electricity needs through our own hydro-generation plants during the last 12 months – with a market value of over $200,000. This financial year we will be commissioning our third small hydro-generator.

Increased focus on resilience

Improving the resilience of the bulk water supply has been an ongoing activity through our annual capital programme for many years. In the past few years, a report identifying the reinstatement time of the bulk supply following a Wellington Fault movement, and more recently the Christchurch earthquakes, have brought a sharper focus to this area of our planning.

In March, our Pipelines team started operating from a new depot at Pomare in the Hutt Valley. This development arose from a self-review of pipeline-repair stock locations two years ago, and the resulting aim to find a storage and workshop site that was more central to our network and with a low risk of earthquake and flood damage. The Pomare depot is a significant development in our readiness to recover quickly from a civil emergency.

Upgrading the strength and capacity of the Stuart Macaskill water storage lakes at Te Marua proceeded to plan this year, and work on the second lake will commence in November 2012. With one lake out of commission, it was pleasing to see the lowest level of summer water use in more than 25 years. While the poor summer weather obviously had an effect, there is no doubt that consumers in the region responded to a carefully managed communications plan, a joint effort between Greater Wellington and our customers.

Meeting future demand

The past year has seen a marked progression in our plans regarding the next stage of water source development. As Councillor Nigel Wilson has noted, there is a reasonable level of uncertainty as to when this additional supply capacity will be needed as we continue to see a year-on-year reduction in demand. This year we will be working with our customers to identify effective means of promoting further reductions in water use in Lower Hutt, Porirua, Upper Hutt and Wellington.

Refining our business structure

The past year has seen significant structural changes affecting the Water Supply Group at both strategic and operational levels.

For many years, Greater Wellington's water supply function has been part of a broader divisional group that included Parks, Forestry and Emergency Management. In September 2011, a stand alone Water Supply Group was created as part of Greater Wellington's strategy to "future proof" the region in the context of succession planning, staff development and the prospect of changes in the make-up of local government.

At an operational level, two major drivers for change have been building over recent years: advances in our use of technology and a need for improved business systems.

Our investment in technology over the past decade has improved the quality, reliability and efficiency of our operations through the automation of many of the monitoring, control and reporting activities that were traditionally carried out by people.

On the other hand, additional resources have been required to meet the increasing expectations for improved accountability and transparency

in compliance areas such as water quality, environmental protection, health and safety, and asset management.

We have maintained our philosophy of ensuring that we retain in-house expertise for the critical aspects of our business and so the structural changes have not meant a change in staff numbers or a move to contracting out services. However, there has been a shift towards more highly skilled roles and a reduction in the manager-to-staff ratio.

The process of implementing significant structural change while maintaining service levels was a challenging exercise – during the year, more than 25% of our staff were new to their position.

However, apart from delays to some of our planned improvement projects, the change process was conducted without significant impact on our business objectives or performance targets. This success is largely due to the flexibility, commitment and sheer hard work of our more experienced staff. I greatly appreciate their extra effort.

The Water Supply Group now has a dedicated management team within a new structure, with clear lines of accountability, and is positioned well to meet future challenges.

Chris Laidlow
General Manager, Water Supply Group

The following pages cover Greater Wellington's major water supply projects and key performance measures for 2011/12. Information is grouped by our main business objectives: ensuring there is a secure water supply; meeting demand; providing safe, high-quality water; operating sustainably and being cost effective.

Where applicable, a reference to relevant objectives and targets follows each heading. We have listed our objectives and targets in full, with links to the relevant content from Greater Wellington's 10-Year Plan 2009-19, from p30.

Continual improvement is a key aspect of our operating philosophy and our adoption of ISO management system standards provides a strong focus on this process. We identify improvement opportunities through routine monitoring of our performance relative to established performance targets. Improvement options are assessed by their value in relation to one or more of our business objectives, and prioritised accordingly.

ENSURING A SECURE WATER SUPPLY

Greater Wellington has been working on improving the resilience of the bulk water infrastructure for more than a decade. We have completed and made considerable progress on a number of projects this year:

SEISMIC UPGRADE AND INCREASED STORAGE – STUART MACASKILL LAKES

(Improvement projects 1.1 & 3.1, Annual Plan target – Planning for future water demand and supply)

We are now halfway through our project to improve the resilience of our water storage lakes against earthquake damage and to increase their capacity.

In 2008, we reviewed the seismic performance of the lakes as part of our investigations to see if we could increase their storage capacity. The review found that a movement of the Wellington Fault could cause cracking of the lakes' clay linings, which would cause the lakes to leak and possibly to fail eventually.

We began the seismic upgrade work in January 2011, with construction starting on strengthening the lakes embankments. This entailed placing rock buttresses at the foot of the steepest sections of the outer wall to reinforce them against damage from water seepage. In total, five buttresses were completed, with this section of work finishing in December 2011.

We are also raising the embankments of each lake by approximately 1.3 metres, which will provide an additional 400 million litres of storage. This additional storage should help to maintain normal supply for up to two weeks longer in a drought.

At the same time as the embankments are being raised, the lakes are being partially lined with a plastic liner designed to stop the leakage of stored water after an earthquake. The plastic liner is capable of stretching to seven times its original length without breaking. This work involves draining one lake at a time, removing the protective layers of rock, fine gravel and sand from the inside of the embankments, and installing the plastic liner. Once the plastic liner is in place the protective layers are reinstated.

Lining work underway at the Stuart Macaskill Lakes

A sheet of plastic liner is pulled into place

Lake Two was drained in September 2011 and work on the lining and raising the embankments began in January of this year. By the end of June 2012, the laying of the plastic liner was complete with 50% of the fine gravel and sand material and 40% of the rock material put back on top of the plastic liner.

We expect that the lake will be ready for testing and refilling in September 2012. Lake One will be drained once Lake Two has been refilled and re-commissioned, with work on lining Lake One and raising its embankments planned to start in January 2013.

EMERGENCY CROSS-CONNECTION – GRACEFIELD

(Improvement project 1.4)

For the past few years we have been working collaboratively with our customers to identify and to improve areas of the water supply network that could be vulnerable to a supply distruption if a reservoir is not available. This year we have installed a three-way emergency cross-connection in Gracefield.

The three-way emergency cross-connection is between the Wauinuiomata-to-Wellington pipeline, the Gracefield branch main and the local reticulation. This installation gives us a direct connection to feed the Gracefield zone from either the Waterloo or Wainuiomata water treatment plants in the event of the Gracefield reservoir being unavailable.

Installing the cross-connection was challenging as the work site was in the middle of a busy road intersection in an industrial area. We had to test the groundwater as the area is designated a potential contamination site. No contamination was found.

STRATEGIC EARTHQUAKE STOCK REVIEW

During the 2009/10 financial year we conducted a review of our critical pipeline-repair stock locations to see whether we could significantly cut forecast reinstatement times after an earthquake. Following this review, we decided to relocate our main storage depot away from Wainuiomata to a more central and accessible site in Pomare and develop a new sealed storage yard next to the Te Marua Water Treatment Plant.

The sealed yard at Te Marua was completed this year and the pipes and fittings that were formerly stored at the Te Marua Pumping Station have now been relocated to it.

In October we secured a lease for a new main storage depot at Pomare. The location was carefully selected to be accessible and at a low risk of damage following earthquake or flooding events. The new depot has a 1,700m² warehouse and an adjoining 3,000m² yard and was fully operational by the end of June.

Our Pomare depot houses our welding and mechanical workshops and our valve assembly and pump maintenance area. We can fabricate and repair mechanical parts in our depot for the pumps and machinery at our water treatment plants and pumping stations.

We have moved the spare pipes that were stored at Gear Island, and most of our pipes from our Wainuiomata depot to our new depot (leaving behind pipes and fittings suitable to fix pipes in the Wainuiomata township). We now hold around 140 pipes in the yard.

Despite the relatively short time of the new depot being operational, fuel and time efficiencies from having a more central depot location have already been noted as our Pipelines staff are having to travel less to get from the depot to the worksites. We expect that further efficiencies will be gained as time goes on.

Seismic stocks in our new Pomare depot

SEISMIC EVALUATION OF WATER SUPPLY BUILDINGS AND STRUCTURES

As part of our continual effort to improve the resilience of our bulk water infrastructure against disruption, we have started a review of the seismic strength of our water supply buildings and structures.

We have completed a structural assessment of the 1950s flume bridge at Kaitoke. The flume bridge is a critical structure because it carries raw water from the Hutt River at Kaitoke Weir, over the river gorge on its way to the Te Marua Water Treatment Plant. Approximately 40% of our water supply comes from the Kaitoke Weir. If the flume bridge fails in an earthquake, water from the Hutt River would not be available.

Although this structure was assessed and upgraded in 1992 to the building standard at the time, the latest detailed assessment revealed some elements that need attention to achieve 100% of the 2002 building standard (AS/NZS 1170), at the level required for critical structures (Importance Level 4).

The investigation of strengthening options to increase the compliance level to 100% of the new building standard will be completed by the end of 2012.

We have also drawn up a prioritised list of water supply buildings to be structurally assessed against the 2002 building standard, with the water treatment plant buildings at Te Marua, Waterloo and Wainuiomata identified as the top priorities. The buildings were prioritised taking into account the age of the building and its importance to water supply operations.

The structural assessment of each water treatment plant will be carried out in the 2012/13 financial year.

SEISMIC EVENT RESTORATION TIMES

In 2011, we commissioned GNS to produce a report on how long it would take to restore water supply to Wellington city after an earthquake.

GNS did a detailed study of water supply recovery in Tawa, Karori, Miramar and Wellington's Central Business District. This work included repair time estimates for the reticulation network as well as the bulk water supply network.

Their report found that estimated restoration time for the reticulated water supply to Tawa residents is between six to seven weeks and for Miramar residents between 18 and 20 weeks. This information is being utilised in our planning for emergency water supplies (see next story "Region-wide strategy for emergency water supplies").

GNS is currently working on a wider study covering the whole of Wellington city, which is expected to be available by the end of 2012.

A similar study for Porirua is planned for 2012/13. Lower Hutt and Upper Hutt are less vulnerable as they are closer to our water treatment plants and significant sources of river water, which could be used in an emergency.

REGION-WIDE STRATEGY FOR EMERGENCY WATER SUPPLIES

The water emergency-preparedness working group of engineers and emergency managers from Greater Wellington and the region's city councils has continued its work on a region-wide strategy for emergency water supplies.

The city councils have been investigating local options for alternative water sources for emergency use within their respective cities. Wellington, Porirua and Lower Hutt now each have a programme of installing water storage tanks at various schools, community centres and civil defence sites, mostly connected for roof water collection. However, these alternative water sources for Wellington and Porirua are insufficient to provide an adequate water supply to meet the "survival" needs of their residents. The Wellington Region Emergency Management Office defines "survival" water as a minimum of 20 litres per person per day in a major emergency for drinking, cooking and hygiene for as long as the water supply isn't working.

We are currently investigating options for emergency water sources that would provide a "survival" level of water, to bridge the gap until the bulk water supply is partially restored to Wellington and Porirua. Two options are being considered; covered storage ponds and a small desalination plant.

The suitability of a number of sites in Wellington and Porirua for the construction of storage ponds is being assessed. The ponds would hold treated water to service areas in Wellington central and its northern suburbs in an emergency. These storage ponds may range from 50 to 500 million litres in capacity. The GNS seismic event restoration times report (see previous story) stated that Wellington would need approximately 100 million litres stored, while the requirements of Porirua have yet to be determined.

Porirua City Council is looking at the old Kenepuru dam and the Whitby lake as possible sources of emergency water for their city, although water from these sources would require treatment or boiling before use.

The option of locating a desalination plant adjacent to the inner harbour or on Wellington's south coast is in the early stage of investigation. Such a plant could provide good quality water for both an emergency and to supplement peak demand during periods of low flow in our river sources.

Work on developing these potential options will continue in 2012/13.

LIFELINES WORK – THORNDON AND PETONE

We have been working as part of the Wellington Lifelines Group on options to accelerate the recovery of services in Thorndon (a major choke point for utilities and services) and Petone (a key area for fuel transportation) in the event of a major emergency.

The Thorndon area from the Hutt Road/Tinakori Road intersection to Kaiwharawhara Road has been recognised for some time as a critical area for lifeline utilities in a Wellington Fault earthquake as they either cross the fault line or are in close proximity to it. This area is also in a liquefaction-prone zone.

In 2010, the Wellington Lifelines Group started a project for the Thorndon critical area to identify the issues, explore how utilities could improve seismic resilience, and develop a post-event recovery plan. Greater Wellington participated in the project and has produced an emergency and recovery plan for the bulk water supply.

Last year the Wellington Lifelines Group initiated a similar project for Petone and Seaview. It became apparent that the liquefaction-prone Seaview area, and in particular the ability to transport fuel from the depots, was the critical aspect. Water supply (for fire protection), power and road or sea access are necessary for operating fuel depots.

This project is continuing and Greater Wellington is working with the lifeline utilities and Wellington Lifelines Group to identify options to improve resilience and decrease the potential time it will take to restore the water supply to the fuel depots in a major emergency.

AIR VALVES ON THE KAITOKE-TO-KARORI WATER MAIN

(Improvement project 4.4)

This coming year marks the completion of a four-year, $1.2 million project, to replace all the air and isolation valves on the Kaitoke-to-Karori water main. Routine investigations in 2007 discovered that the valves were reaching the end of their economic life earlier than expected. Air valves are essential as they allow air to enter the pipes when they are drained for maintenance work, and then expel air when the pipes are re-charged.

During the four years of the project, a total of 194 air valves and isolation valves have been replaced. Approximately three-quarters of the valves also required the installation of valve chambers and pipe modifications.

We replaced 45 air and isolation valves in 2011/12 with one valve to be replaced early in the 2012/13 financial year.

MEETING DEMAND

Less dramatic than disaster readiness – but just as important – is the day-to-day reliability of our system to provide enough water to satisfy the communities that we serve. In the last 12 months we comfortably met all demand for water[2].

TOTAL WATER SUPPLY VOLUME

We supplied 50,722 million litres (ML) of water, 3.9% less than during 2010/11 (52,777 ML). Ongoing reduction of leakage by city councils, a relatively cool and wet summer, and extensive communications to manage demand for water during the Stuart Macaskill Lakes upgrade project (see p13) all contributed to this result. The average daily supply was 138.6ML/day.

WATER SUPPLY BY CITY

Annual supply to each city and share of the supply total were:

- Wellington: 27,204 ML (53.6%)
- Lower Hutt: 12,900 ML (25.4%)
- Porirua: 5,834 ML (11.5%)
- Upper Hutt: 4,784 ML (9.4%)

Each of the four cities used less water year-on-year: Wellington 4.3% less, Lower Hutt 4.2% less, Upper Hutt 4.1% less and Porirua 0.7% less.

PEAK WATER SUPPLY

The highest weekly supply total for the year was 1,061 ML (averaging 151.5 ML/day), 9.2% less than the maximum week during 2010/11 (1,169 ML) and the lowest total in over 25 years. The highest daily supply last year was 162.0 ML (181.9 ML during 2010/11).

TOTAL PER CAPITA WATER SUPPLY TARGET

(Annual Plan target – Water conservation programmes)

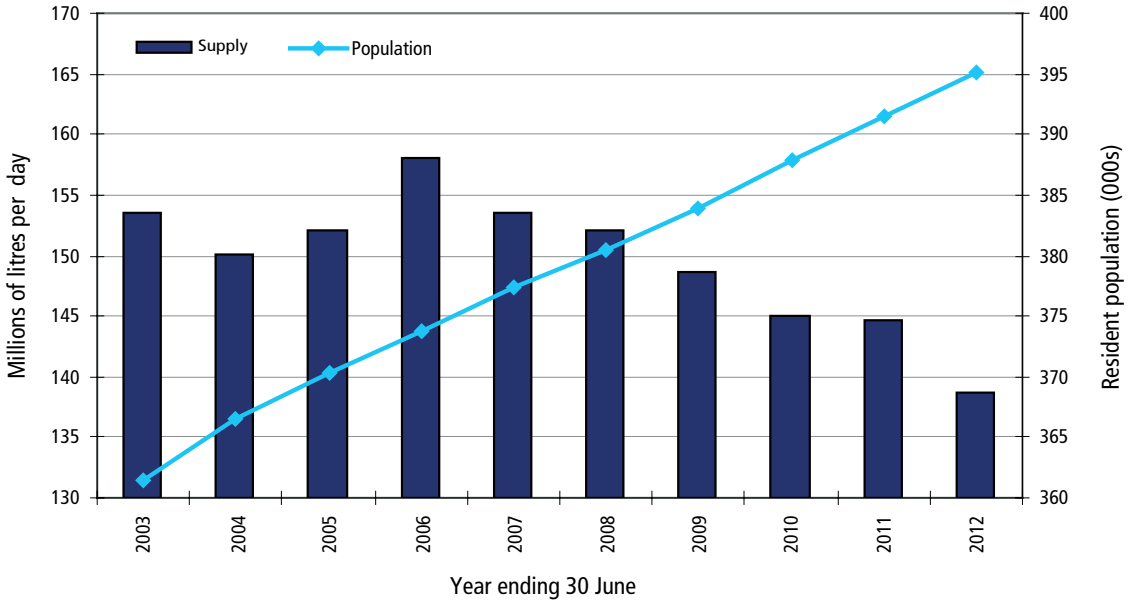
Total (gross) supply of water per resident[3] averaged 351 litres per person per day (L/p/day). The resident population supplied has increased by 0.9%[4] year-on-year.

Greater Wellington's 10-Year Plan 2009-19 includes a target of at least 10% reduction in total per capita water use by June 2019, from a base of 399 L/p/day. To date, the reduction in total per capita supply is 12.3% since 2009.

2. Annual Plan target – water collection, treatment and delivery
3. Total water supply by Greater Wellington to city councils for all types of consumption (including domestic, commercial/industrial and services), divided by the estimated resident population
4. Mid-financial year estimates projected from Statistics NZ estimates of resident population at 30 June each year

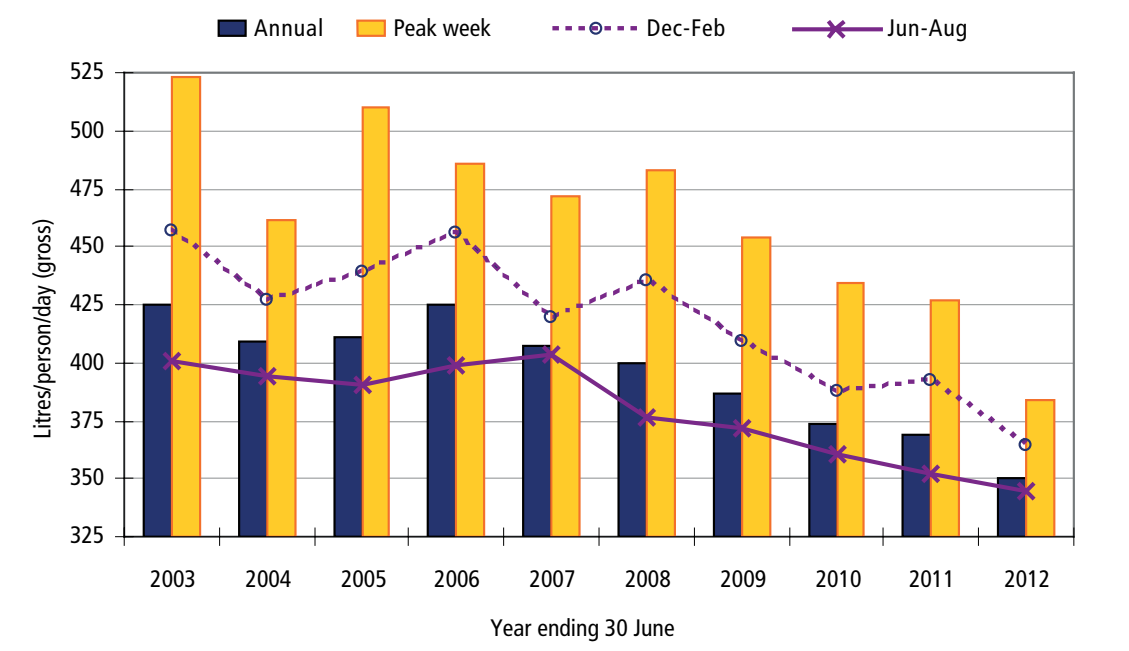
While this progress is encouraging, many factors can influence levels of water use. It is unclear the extent to which the reductions in both total and per capita use are embedded rather than a temporary change due to short-term influences. These short-term influences include subdued economic activity, recent benign summers and publicity about our reduced water storage during the Stuart Macaskill Lakes upgrade (see p13).

AVERAGE DAILY WATER SUPPLY AND POPULATION – 10-YEAR TREND



Our annual water supply total has decreased for six consecutive years. This year we have seen less supply than for any of the previous 25 years

AVERAGE DAILY WATER SUPPLY PER RESIDENT – 10-YEAR TREND



Average daily water supply per resident is decreasing steadily. Water use last summer hit its lowest level in over 25 years and the margin between winter and summer water use (4%) showed the smallest increase in over 20 years. The very small increase between winter and summer water use this year appears to be due mainly to a combination of poor weather and an extensive communications programme around the Stuart Macaskill Lakes upgrade (see p13)

RESERVOIR SUPPLY RELIABILITY

(Annual performance targets 3.1.1 - 3.1.2)

We have two time-related monthly targets for maintaining water storage above 60% full and 70% full for every city reservoir that we supply to directly:

- We achieved both the "70% full" target and the "60% full" target for 99.8% of all reservoir-months; we aim to achieve 100% of both targets
- No loss of supply to water users resulted from the few events that led to the <100% results[5]

WATER TRANSMISSION EFFICIENCY

(Annual performance target 4.12.2)

There was a 1.4% difference between the volume of water leaving our treatment plants and the volume entering customer reservoirs; this result is within the error margin for our revenue meters (+/-2%).

ESTIMATED DOMESTIC WATER USE

Most local households do not have a water meter to measure their individual water use, so our city council customers do not have precise figures for domestic water use. City council estimates of average domestic water use[6] this year are:

- Wellington: 225 L/p/day
- Lower Hutt: 225 L/p/day
- Porirua: 200 L/p/day
- Upper Hutt: 215 L/p/day

PUBLIC ENGAGEMENT WITH WATER CONSERVATION

(Annual performance target 4.12.4)

The work to upgrade the Stuart Macaskill Lakes (see p8) meant that we had to prepare to get through the 2011/12 summer with a maximum of 43% of usual water storage. As recently as the 2007/08 summer, use of the lakes saw storage drop to 40% full to maintain supply. The lakes upgrade increased the chance of a water shortage and the probability of having to restrict water use more actively than usual.

Our objective was to get through the summer without a serious water shortage and without breaching the conditions of our resource consents to take water for supply. We also wanted to maintain minimum flows in the Hutt River at Kaitoke weir above 600 litres per second[7].

We had to engage with the community about the increased potential for a water shortage and persuade people to take action – or be primed to act – to help avoid a serious shortage. Our aim was to ensure that water users were not surprised by a worsening water supply outlook during summer or the potential effects of the lakes upgrade on water availability – and that they had the information they needed, in good time, to help to avoid a water shortage.

We worked closely with the region's four city councils in developing our communications plan and promotional resources, to ensure consistent presentation of key messages and delivery timing for our combined communications activity.

Summer climate

Summer climate[8] can have a marked impact on water use, with variables such as rainfall, sunshine hours, temperature and the number of days between rainfall events being influential. The 2011/12 year saw the lowest summer sunshine hours since 1996/97 (16 years)[9] and the third highest rainfall total. However, the number of rainfall days was only the sixth highest total since 1996/97 and the maximum period without rain (13 days) exceeded that for six other years.

Water supply

Water supply to the region's cities during summer averaged 144 million litres per day (ML/day), 6.5 ML/day (4.3%) less than the previous lowest summer average day since 1996/97 and 8.5% less than the summer average day for the previous five years.

While the summer of 2011/12 was relatively poor judged by key climate variables, they do not appear to explain fully the very low summer water use. Other poor summers in recent years include 2001/02, 2003/04 and 2009/10. Summer water use in 2011/12 was less than in each of these other poor summers, by between 4.3% and 8.2%.

Reducing "base" (winter-level) water use since 2006 does not appear to explain last summer's low water use either. The difference between average water use last winter and last summer was just 4%: 40% less than the next smallest "winter to summer" increase in use (2009/10).

Public reaction

Research we commissioned to identify public recognition for our key lakes project messages found that despite relatively poor[10] weather last

5. See Distribution shut-offs, p25 for more detail
6. Estimates provided by Capacity (for Wellington, Lower Hutt and Upper Hutt) and Porirua City Council. Figures estimated as accurate to +/-30L/p/d. Domestic water use is a subset of total (gross) water supply (see p11)
7. The minimum allowable flow rate over Kaitoke weir prior to GW being granted a reduced minimum flow of 400L/s for three years from 2011
8. For this analysis summer is the 90-days from 1 December to 28 February
9. GW analysis of key summer climate variables goes back to 1996/97; 1996/97 does not represent the last year with fewer sunshine hours
10. Wetter and cooler than average

One of our summer water conservation campaign print ads

summer, a majority of the adult population[11] remembered our advertising and many had made an extra effort to conserve water.

People typically rated the lakes upgrade/water conservation campaign as easy to understand, believable and relevant (92%, 90%, and 83% respectively).

Ninety-nine percent of those interviewed had done something to conserve water and most people said they could do more to conserve water if needed – and have the information they need to do so.

Water-use did not reach any of the trigger levels that would have activated extra communications or restrictions. Importantly, despite relatively low flows in the Hutt River during January and February 2012, we did not need to reduce the residual flow in the Hutt River at Kaitoke below 600L/s or call for extra restrictions on water use in order to meet public demand at any point last summer.

Collectively, these results indicate a solid base of public engagement to build upon during the 2012/13 summer.

WATER CONSENT – HUTT RIVER AT KAITOKE

In July 2011, we obtained a change to our abstraction consent, which allows us to take up to 200 litres per second more water from the Hutt River at the Kaitoke Weir, for up to three years. This change helps to offset the greater risk of a water shortage over the upgrade period of the Stuart Macaskill Lakes (see story, p8).

The extra water allowance provides up to 17 ML/d more water if needed. While this provided mitigation for the reduced lake storage, our priority was to manage demand via a communication programme (see story, p13) and a drought management plan.

During the 2011/12 summer the low demand for water meant that we didn't need to take the minimum flow at Kaitoke down to 400 litres per second.

NEW BULK WATER STORAGE INVESTIGATIONS

Twelve months ago, we anticipated updating our water supply development strategy for the region's cities this year by agreeing to the next long-term project to increase supply capacity: either a storage dam at Whakatikei or an off-river storage lake near Kaitoke. However, a continuing decline in water use and revised modelling of when the cities will need more water have made that decision less pressing.

At current rates of water use, we now expect to meet our customer needs reliably[12] until 2019 without any further expansion, once the Stuart Macaskill Lakes upgrade is complete. If the trend

11. Within the four cities that GW supplies with water

12. Annual probability of a water shortage less than 2%

toward reduced water use continues, we may be able to delay this timing further.

Funding for the favoured storage option was to have been included in the Council's 2012-22 Long-Term Plan (adopted in June 2012), but we have instead deferred borrowing to fund either project beyond 2022 and included $10 million in the Long-Term Plan for an interim development on a smaller scale.

The cost of either the dam or the storage lake is estimated to be in excess of $100 million – and with an annual interest cost in excess of $7 million – so either project would have a significant financial impact for ratepayers.

In the last 12 months, we have continued to investigate the suitability of a block of land between Te Marua and Kaitoke for off-river storage. The land, which we retain an option to buy, is close to the Wellington Fault and part of it may be affected by a secondary fault, the risk of which could be mitigated by appropriate design. The site could contain more than one lake in several layout configurations, which provides flexibility, through the option of development in smaller steps.

The locations of the proposed long-term options – Whakatikei dam and Kaitoke lake – provide markedly different resilience benefits post-earthquake. Because of this, we are presently reassessing their merits in conjunction with other options for providing emergency water supplies (see "Region-wide strategy for emergency water supplies", p10).

In the coming year, we are aiming to agree with our customers on which of several strategic approaches to preparing for growing demand and improving emergency recovery times are worth investigating in more detail. We now expect to include a revised water-source development strategy within the Council's Long-Term Plan 2015-25.

PROVIDING SAFE, HIGH-QUALITY WATER

FULL DRINKING WATER STANDARDS COMPLIANCE

(Annual performance target 2.2.1 - 2.2.4, Annual Plan target – Water collection, treatment and delivery)

We achieved full compliance with New Zealand's drinking water standards. This covers the microbiological, chemical and aesthetic requirements of water leaving our water treatment plants and in our bulk water distribution network.

TREATMENT PLANT AND BULK DISTRIBUTION GRADING

(Annual performance target 2.4.1 – 2.4.5, Annual Plan target – Water collection, treatment and delivery)

We maintained an "A1" grading for our Gear Island, Te Marua and Wainuiomata water treatment plants – the Ministry of Health's highest possible endorsement for drinking water.

Our Waterloo Water Treatment Plant, which supplies most Lower Hutt city residents, is graded "B", due to Hutt City Council's preference to receive un-chlorinated water. The addition of chlorine, to guard against contamination affecting the water in pipe networks, is needed to get "A1" grading.

We've also maintained an "a1" grading for each of our three bulk water distribution pipeline zones – the highest distribution grading possible.

WATERLOO WATER TREATMENT PLANT – LIME FEED-FORWARD PROJECT

(Improvement project 2.2)

We have developed new predictive control software for our Waterloo Water Treatment Plant, which allows us to calculate the required lime dose based on the chemistry of river water as it enters the water treatment plant. Traditionally, in this type of process, the lime dose is controlled by the treated water chemistry and is therefore reactive.

We trialled this software on one of the two treatment process streams at Waterloo. The trial was a success as it reduced the amount of lime used and reduced the number of operator callouts due to pH variations (if the pH level moves outside of the optimal range, the operators are called out to adjust the lime dose in order to bring the pH level back within the optimal range).

WATERLOO WATER TREATMENT PLANT – SURFACE AERATOR IMPROVEMENTS

(Improvement project 2.3)

As well as the lime feed-forward project at Waterloo (see story, p15), we have been looking at improving the operating efficiency of the aerators at Waterloo.

Our Waterloo Water Treatment Plant uses aerators to help remove carbon dioxide from the raw water. The removal of carbon dioxide is important as water with a high carbon dioxide level corrodes pipes and plumbing fixtures. An added benefit is that the more carbon dioxide we remove from our raw water via the aerators, the less lime we have to add to help achieve that lower carbon dioxide level.

This year, we have adjusted the weir height inside the aerator chambers, which has increased the aerators' efficiency in removing carbon dioxide.

As a result of this and the Waterloo lime feed-forward project (see story, p15), our lime use at Waterloo has decreased and savings of approximately $45,000 in chemical costs have been achieved to date. We believe that further savings can be realised by automating the aerator height adjustment process and will be investigating how to do this during the coming year.

WORKING SUSTAINABLY

The main impacts of our operation on natural and physical resources relate to the taking of water, energy and chemical use, discharges and disposal of waste.

About two-thirds of our annual electricity use typically occurs at three sites: the Waterloo Water Treatment Plant (about 40% of total kilowatt-hours), the Waterloo wells (about 10%) and the Te Marua Pumping Station (about 16%). Therefore, our power use relative to the volume of treated water is affected by the share of total supply that we pump from the aquifer at Waterloo and how much raw water treated at Te Marua is pumped from the Stuart Macaskill Lakes to the water treatment plant.

Our use of chemicals relative to the volume of water we treat is influenced by how much of our total production comes from river sources (which require more chemical treatment than our aquifer source) and natural variation in raw water quality. Treating river water also generates solid and liquid waste, which we must dispose of.

We measure carbon emissions from energy use, but have been unable to identify standardised emission factors for the production and transportation of treatment chemicals, so the relative environmental merits of production from rivers and the aquifer are unknown. Given this uncertainty, our approach is to produce water at minimum marginal cost, subject to meeting our obligations under the Resource Management Act and organisational targets, and taking a conservative approach to security of supply.

CARBON EMISSIONS TARGET PROGRESS

Our carbon emissions from power use for the year to June were 43% less than in 2006, our base year. The result comfortably exceeds our short-term target for carbon emissions reduction from energy use: 15% by December 2012.

This progress is due to a favourable movement of New Zealand's energy generation emissions factor, self-generation from our two hydro schemes, our power-use efficiency gains and a steady decline in demand for water over recent years.

COMPLIANCE WITH RESOURCE CONSENTS

(Annual performance target 4.10.1)

Of the 96 resource consents that we held this year, we incurred two minor technical non-compliances. These breaches consisted of a late submission of a planting plan in relation to the Stuart Macaskill Lakes upgrade and the late submission of photographic evidence for a dewatering consent. The 96 consents encompassed water take, land use and discharges.

We had extra conditions added to our consent to

take water at the Kaitoke Weir in the Hutt River, as a result of our successful application to take up to 200 litres per second more water (see story, p14).

These extra conditions included an establishment of a comprehensive monitoring programme in the Hutt River to help us to better understand the relationships between river flows and the river's ecological health. The monitoring programme looked at the range of nutrients in the river, the type and number of macro-invertebrates, the sediment deposits in the river and looked for any blue-green algae. The result of this monitoring work is due to be released in August 2012.

We also funded a Victoria University PhD student to conduct research into what physical river conditions promote blue-green algae growth. The result of this work is due to be released early in the 2012/13 financial year.

TAKING OF WATER

We took 71,930 million litres (ML) of water in total from our river and aquifer sources, 9.5% more than during 2010/11.

This increase was largely due to an increased water take at the Orongorongo Weir, to generate hydro-electric power at the newly commissioned Wainuiomata hydro-electric generator. 81% of the net increase in water take was at the Orongorongo Weir.

Water used for electricity generation either continues on for water treatment or is returned to the rivers adjacent to the water treatment plants.

ELECTRICITY USE

(Annual performance target 5.2.2)

We used 17,619 megawatt-hours (MWh) of electricity – 11% less than in 2010/11; kilowatt-hours per million litres of production kWh/ML decreased by 7.1%.

The main reason for the decrease in power use was our decision to maximise production from our Wainuiomata Water Treatment Plant and to reduce the amount coming out of our Waterloo Water Treatment Plant (Waterloo uses more power than our other water treatment plants).

We maximised production from the Wainuiomata Water Treatment Plant this year due to our operating strategy to use the Hutt River and Waiwhetu Aquifer more conservatively during late spring and summer while we upgrade the Stuart Macaskill water storage lakes (see story, p8). Our priority was to keep the aquifer level as high as possible for as long as possible during summer, as we had less than half of our usual water storage available to use if the river levels dropped. It was crucial to try to preserve the aquifer storage in case it was required later in the summer.

SELF-GENERATED ELECTRICITY USE

We self-generated 1,115.9 MWh of electricity at Te Marua – 6.4% of our total power use.

We self-generated 1,214.7 MWh of electricity at Wainuiomata, which was 90% more than was needed to power the Wainuiomata Water Treatment Plant and equated to 7% of our total power use.

The excess power was exported to the local network. The electricity generated had a market value in excess of $200,000.

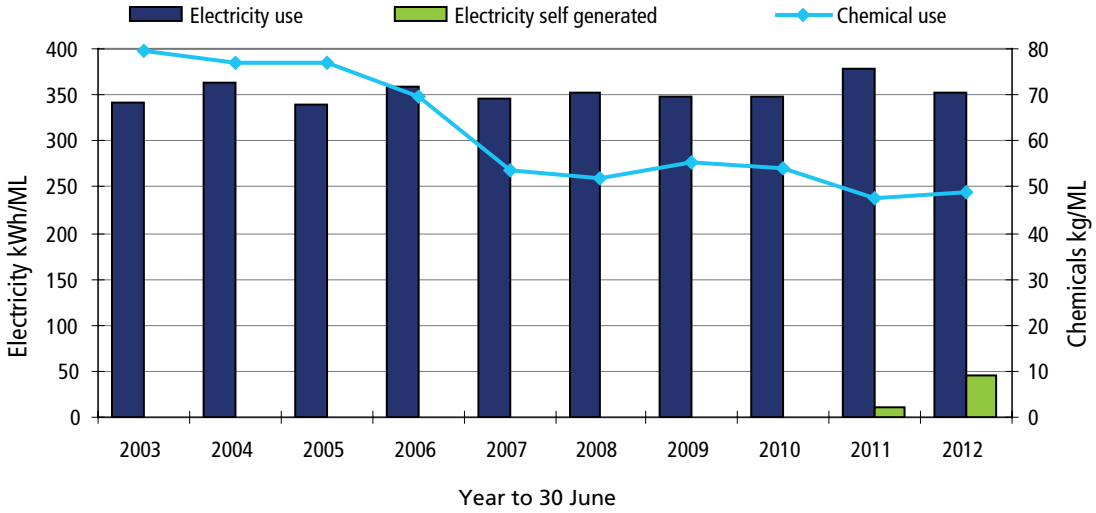
CHEMICAL USE

(Annual performance target 5.2.3)

We used 2,450 tonnes of treatment chemicals – 1.7% less than during 2010/11.

Across all water treatment plants, we used 49kg of chemicals for every million litres of water treated – 2kg more than in 2010/11. This increase is due to a larger proportion of river water relative to aquifer water being treated than last year – river water requires more chemicals to treat it than aquifer water.

POWER AND CHEMICAL USE TREND



Changing levels of chemical and power use[13] by volume of water supplied are influenced by our choice of production between aquifer and river sources. Our chemical use also reflects a concerted drive to optimise chemical treatment processes. We seek to minimise our marginal cost of production, subject to meeting various obligations and targets, including for water supply quality and reliability

TREATMENT WASTE

(Annual performance target 4.11.1)

We sent 2,381 tonnes of de-watered treatment waste (sludge) to landfill from our river-water treatment plants. On a weight-by-flow basis, this is 82kg of sludge per million litres of water treated, an increase of 6.4% over 2010/11. The ratio of sludge to treated water is determined by the quality of "raw" river water to be treated: dirtier water results in more sludge.

ALKALINITY CONTROL IN TREATED WATER

(Improvement project 5.1)

We are set to reactivate water alkalinity trials at Te Marua Water Treatment Plant, following the installation of a new chemical mixer.

In 2010, we began looking at the impact on water supply pipes and fittings of lower alkalinity and raised pH levels in treated water. We believed that we could achieve more effective corrosion control and reduce our chemical use and costs at the same time.

We carried out a series of trials in 2010/11, with promising results. They showed that by changing our water chemistry, we would reduce the corrosion of cement-lined water mains and household plumbing materials. As well as extending the service life of these assets, significant savings would be realised through reduced use of CO^2 and lime in our treatment processes.

The trials were put on hold last year, until a new chemical mixer was installed at Te Marua Water Treatment Plant to improve pH control. The new mixer is now operational and the final set of trials will be carried out in August, with the results due in October 2012. We will discuss these results with our customers before making any permanent operational changes.

KAITOKE WEIR FISH CLIMBING ROPE

(Improvement project 4.7)

We've installed a fish climbing rope over the Kaitoke Weir to assist eel elvers in their journey up the Hutt River.

In July, we were granted a change of consent for taking water from the Hutt River at the Kaikote Weir (see story, p14). One of the consent conditions was to install a climbing rope to assist in the passage of eel elvers past the weir.

Installing the fish climbing ropes at the Kaitoke Weir

13. The electricity graph in the 2010/11 Water Supply Annual Report omitted data from minor sites and use of self-generated electricity. This error has been corrected

In September we installed two different kinds of climbing rope – a 70 metre polypropylene mussel spat rope and a 35 metre hemp rope. The mussel spat rope was recommended by scientists from the University of Waikato who have researched the climbing ability of banded kokopu. We installed the hemp rope as well as we thought the thicker rope would withstand the flood flows better than the thinner mussel spat rope.

The effectiveness of the fish climbing ropes are not yet known as river conditions this year did not drop low enough to carry out a fish survey. We hope to conduct a survey in February 2013.

TURNING ON THE TAP – WATER EDUCATION RESOURCE

We launched our new water educational resource *Turning on the tap* in September. *Turning on the tap* is a curriculum-focused teaching resource for years 5-8, about potable water supply and conservation.

Twenty schools in the Wellington area have requested and received hard-copies of the resource this year. The resource is also available as a free download from our website.

We are working with our region's Enviroschools coordinators and the sustainability officers at the city councils to promote its use.

Initial feedback from the schools has been very positive.

Turning on the tap – our water educational resource

BEING COST-EFFECTIVE

FINANCIAL HIGHLIGHTS

Water Supply experienced mixed financial results this year:

- Our operating deficit of $3.528 million was $200,000 or 6% over budget
- Total income was $104,000 better than budget
- Total expenditure was $304,000 over budget
- A cash surplus of $5.2 million was generated
- Actual debt was $900,000 over budget at $48.2 million (budget $47.3 million)

OPERATING REVENUE

Operating revenue was $104,000 better than budgeted. Anticipated revenue from sub-leasing space at the new Pomare depot did not occur. This was offset by better than budgeted interest on the insurance contingency fund and the payments from communication companies, who lease redundant water pipelines for cable ducting.

OPERATING COSTS

Operating costs were generally within or under budget, notable savings were made in:

- Chemicals – $108,000
- Electricity used in production – $116,000
- Rates increases were less than anticipated – $119,000
- Contractors and consultants – the reprioritisation of capital projects until the 2012/13 year resulted in less use of external resources – $254,000
- Unused "dry year" advertising contingency – $80,000

These savings were offset principally by losses on asset replacements and retirements – $497,000. This is the net book value of assets replaced or retired during the year. The level of residual value of assets replaced during the year was not anticipated. It also includes a $130,000 write off for the asset value of the section of the Plimmerton number 2 main that failed prematurely and was replaced.

FINANCE COSTS

Finance costs were $461,000 below budget due to interest savings from the re-budgeting of $5.37 million of capital projects to next year, and overall savings against budget on completed projects.

CAPITAL EXPENDITURE

The 2011/12 water supply capital expenditure programme was $9 million compared with a budget of $16.3 million, an under-spend of $7.3 million. This underspend is due to approximately $2 million savings, mainly on the lakes upgrade project, and $5.3 million being re-budgeted to 2012/13.

$4 million of the re-budgeted amount is for the potential land purchase for the proposed additional water storage lake at Kaitoke, and $0.9 million is for the lakes upgrade project. A decision on the potential land purchase is not expected until December 2012.

CASHFLOW

Cashflow from operating activities was $5.2 million, down on the 2010/11 year ($7.3 million). The decrease is largely due to large insurance cost increases after the Christchurch earthquakes ($654,000), increased finance costs due to higher debt levels ($666,000), increased wages cost ($233,000) and decreased interest earned on investments due to lower interest rates on deposits ($319,000).

FINANCIAL POSITION

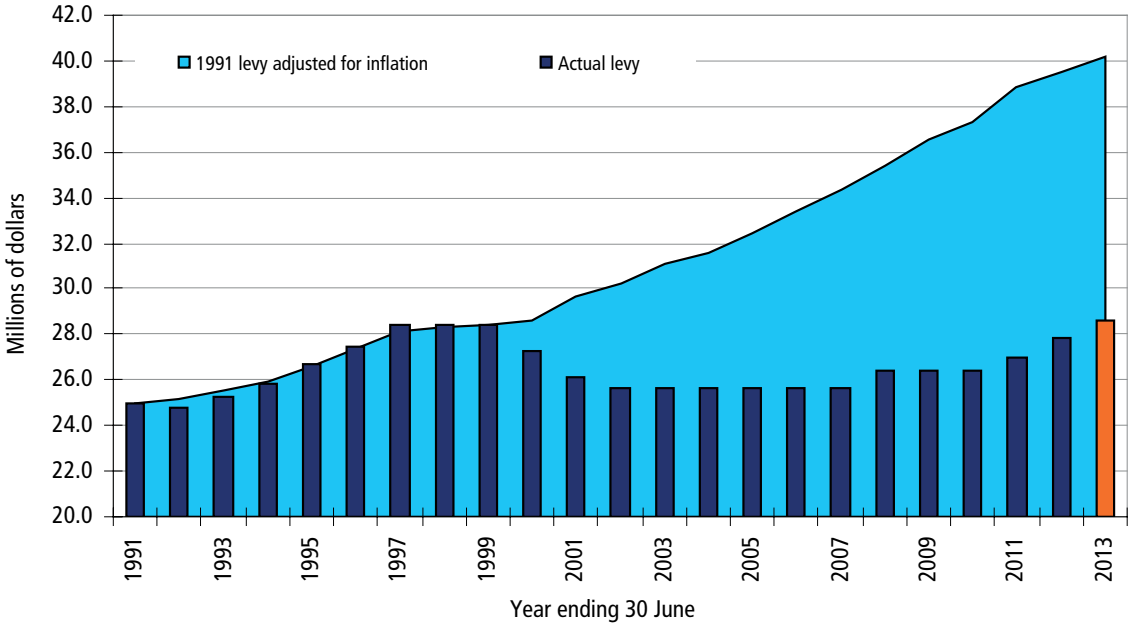
The Water Supply Group continues to maintain a strong balance sheet, with total assets of $352.4 million (previously $350.7 million) and total liabilities of $50 million (previously $45.6 million). Total debt is at $48.2 million (previously $43.5 million).

WHOLESALE WATER LEVY 2012/13

We have increased the levy by 3% from 2011/12, in order to keep debt at an appropriate level. This is only the third time since 1997 that we have increased the levy (net of GST). The previous increases were in 2008 and 2011. The levy still remains below the level of 1997, thanks to price reductions delivered between 2000 and 2002 and costs held in most years since. This record reflects good on-going cost control and operational efficiency gains over this period.

We received an IPANZ special recognition award for transforming our water supply operation into a world-class business

WHOLESALE WATER LEVY AND CPI INFLATION

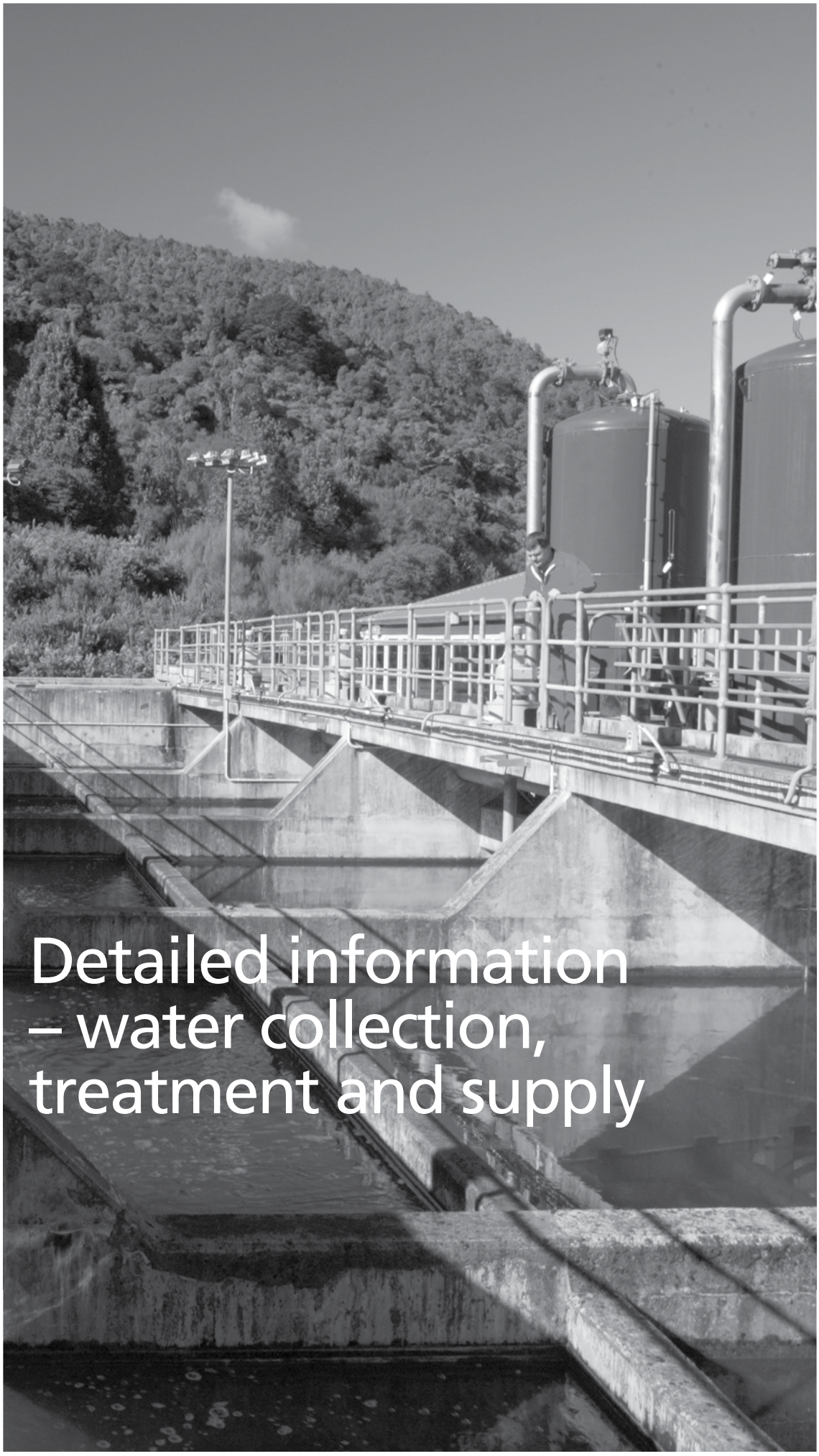


The water levy that we charge Hutt, Porirua, Upper Hutt and Wellington city councils will increase by 3% for 2012

FINANCIAL SUMMARY

	June 2012 Actual $000	June 2011 Actual $000	June 2010 Actual $000	June 2009 Actual $000	June 2008 Actual $000
Operating revenue	27,402	27,051	27,106	27,325	27,218
Depreciation	8,334	8,215	7,950	7,541	6,241
Financial costs	3,204	2,538	2,924	3,750	3,491
All other operating expenditure	19,392	17,217	16,732	17,498	16,262
Operating surplus/(deficit)	**(3,528)**	**(919)**	**(500)**	**(1,464)**	**1,224**

These statements contain internal transactions that are eliminated on the consolidation of the Greater Wellington statements.



Detailed information – water collection, treatment and supply

Sources of water supplied

WATER ABSTRACTION (MILLIONS OF LITRES)

For the year ended 30 June

Source	Annual					Maximum week			Maximum day		
	Total		Percent	Average day		Date	Average day		Date	Day	
	2012	2011	2012	2012	2011	2012	2012	2011	2012	2012	2011
River and stream abstraction											
Kaitoke/Te Marua	37,407	35,104	52.0%	102.2	96.2	31/08/11	149.7	149.0	03/07/11	149.9	155.0
Wainuiomata	4,798	2,106	6.7%	13.1	5.8	10/08/11	22.4	16.8	19/06/12	29.5	22.3
Orongorongo	5,553	1,087	7.7%	15.2	3.0	04/04/12	29.4	11.6	08/11/11	32.8	18.5
George Creek	1,260	818	1.8%	3.4	2.2	31/08/11	6.1	6.8	22/08/11	9.6	7.7
Big Huia Creek	1,993	922	2.8%	5.4	2.5	31/08/11	12.6	6.3	27/08/11	13.4	9.3
Total – rivers	51,010	40,036	70.9%	139.4	109.7	31/08/11	205.8	171.8	17/09/11	210.3	181.1
Public artesian abstraction											
Waterloo	20,887	25,630	29.0%	57.1	70.2	13/07/11	78.7	83.0	09/07/11	89.2	90.9
Gear Island	32	18	0.0%	0.1	0.1	23/05/12	0.6	0.5	17/05/12	4.3	3.6
Total – artesian	20,919	25,648	29.1%	57.2	70.3	13/07/11	78.7	83.0	09/07/11	89.2	90.9
Total public abstraction	**71,930**	**65,684**	**100.0**	**196.5**	**180.0**	**31/08/11**	**262.4**	**238.6**	**16/01/12**	**272.1**	**254.4**

See also "Taking of water", p17. Totals may not add exactly due to rounding

RAINFALL LEVELS (MILLIMETRES)

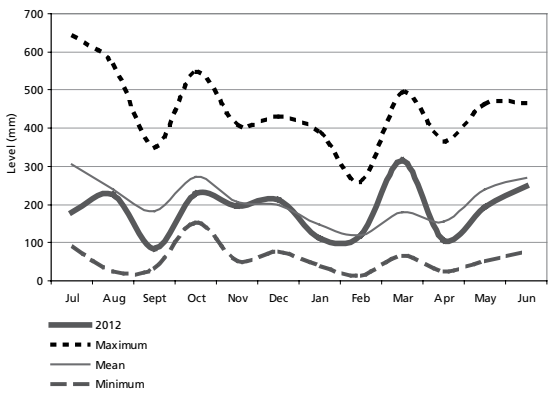
For the year ended 30 June

	Kaitoke[1]	Karori[2]	Orongorongo[3]	Wainuiomata[4]
2012	1,968	1,392	2,223	1,708
2011	2,255	1,485	2,347	1,698
Mean of data record	2,297	1,240	2,523	1,926
2012:mean	86%	112%	88%	89%

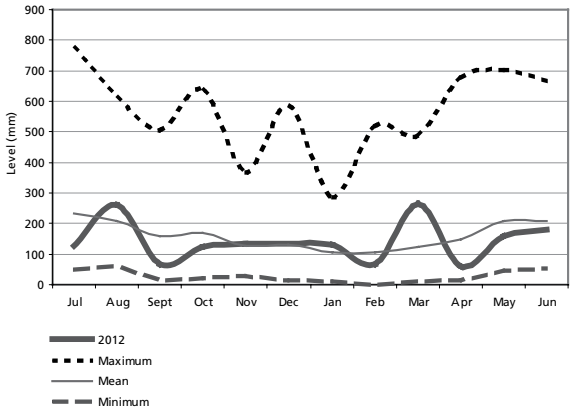
1: Kaitoke Headworks rain gauge. 2: Karori Sanctuary rain gauge. 3: Orongorongo Swamp rain gauge. 4: Wainuiomata Reservoir rain gauge

The following graphs show average rainfall per month in our surface water catchments compared with the maximum, minimum and mean of the data record for each site.

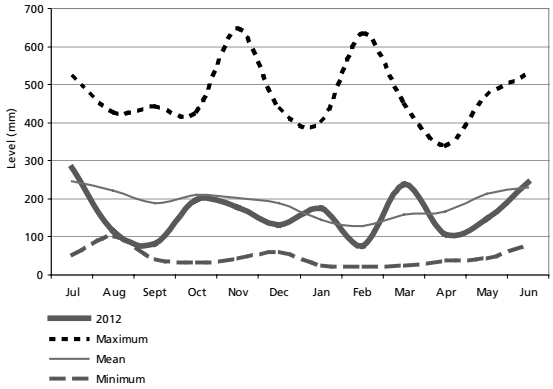
ORONGORONGO CATCHMENT RAINFALL
(Orongorongo Swamp record 1980-2012)



WAINUIOMATA CATCHMENT RAINFALL
(Wainuiomata Reservoir record 1890-2012)



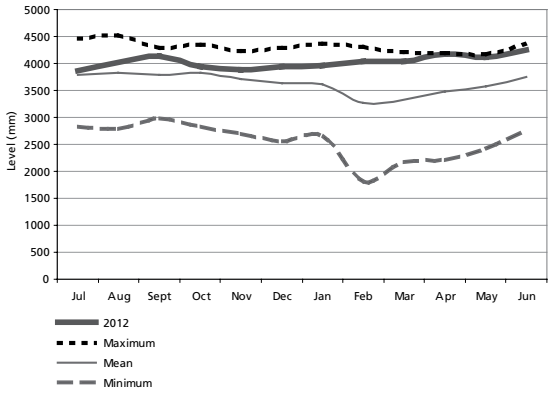
HUTT CATCHMENT RAINFALL
(Kaitoke Headworks record 1951-2012)



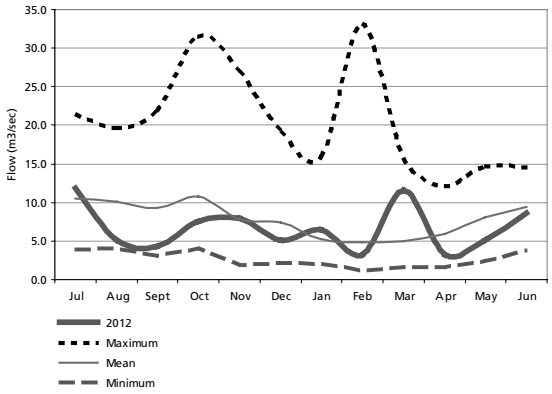
LEVELS AND FLOWS FROM WATER SOURCES

The following three graphs show historical highs, lows and averages for river flows from the Hutt and Wainuiomata rivers and for the level of the Waiwhetu aquifer at Petone – the three main water sources that we use to supply Lower Hutt, Porirua, Upper Hutt and Wellington – compared with data for the 12 months to 30 June 2012.

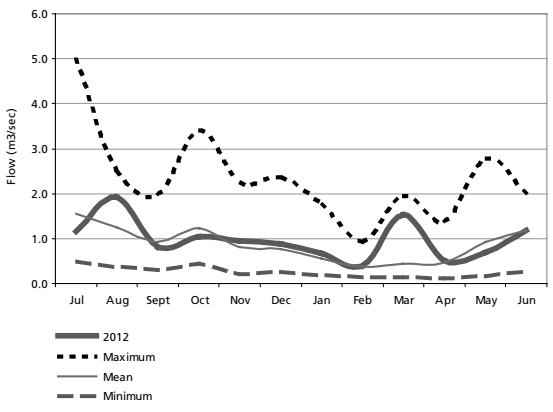
WAIWHETU AQUIFER
(McEwan Park record 1971-2012)
Average monthly level for the year ended 30 June



HUTT RIVER
(Kaitoke record 1968-2012)
Average monthly level for the year ended 30 June



WAINUIOMATA RIVER
(Manuka Track record 1982-2012)
Average monthly level for the year ended 30 June



Distribution shut-offs

For the year ended 30 June

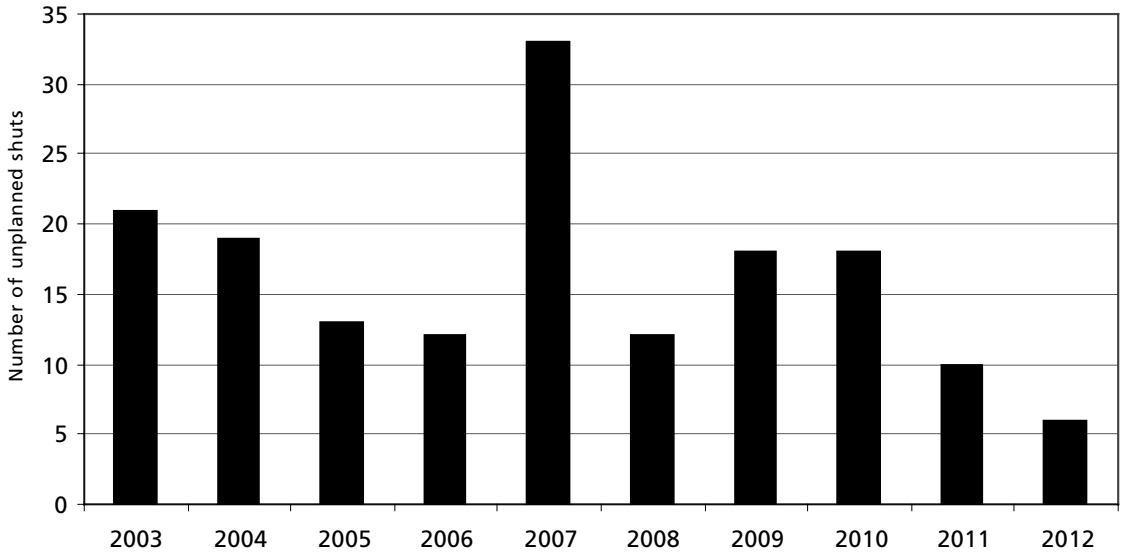
We had to shut off part of our bulk water supply network on 41 occasions this year to carry out repairs, maintenance and improvements (2011 = 44). In all cases, we finished the work and reinstated the supply without loss of water or pressure to consumers within the affected supply zones.

Of the 41 shut-offs, we needed more than eight hours to reinstate 16 of them. We were able to supply water from either an alternative reservoir or we managed the affected reservoir to avoid disruption in all of these cases.

Six shutdowns were unscheduled, for repair of leaking or burst mains or to repack leaking valves, compared to 10 during the year to 30 June 2011 (see graph below).

The remaining 35 shutdowns were scheduled (2011 = 25). This work was required to install new or refurbished pipes and valves, install new flow meters and mitigate the risk of asset failures from seismic activity.

UNPLANNED SHUT-OFFS OF WHOLESALE WATER MAINS



Resource consents

Resource consents held as at 30 June 2012

Water-take	Land use	Discharge	Total
11	61	24	**96**

Out of the 96 resource consents we held, we incurred two minor technical non-compliances – see "Compliance with resource consents", p16.

Water supply volumes

Since December 2005, we have had remote access to revenue meters at the supply points to our customers, and have collected readings daily. Prior to December 2005, we recorded water supply figures weekly by manual reading of revenue meters at the supply points to our customers. The annual supply totals prior to the year ended 30 June 2006 (presented below) have been calculated to represent 365/366 day years, so as to make the historic data more directly comparable between years and consistent with abstraction and production figures, which are recorded daily. The years ended 30 June 2000, 2004, 2008 and 2012 are 366 days.

WATER SUPPLIED (MILLIONS OF LITRES)

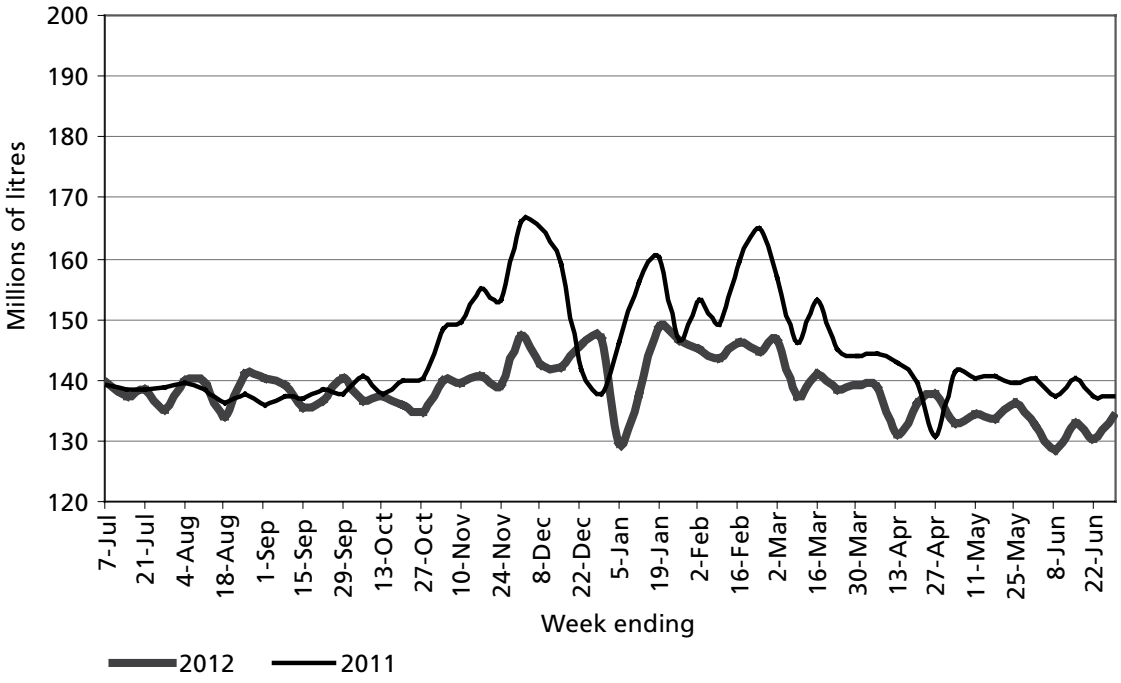
For the year ended 30 June

	Lower Hutt		Porirua		Upper Hutt		Wellington		Total supply	
	Total	Avg. day	Total	Avg. day	Total	Avg. day	Total	Avg. day	Total	Avg. day
2012	12,900	35.3	5,834	15.9	5,784	13.1	27,204	74.3	50,722	138.6
2011	13,470	36.9	5,877	16.1	4,990	13.7	28,441	77.9	52,777	144.6
% change	*-4.2%*		*-0.7%*		*-4.1%*		*-4.3%*		*-3.9%*	
2010	13,369	36.6	6,179	16.9	4,880	13.4	28,510	78.1	52,939	145.0
2009	13,804	37.8	6,277	17.2	5,011	13.7	29,136	79.8	54,228	148.6
2008	14,133	38.6	6,439	17.6	5,159	14.1	29,912	81.7	55,642	152.0
2007	14,076	38.6	6,317	17.3	5,113	14.0	30,542	83.7	56,048	153.6
2006	14,236	39.0	6,475	17.7	5,533	15.2	31,667	86.8	57,913	158.7
2005	13,938	38.2	6,022	16.5	5,319	14.6	30,244	82.9	55,522	152.1
2004	13,956	38.1	5,907	16.1	5,296	14.5	29,776	81.4	54,935	150.1
2003	14,714	40.3	6,135	16.8	5,303	14.5	29,899	81.9	56,050	153.6

AVERAGE DAILY WATER SUPPLY BY WEEK

For the year ended 30 June 2012

Weeks shown are seven days from 1 July



AVERAGE DAILY SUPPLY GROSS WATER SUPPLY PER CAPITA (LITRES)

For the year ended 30 June 2012

	Lower Hutt	Porirua	Upper Hutt	Wellington	Total
Population[1]	102,550	52,750	39,400	200,400	395,250
Gross litres/head/day	344	302	332	371	351

1: Usually resident population, urban areas – extrapolated from Statistics NZ estimates. The populations presented are estimates for 30 June 2011, plus half the difference between the 30 June 2010 and 2011 estimates, to approximate a 2011/12 average population

MAXIMUM WEEK SUPPLY (MILLIONS OF LITRES)

For the year ended 30 June

Maximum week 2012	**Lower Hutt**	**Porirua**	**Upper Hutt**	**Wellington**	**Total**
	28/12/11	**18/01/12**	**28/12/11**	**07/12/11**	**28/12/11**
Total of maximum week					
2012	283.5	132.5	108.6	555.6	1060.7
2011	304.6	134.0	117.7	620.4	1,168.6
% change	*-6.9%*	*-1.1%*	*-7.7%*	*-10.4%*	*-9.2%*
Average day of the maximum week					
2012	40.5	18.9	15.5	79.4	151.5
2011	43.5	19.1	16.8	88.6	166.9

'BASE' WINTER (JUNE - AUGUST) SUPPLY (MILLIONS OF LITRES)

For the year ended 30 June

	Lower Hutt		**Porirua**		**Upper Hutt**		**Wellington**		**Total supply**	
	Total	**Avg. day**	**Total**	**Avg. day**	**Total**	**Avg. day**	**Total**	**Avg. day**	**Total**	**Avg. day**
2012	3,185	34.6	1,397	15.2	1,161	12.6	6,772	73.6	12,515	136.0
2011	3,240	35.2	1,411	15.3	1,150	12.5	6,903	75.0	12,704	138.1
% change	*-1.7%*		*-1.0%*		*1.0%*		*-1.9%*		*-1.5%*	
2010	3,275	35.6	1,472	16.0	1,174	12.8	6,940	75.4	12,860	139.8
2009	3,352	36.4	1,505	16.4	1,201	13.1	7,062	76.8	13,119	142.6
2008	3,321	36.1	1,491	16.2	1,192	13.0	7,165	77.9	13,168	143.1
2007	3,387	36.8	1,515	16.5	1,240	13.5	7,813	84.9	13,955	151.7
2006	3,377	36.7	1,503	16.3	1,276	13.9	7,560	82.2	13,716	149.1
2005	3,356	36.5	1,443	15.7	1,245	13.5	7,271	79.0	13,314	144.7
2004	3,414	37.1	1,415	15.4	1,226	13.3	7,230	78.6	13,285	144.4
2003	3,498	38.0	1,402	15.2	1,283	13.9	7,137	77.6	13,319	144.8

N.B. Figures are July and August from one calendar year and June from the next. E.g., 2012 represents July and August 2011 and June 2012

Water supply to Wellington during June 2006 (shown as part of the 2006 June year total), and July and August 2006 (shown as part of the 2007 June year total), was substantially more than expected, due to a large leak in the city's reticulation, which was repaired in September 2006. Our analysis indicates that this leak accounts for much of the increase seen in total base supply during those two financial years.

Water quality measurement

CHEMICAL MONITORING – WHOLESALE WATER SUPPLY

The health risk due to toxic chemicals in drinking water differs to that caused by microbiological contaminants. It is unlikely that any one substance could result in an acute health problem except under exceptional circumstances, such as significant contamination of the supply. Moreover, experience has shown that the water usually becomes undesirable after such incidents for obvious reasons, such as taste, odour and appearance.

The problems associated with chemical constituents arise primarily from their ability to cause adverse effects after prolonged periods of exposure.

Standards for chemical compliance are set out in the Ministry of Health's *Drinking-water Standards for New Zealand (DWSNZ) 2005 (Revised 2008).*

The drinking-water standards state that maximum acceptable values (MAV) for inorganic determinands of health significance represent concentrations in the water that, based on present knowledge, do not result in any significant risk to the health of the consumer over their lifetime of consuming that water. Guideline values (GV) apply to aesthetic determinands, which the standards identify as not of health significance. However, if a GV is exceeded the water may be rendered unappealing to consumers.

MEAN VALUES OF CHEMICAL ANALYSIS AT TREATMENT PLANTS

For the year ended 30 June 2012

DWSNZ 2005 (Revised 2008)[A]			Te Marua		Wainuiomata		Waterloo		Gear Island	
Parameter	**MAV**	**GV**	**No. of samples**	**Value**	**No. of samples**	**Value**	**No. of samples**	**Value**	**No. of samples**	**Value**
Alkalinity (total), mg/L $CaCO_3$	–	–	13	27	13	38	13	54.6	1	58
Aluminium (acid soluble), mg/L	–	0.10	37	0.018	37	0.030	2	0.039	2	<0.002
Arsenic (total), mg/L	0.01	–	2	<0.002	2	<0.002	2	<0.002	2	<0.002
Boron, mg/L	1.4	–	2	<0.05	2	<0.05	2	<0.05	2	<0.05
Cadmium (total), mg/L	0.004	–	2	<0.001	2	<0.001	2	<0.001	1	<0.001
Calcium (total), mg/L	–	[B]	–	–	–	–	–	–	–	–
Chloride, mg/L	–	250	1	10.6	1	22.4	2	14.6	2	16.6
Chromium (total), mg/L	0.05	–	2	<0.001	2	<0.001	2	<0.001	2	<0.001
Conductivity, µS/cm @ 25°C	–	–	1	9.8	1	16.7	2	17.5	1	22.5
Copper (total), mg/L	2	–	13	<0.013	13	<0.013	13	<0.013	12	<0.013
Cyanide (total), mg/L	0.6	–	2	<0.005	2	<0.005	2	<0.005	1	<0.005
Fluoride, mg/L	1.5[C]	–	52	0.82	52	0.84	52	0.77	52	0.89
Hardness (total), mg/L $CaCO_3$	–	200	13	20.30	13	38.07	13	46.61	1	26.0
Iron (total), mg/L	–	0.2	13	<0.1	13	<0.1	14	<0.1	12	0.1
Lead (total), mg/L	0.01	–	2	<0.001	2	<0.001	2	<0.001	1	<0.001
Magnesium (total), mg/L	–	[B]	–	–	–	–	–	–	–	–
Manganese (total), mg/L	0.4	–	13	<0.013	13	<0.013	13	<0.013	12	<0.013
Mercury (total), mg/L	0.007	–	2	<0.001	2	<0.001	2	<0.001	1	<0.001
Nickel (total), mg/L	0.08	–	2	<0.001	2	<0.001	2	<0.001	1	<0.001
Nitrate, mg/L –N	50	–	2	0.04	2	0.08	2	0.64	2	1.24
pH	–	7.0–8.5	14	7.72	14	7.51	15	7.64	14	7.50
Selenium (total), mg/L	0.01	–	2	<0.005	2	<0.005	2	<0.005	2	<0.005
Silica (molybdate-reactive), mg/L	–	–	2	8.9	2	13.2	2	14.8	2	15.6
Sodium (total), mg/L	–	200	1	9.29	1	13.20	2	11.85	2	23.75
Solids (total dissolved), mg/L	–	1000	1	48	1	82	2	86	1	110
Sulphate, mg/L	–	250	1	2.75	1	4.24	2	6.06	2	7.20
Zinc (total), mg/L	–	1.5	13	<0.013	13	<0.013	13	<0.013	12	<0.013

Notes: Values that are preceded by the < symbol indicate the detection limit for that test. (A) Drinking-water Standards for New Zealand 2005 (Revised 2008); MAV denotes "Maximum acceptable values for inorganic determinands of health significance"; GV denotes "Guideline values for aesthetic deteminands". A dash in the GV or MAV column indicates that there is no applicable value. (B) See Hardness. (C) The fluoride content recommended for drinking water by the Ministry of Health for oral health is 0.7 to 1.0 mg/L

MICROBIOLOGICAL MONITORING OF THE WHOLESALE WATER SUPPLY

A public water supply that is free from microbiological contamination is an important factor in achieving high standards of public health. Microbiological contamination of a water supply has the potential to cause sickness within the community. We carry out microbiological monitoring of potable water in order to determine the safety of the water in relation to the possibility of transmission of waterborne disease. *Escherichia (E.) coli*, which usually comes from faecal material, is an accepted indicator of bacteriological contamination. We maintain very low turbidity levels in our treated water to demonstrate low numbers of protozoa *(Cryptosporidium)*. Direct testing of protozoa is not practical or required by the Ministry of Health.

PRODUCTION

At our surface-water treatment plants (Te Marua and Wainuiomata), we demonstrate compliance to the microbiological criteria of the DWSNZ by continuously monitoring turbidity of the water leaving each filter, and free available chlorine (FAC) and pH in drinking water leaving the treatment plants. A chlorine residual in the treated water indicates that we have neutralized microbiological contaminants.

The Waiwhetu aquifer is a secure water source and, therefore, free from microbiological contamination according to the drinking water standards. However, we test water leaving our aquifer-source water treatment plants (Waterloo and Gear Island) to demonstrate compliance to the *E.coli* criteria of the DWSNZ. Daily testing detected no *E.coli* in the water leaving either the Waterloo or Gear Island water treatment plants.

Regional public health units assess microbiological compliance to the DWSNZ on behalf of the Ministry of Health. These assessments cover the same period as our financial year: that is, 12 months to 30 June.

We received formal notice of microbiological compliance for our Te Marua, Wainuiomata, Waterloo and Gear Island treatment plants for the 12 months to 30 June 2012.

DISTRIBUTION

An International Accreditation New Zealand-registered laboratory monitors the microbiological quality of water in our distribution system after treatment. The laboratory uses *E.coli* sampling, in accordance with the sampling requirements for urban reticulation systems, as contained in the drinking water standards.

The *Register of Community Drinking Water Supplies in New Zealand* includes our distribution system. The system has three distinct zones, with each having its own sampling requirements based on population served. We must take samples on different days of the week and from sites that represent the full range of conditions that exist within a distribution zone. The three zones are (1) Central Hutt/Petone (un-chlorinated supply from the Waterloo Water Treatment Plant), (2) Wainuiomata/South Wellington (supply from the Wainuiomata Water Treatment Plant) and (3) Upper Hutt/Porirua/North Wellington (supply from the Te Marua Water Treatment Plant). We take samples from 16 sampling sites within the three zones.

We received formal notice of microbiological compliance for our three wholesale water supply network zones for the 12 months to 30 June 2012. A summary of results for the twelve months to 30 June 2012 appears below.

E.COLI RESULTS – SUMMARY OF SAMPLES COLLECTED

For the year ended 30 June 2012

Distribution Zone	DWSNZ MAV[D]	No. of samples	No. of positive results
Central Hutt/Petone	<1 in 100ml sample	386	0
Wainui/South Wellington	<1 in 100ml sample	280	0
Upper Hutt/Porirua/North Wellington	<1 in 100ml sample	390	0

(D) Drinking Water Standards for New Zealand 2005 (Revised 2008), MAV denotes "Maximum acceptable value for microbial determinands"

Annual plan performance indicators

Our performance indicators for the 2011/12 operating year are shown in regular type. Performance in relation to these indicators is denoted in italic type.

ACTIVITY 1: WATER COLLECTION, TREATMENT AND DELIVERY (LONG-TERM)

Our services

1. Supply water to the four cities in the region that meets or exceeds national quality standards and meets reasonable daily demand
2. Ensure security of supply is not less than 2% annual probability of shortfall

How we measure our performance

1. Compliance with drinking water standards for biological, chemical and aesthetic determinands
2. Grading of water treatment plants
3. Reservoir levels
4. Breaches of security of supply standard
5. Level of deferred maintenance

By 30 June 2019

The quality of water supplied will continually meet the Ministry of Health's Drinking-water Standards for New Zealand (DWSNZ).

We have consistently met the requirements of the Ministry of Health's drinking water standards.

We hold certification to the International Standard ISO 9001:2008 for water quality management.

The grading of our water treatment plants and distribution system will be maintained or improved to achieve "A1"/"a1", where this is consistent with customer requirements

Three of our four water treatment plants have an "A1" grading. Our remaining treatment plant is graded "B", the highest grading available given the Hutt City Council's preference to receive an un-chlorinated water supply from this plant. Our bulk water distribution system is graded "a1", the highest grade available.

Water supply security will meet a 2% annual probability of shortfall (one in 50-year drought standard).

The annual shortfall probability for the bulk water supply as at 30 June 2012 was 1.5% (67 year return period). This is based on an estimated population supplied of 395,000 and excludes the benefit from increasing storage capacity in the Stuart Macaskill Lakes.

By 30 June 2012

We will supply water to the four cities in the region that meets or exceeds national quality standards, and meets reasonable daily demand, within a budget of $22,877,000.

- *Aesthetic compliance – 100%*
- *Microbiological compliance, water treatment plants – 100%*
- *Microbiological compliance, distribution system – 100%*
- *Chemical compliance – 100%*

We met all demand for water within the four cities. Funds applied to operating activities were $22,207,000.

We will maintain or improve treatment plant grading levels.

All treatment plant and distribution system gradings were maintained at the highest achievable levels.

There will be no deferred maintenance in the system.

There is no deferred maintenance of water supply assets. We carried out over 6,700 planned maintenance activities and 1,366 responsive maintenance activities during the year.

ACTIVITY 2: WATER SUPPLY INFRASTRUCTURE

Our services

Ensure that water supply assets are maintained and their performance is continually improved so that Greater Wellington has a reliable water supply system. This will be achieved through an asset management plan that reflects international best practice for infrastructure asset management.

How we measure our performance

1. Implementation of asset management plans
2. Capital expenditure projects for new infrastructure are built on time and within budget

By 30 June 2019

Replace and enhance assets in accordance with the asset management plan.

We continue to manage and maintain our assets according to our asset management plan.

By 30 June 2012

We will replace or enhance assets in accordance with the capital expenditure programme, which is developed from the asset management plan, within a budget of $920,000.

We completed all planned projects to replace and enhance water supply assets in accordance with the asset management plan. Actual costs were $829,000.

Asset management plans will be maintained in accordance with best practice (e.g., International Infrastructure Management Manual or BS/PAS 55:2003)

A significant proportion of the asset management plan has been reviewed and updated in accordance with the International Infrastructure Management Manual, however the document is currently still in draft. Interviews with Audit NZ provided the necessary assurance that the asset management planning feeding into the 2012-22 Long-Term Plan is sound, and that risks and assumptions are accurate. An updated asset management plan is expected to be completed early in 2012/13.

ACTIVITY 3: PLANNING FOR FUTURE WATER DEMAND AND SUPPLY

Our services

Ensure that plans are in place for Greater Wellington to supply enough water to meet the reasonable needs of the present and future populations of the four cities, taking into account environmental, social, cultural and economic needs.

How we measure our performance

Scenarios are in place to maintain security of supply to the agreed service standards (no more than 2% annual shortfall probability) based on sound modelling methodology, and including both demand reduction and supply augmentation options.

By 30 June 2019

The Wellington Metropolitan Water Supply Development Plan will continue to be implemented.

Modelling shows that the existing bulk water supply system can support a population of 405,000 at 2% annual shortfall probability (ASP). A population of 414,000 can be supported at 2% ASP with the Stuart Macaskill Lakes storage increase, which is currently in progress. The change in modelled performance since last year is due to the effect of a reduction in per capita demand from 404L/p/d to 387L/p/d. Modelling is also in progress to assess the benefits of various water supply development options.

By 30 June 2012

Raising of water level of Stuart Macaskill Lakes will continue within a budget of $2,500,000.

Actual work on raising the lake level was completed for $1,350,000.

Construction of the seismic upgrading of the Stuart Macaskill Lakes will continue within a budget of $5,500,000.

Actual work completed in 2011/12 cost $3,680,000.

Major infrastructural developments will be undertaken in accordance with the Wellington Water Supply Development Plan within a budget of $12,300,000.

Actual expenditure was $5,124,000. After initial study work on developing the Upper Hutt Aquifer, further investigations did not proceed, saving $100,000. $900,000 was re-budgeted to 2012/13 for seismic work at the Stuart Macaskill Lakes. The provisional sum of $4,000,000 for land purchase for a third lake was deferred until 2012/13 pending further analysis and study.

ACTIVITY 4: WATER CONSERVATION PROGRAMMES

Our services

Promote the responsible use of water by consumers and encourage people to reduce their demand for water.

How we measure our performance

1. Per capita supply of water to the four cities
2. Total supply of water

By 30 June 2019

Per capita gross supply of water will decrease at a rate of at least 10% over 10 years, from 399 litres per person per day (l/p/d) during 2007/08.

On a per capita basis, we supplied 351 litres per person day last year (on average). To date, per capita supply has reduced by 12% since 2007/08.

By 30 June 2012

Increases in total consumption will be held to levels consistent with population change and targets for total water supply per resident, within a budget of $578,000.

Water supply for the year to 30 June 2012 totalled 50,722 million litres (ML), or 138.6 ML/day on average. This represents a reduction of 3.9% year-on-year, and the lowest annual supply total found in records to hand for at least 25 years.

Total expenditure was $475,000. Our communications planning was heavily focused on our reduced storage during the Stuart Macaskill Lakes upgrade, and managing demand during the spring and summer when water use tends to rise. Savings were mainly from lower-than-expected advertising and materials spending, principally due to favourable weather conditions and lower than normal seasonal demand.

Management systems reporting

We are part of the way through a process to consolidate our management systems for water quality, environmental effects and health and safety, using BSI PAS 55 Integrated Management as a guide.

We have split our quality and environmental management systems reporting between "business as usual" work (annual performance targets) and improvement work (improvement projects). We will review this format as the consolidation process is developed.

For both the improvement projects table and the annual performance targets table we have shown links to the relevant content in Greater Wellington's 10-Year Plan 2009-19.

IMPROVEMENT PROJECTS AND RELATED OBJECTIVES

		***10-Year Plan 2009-19* reference**		
Objectives and targets	**Achievement** and 2011/12 commentary	**Activity**	**Community outcomes**	**Objectives** *10-Year Plan 2009-19,* p86
Objective 1 – Ensuring there is a secure water supply				
Project 1.1 – Complete installation of buttresses for Stuart Macaskill Lakes	**Achieved** See "Seismic upgrade – Stuart Macaskill Lakes", p8	Water supply infrastructure	Prepared community Essential services	Ensure the water supply is as resilient as possible Asset management principles (*10-Year Plan 2009-19,* p95)
Project 1.2 – Conduct a new risk assessment review to identify the priority of future work to reduce the risk of interruption of water supply	**In progress** The review has been delayed as our resources were fully committed on other projects. We expect that it will be completed by April 2013. While the outcome of this project will identify the priority of future work to further reduce the risk of interruption of water supply to the four territorial authorities, we are currently working on a number of risk reduction projects. These include, installation of standpipes in service reservoirs, an emergency cross-connection in Gracefield, a seismic assessment of tanks and silos, seismic strengthening of the Kaiwharawhara Pumping Station and discussions with Capacity about emergency pumping stations and cross-connections in Khandallah and Karori	Water supply infrastructure	Prepared community Essential services	Ensure the water supply is as resilient as possible
Project 1.3 – Design completed for the replacement of the Point Howard suction main	**In progress** The design work is expected to be finalised by September and the Point Howard suction main replacement work has been programmed for 2012/13. The aging Point Howard suction main is due for replacement. We are taking this opportunity to realign it along a more seismically secure route, which has the added advantage of being 1.8km shorter than the existing route. The new alignment will result in lower pumping costs and the elimination of the maintenance required on the soon-to-be redundant 2.7km section of the old pipeline	Water supply infrastructure Water collection, treatment and delivery	Essential services	Ensure the water supply is as resilient as possible
Project 1.4 – Complete installation of a three-way emergency cross-connection in Gracefield	**Achieved** See "Emergency cross-connection – Gracefield", p9	Water supply infrastructure	Prepared community Essential services	Ensure the water supply is as resilient as possible

		***10-Year Plan 2009-19* reference**		
Objectives and targets	**Achievement** and 2011/12 commentary	**Activity**	**Community outcomes**	**Objectives** *10-Year Plan 2009-19*, p86
Objective 2 – Providing safe, high-quality water				
Project 2.1 – Conduct reliability analysis on fluoride dosing systems at water treatment plants	**Achieved** A reliability analysis of fluoride dosing systems was completed at each water treatment plant. The recommendations from the analysis will be implemented next year. Equipment reliability issues have meant that we are not consistently achieving our annual performance target for fluoride within the recommended range: 0.7-1.0 parts per million of water (resulting in fluoride levels of <0.7ppm)	Water supply infrastructure	Healthy community	Provide high-quality drinking water
Project 2.2 – Complete water treatment process changes identified to give improved stability of pH control at Waterloo Water Treatment Plant	**Achieved** See "Waterloo lime feed forward", p15	Water collection, treatment and delivery Water supply infrastructure	Essential services	Provide high-quality drinking water
Project 2.3 – Adjustments to Waterloo aeration optimisation (lightening mixers) complete and operational	**Achieved** See " Waterloo Water Treatment Plant surface aerator improvements", p16	Water collection, treatment and delivery	Essential services	Provide high-quality drinking water
Objective 3 – Ability to meet current and future demand				
Project 3.1 – Complete installation of a geo-membrane liner in Lake 2 of the Stuart Macaskill Lakes	**Achieved** See "Seismic upgrade and increased storage – Stuart Macaskill Lakes", p8	Planning for future water demand and supply	Essential services	Ensure the water supply is as resilient as possible
Objective 4 – Working sustainably (asset management)				
Project 4.1 – Implement a risk management framework for Greater Wellington Water in accordance with ISO31000	**Project deferred** The project to implement a risk management framework for Greater Wellington Water was deferred until the 2012/13 financial year, to align with the development of a corporate risk management policy and procedure	n/a	Essential services	Asset management principles (*10-Year Plan 2009-19*, p95)
Project 4.2 – Complete the integration of Water Supply ISO standards 9001 & 14001 into one management plan	**In progress** Currently we have certification for both the ISO 9001 Quality and the ISO 14001 Environmental standards. We are working towards integrating these two standards plus the ISO 4801 Health and Safety standard into an Integrated Management System. A desktop gap analysis by an external consultant is due in September 2012, which will identify any gaps. Bureau Veritas will be conducting an audit in November 2012, which will determine if we have achieved this outcome	n/a	Essential services	Asset management principles (*10-Year Plan 2009-19*, p95)
Project 4.3 – Develop a secure trunk network for data and communications	**In progress** This Water Supply project was initially set up to create a stand-alone and more reliable communication network between the water treatment plants. The project was then combined with a Greater Wellington-wide corporate communication review, which has delayed progress. The investigation work has identified a total of ten new repeater sites that need to be installed, covering the area from the Regional Council Centre in Wellington to Masterton. The installation of the new repeater sites has been scheduled for the 2012/13 year	Water supply infrastructure	Essential services	Ensure the water supply is as resilient as possible

		10-Year Plan 2009-19 reference		
Objectives and targets	**Achievement** and 2011/12 commentary	**Activity**	**Community outcomes**	**Objectives** *10-Year Plan 2009-19,* p86
Project 4.4 – Replace air and isolation valves on the Kaitoke-to-Karori main	**Mainly achieved** We replaced 44 out of 45 air and isolation valves scheduled this year. See "Air valves on the Kaitoke-to-Karori water main", p11	Water collection, treatment and delivery Water supply infrastructure	Essential services	Ensure the water supply is as resilient as possible
Project 4.5 – All valves identified for replacement have been replaced and are operational	**Achieved** During the 2010/11 financial year 16 valves were identified as no longer operational. We replaced 5 isolation valves, 6 bypass valves, 4 scour valves and 1 non-return valve. Two valve chambers were also replaced	Water collection, treatment and delivery Water supply infrastructure	Essential services	Ensure the water supply is as resilient as possible
Objective 4 – Working sustainably (People are safe, healthy and productive)				
Project 4.6 – Achieve tertiary-level status for ACC's Workplace Safety Management Practice	**In progress** Greater Wellington Regional Council is currently certified to the secondary-level requirements for ACC's Workplace Safety Management Plan. A project is currently underway to elevate the Water Supply Group to the tertiary level requirements. Tertiary-level status would entitle the organisation to a 20% discount in our ACC levy. This project is due to be finished by the end of 2012	n/a	n/a	n/a
Objective 4 – Working sustainably (environmental)				
Project 4.7 – Install a fish climbing rope at Kaitoke Weir by November 2011	**Achieved** See "Kaitoke Weir fish climbing rope", p18	n/a	Healthy environment	Minimise environmental effects
Project 4.8 – Commissioning of Wainuiomata hydro-generator is complete and is operational	**Achieved** Final commissioning work on the Wainuiomata hydro-generator took place in the first quarter of the 2011/12 financial year. The Wainuiomata hydro-generator was officially opened on 19 October 2011	Water supply infrastructure	Essential services	Minimise environmental effects
Objective 5– Being cost-effective				
Project 5.1 – Changes to alkalinity management are implemented	**In progress** See "Alkalinity control in treated water", p18	Water collection, treatment and delivery	Essential services	Controlling costs and the water levy (*10 Year Plan 2009-19*, p88) Asset management principles (*10-Year Plan 2009-19*, p95)
Project 5.2 – Update the Water Supply Asset Management Plan	**Achieved** The draft Asset Management Plan was reviewed by Audit NZ and was given a favourable report	Water supply infrastructure	Essential services	Asset management principles (*10 Year Plan 2009-19*, p95)

ANNUAL PERFORMANCE TARGETS AND RELATED OBJECTIVES

Service level statement	**Target ref.**	**Target**	**Achievement** and 2011/12 commentary	**Activity**	**Community outcomes**	**Objective** *(10-Year Plan,* p86*)*
Objective 1 – Ensuring there is a secure water supply						
We will maintain or improve both the resilience of the water supply system and our emergency response capability	1.1.1	Prepare an annual plan, by September each year, for improving security of water supply, system resilience and speed of reinstatement	**Achieved** 9% of total capital expenditure programme was for 22 security related projects	Water supply infrastructure	Prepared community	Ensure the water supply network is resilient
	1.1.2	Complete at least 80% of system security projects (expenditure vs budget) by 30 June of the agreed financial year	**Achieved** All projects were completed by 30 June 2012 and these came in 38% under budget			
	1.1.3	At least maintain modelled reinstatement time following a Wellington Fault movement (based on GNS modelling) and develop a measurement method for reinstatement time following an event	**Achieved** The target to develop a measurement method for reinstatement time following a Wellington Fault movement was changed to "Establish a methodology for assessing improvements to the resilience of the wholesale water supply". A methodology has been developed, which will be used to assess resilience improvements resulting from the current risk assessment review (due for completion in 2012)			
Our raw water sources will be protected against contamination	1.2.1	Maximum daily flow from the Waiwhetu Aquifer does not exceed 115 ML/day and the 24-hour mean level at McEwan Park does not fall below 2.3 metres	**Achieved**	Water collection, treatment and delivery	Healthy environment	Minimise the environmental effects of water supply
The treatment plants and distribution system will be protected from damage	1.3.1	Maintain a record of damage and near-miss incidents. Process all mark-out ("Dial Before You Dig") applications within two days	**Achieved**	n/a	n/a	n/a
Objective 2 – Providing safe, high-quality water						
Comply with Health (Drinking Water) Amendment Act 2007	2.1.1	Public Health Risk Management Plans (PHRMPs) will be reviewed annually	**Achieved** The Ministry of Health-approved PHRMPs come into effect on 1 July 2012. We have completed a review on our consultants recommendations on our PHRMPs and some work is required to make the database PHRMPs more accessible to staff and more easily updated	Water collection, treatment and delivery	Healthy environment	Provide high-quality drinking water
Comply with the requirements of the DWSNZ 2005: aesthetic and microbiological for treatment and distribution 100% of the time, chemical 85% of the time	2.2.1	Aesthetic compliance 100%	**Achieved**			
	2.2.2	Microbiological compliance – water treatment plants 100%	**Achieved**			
	2.2.3	Microbiological compliance – distribution systems 100%	**Achieved**			
	2.2.4	Achieve a level of fluoride in treated water within the range recommended by the Ministry of Health – 0.7-1.0 parts per million – for optimal dental health at least 85% of the time	**Partially achieved** We achieved this target at Te Marua (96%), Waterloo (86%) and Gear Island (94%), but not Wainuiomata (83%)			

Service level statement	**Target ref.**	**Target**	**Achievement** and 2011/12 commentary	**Activity**	**Community outcomes**	**Objective** *(10-Year Plan,* p86*)*
Operate a quality management system that is certified to ISO 9001	2.3.1	Full compliance	**Achieved** Compliance maintained following a recertification audit, completed 18-19 October 2011	Water collection, treatment and delivery	Healthy environment	Provide high-quality drinking water
Water treatment plant and distribution system gradings will be maintained or improved	2.4.1	Te Marua – A1	**Achieved**			
	2.4.2	Waterloo – B	**Achieved**			
	2.4.3	Wainuiomata – A1	**Achieved**			
	2.4.4	Gear Island – A1	**Achieved**			
	2.4.5	Distribution system – a1	**Achieved**			
Operate a quality management plan for the Stuart Macaskill Lakes	2.5.1	Plan will be reviewed annually	**Achieved**			
Objective 3 – Ability to meet current and future demand						
Maintain reservoir levels and distribution system pressure as per the draft Bulk Water Supply Agreement	3.1.1	Reservoirs at least 60% full for at least 98% of the time	**Mainly achieved** 99.8% compliance, where 100% is achieved. Out of the 540 reservoir-months: • There were 53 reservoir-months in total when the level was below target (9.8%) • 44 of these were due to customer-derived events (8.1%) • 8 of these were due to GW planned and pre-notified maintenance (1.5%) • 1 of these was due to GW unanticipated faults or works (0.2%)	Water collection, treatment and delivery	Essential services	Ensure there is a secure water supply
	3.1.2	Reservoirs at least 70% full for at least 90% of the time	**Mainly achieved** 99.8% compliance, where 100% is achieved. Out of the 540 reservoir-months • There were 71 reservoir-months in total when the level was below target (13.1%) • 64 of these were due to customer-derived events (11.9%) • 6 of these were due to GW planned and pre-notified maintenance (1.1%) • 1 of these was due to GW unanticipated faults or works (0.2%)			
	3.1.3	Thorndon pressure between 80 and 100 metres head for at least 98% of the time	**Achieved** The average achievement was 99.8%. The target was achieved for each month			
	3.1.4	Thorndon pressure above 85 metres head for at least 90% of the time	**Mainly achieved** We achieved the target for 8 of 12 months – the average compliance level for these months was 92%. We did not achieve this target for September 2011 and April to June 2012, because of maintenance, adjustments made to the system to cope with the record low demand conditions and adapting to network modifications that affected headloss in that area			

Service level statement	**Target ref.**	**Target**	**Achievement** and 2011/12 commentary	**Activity**	**Community outcomes**	**Objective** *(10-Year Plan,* p86*)*
Sufficient water is available to meet the unrestricted (other than by routine hosing restrictions) demand in all but a drought situation that has a severity equal to or greater than a 1 in 50-year drought	3.2.1	Calculate shortfall probability by 30 June each year	**Achieved** The Annual Shortfall Probability for the bulk water supply as at 30 June 2012 was 1.5% (67 year return period). This is based on an estimated population supplied of 395,250 and excludes the benefit of increasing storage capacity in the Stuart Macaskill Lakes	Water collection, treatment and delivery	Essential services	Ensure there is a secure water supply
	3.2.2	Identify options for developing and extending the water supply infrastructure, including new sources, as required, to ensure that sufficient water is available to meet demand	**Achieved** Modelling shows that the existing bulk water supply system can support a population of 405,000 at 2% annual shortfall probability (ASP). A population of 414,000 can be supported at 2% ASP with the Stuart Macaskill Lakes storage increase currently in progress until 2019. The change in modelled performance since last year is due to the effect of a reduction in per capita demand from 404 L/p/d to 387 L/p/d. Modelling is also in progress to assess the benefits of various water supply development options			
Objective 4 – Working sustainably						
Comprehensive details, including age and condition rating, of all assets and equipment will be recorded in the Asset Management System (SAP)	4.1.1	All new equipment will have details recorded in SAP within three months of commissioning	**Achieved**	Water supply infrastructure	Essential services	Asset management principles (*10-Year Plan 2009-19,* p95)
	4.1.2	Each year the condition of assets falling within 4 years of their predicted life in the previous 12 months will be assessed	**Mainly achieved** As at 30 June, we were close to finishing a condition assessment for all above-ground assets. 95% of this information has been imported into the SAP Asset Management System and summary results included in the draft Asset Management Plan. Preliminary analysis indicates that water treatment plant and pump station equipment is generally in very good condition			
Maintenance plans are produced for all equipment and critical maintenance is not deferred	4.2.1	All new equipment will have maintenance plans in place within three months of commissioning	**Achieved**			
	4.2.2	95% of compliance-related maintenance activities are carried out on time	**Achieved** 96% of compliance-related maintenance activities were completed on time			
A comprehensive AMP is in place to guide maintenance, renewal and replacement programme so that assets are replaced or refurbished to maintain overall asset condition rating	4.3.1	The Asset Management Plan (AMP) is updated annually and peer-reviewed every three years, in line with Long-Term Plan (LTP) preparation	**Achieved** The draft Asset Management Plan 2012 was reviewed by Audit NZ and was given a favourable report			

Service level statement	Target ref.	Target	**Achievement** and 2011/12 commentary	Activity	Community outcomes	Objective *(10-Year Plan,* p86*)*
	4.3.2	That the average asset condition meets the requirement of the AMP	**Achieved** There has been sufficient analysis of the asset condition assessment data to confirm that above-ground assets are generally in very good condition. Pipeline assets are mostly at the midpoint of their life-cycle and meet functional requirements. Results are included in the draft AMP, due for completion in early 2012/13	Water supply infrastructure	Essential services	Asset management principles (*10-Year Plan 2009-19,* p95)
	4.3.3	Consult with the customer territorial authorities regarding the content of each proposed Capital Works Programme (Annual Plan)	**Achieved** The 2012/13 Annual Plan Capital Works Programme was presented to customers on 4 May 2012			
Projects are managed to meet quality, time and cost standards	4.4.1	For 80% of projects on the key improvement programme (KIPs), the full-year expenditure is within 5% of 3rd quarter forecast, 10% of 2nd quarter forecast and within 25% of allocated budget	**Not achieved** 44% of projects were within 5% of the 3rd quarter forecast, 25% of projects were within 10% of the 2nd quarter forecast and 19% of projects were within 25% of the allocated budget (there were 16 KIPs for the 2011/12 year)			
	4.4.2	90% of projects that are scheduled to be complete within the current year are complete within the current year	**Achieved** 94% of projects scheduled to be complete by 30 June 2012 were completed			
Maintain an active, up to date, health and safety management system that helps achieve the requirements of the HSEA	4.5.1	Health and Safety system meets the requirements of the ACC Workplace Safety Management Practices Standards (secondary level)	**Achieved** Certified to 30 November 2013	n/a	n/a	n/a
	4.5.2	All building Warrants of Fitness are current	**Achieved**	Water supply infrastructure	Essential services	Asset management principles (*10-Year Plan 2009-19,* p95)
	4.5.3	The ratio of proactive to reactive health and safety reports will be no less than 2:1	**Achieved** 46:1 proactive to reactive reports ratio	n/a	n/a	n/a
	4.5.4	The lost-time injury frequency rate will be less than one incident per 10,000 hours worked	**Achieved** There were no lost-time injuries			
	4.5.5	The lost-time injury severity rate will be less than one day per 10,000 hours worked	**Achieved** There were no lost-time injuries			
Ability – our staff have the knowledge, skills and competence to perform the role they are in	4.6.1	Annual Training and Development Plans are in place for all staff	**50% achieved** Project continuing			
	4.6.2	All annual competence-based training activities and 85% of development-based training activities are complete by June	**50% achieved** Project continuing			
Motivation – our staff are engaged and feel valued	4.7.1	The ratio of days worked to sick days is greater that 30:1 (based on 224 working days/year)	**Not achieved** 29:1 hours worked to hours sick leave. A long-serving staff member was off work for the majority of the year. If we exclude this, the ratio is 45:1			

Service level statement	**Target ref.**	**Target**	**Achievement** and 2011/12 commentary	**Activity**	**Community outcomes**	**Objective** *(10-Year Plan,* p86*)*
Direction – our staff know what is expected and understand the priorities	4.9.1	Conduct six-monthly performance review discussions with all staff	**Achieved**	n/a	n/a	n/a
	4.9.2	Conduct annual review of job descriptions (at the end of year performance review)	**Achieved**			
Be aware of, comply with, and report on compliance with all legislation, regulations, bylaws and standards that are relevant to the environmental performance of Greater Wellington's Water Supply Group	4.10.1	Achieve full compliance with all resource consents	**Mainly achieved** Out of the 96 resource consents we held, we incurred two minor technical non-compliances – see "Compliance with resource consents, p16"	Water collection, treatment and delivery Water supply infrastructure	Essential services	Minimise the environmental effects of water supply
	4.10.2	Maintain a list of all relevant legislation and review annually	**Achieved**			
	4.10.3	All trade waste permits are kept current	**Achieved**	Water collection, treatment and delivery	Essential services	Minimise the environmental effects of water supply
	4.10.4	All HSNO location test certificates are current	**Achieved**			
	4.10.5	All HSNO stationary container test certificates are current	**Achieved**			
Adopt all practicable means to prevent pollution of the environment	4.11.1	All solid waste will be disposed of to a properly consented landfill	**Achieved**			
	4.11.2	All liquid waste will be removed and disposed of by the correct codes of practice	**Achieved**			
	4.11.3	All accidental discharges of substances with the potential of harming the environment will be recorded, with a target of zero	**Achieved** All discharges monitored – no accidental discharges			
	4.11.4	Chemical delivery and spillage procedures are current and audited annually	**Achieved**			
Conserve non-renewable resources such as fuels, energy and materials and minimise waste	4.12.2	Monitor for water losses and report on trends quarterly	**Achieved** Monitored weekly; distribution inefficiency (the difference between production and supply) was 1.4% – within the error margin for our revenue meters (+/- 2%)			
	4.12.4	Carry out water conservation programmes and report on effectiveness by June each year	**Achieved** See "Public engagement with water conservation", p13	Water conservation programmes	Essential services	Ensure there is a secure water supply Minimise the environmental effects of water supply
	4.12.5	Prepare an annual plan for pump efficiency testing and complete at least 80% of testing by June	**Achieved** 100% of the planned pump performance testing programme was completed by 30 June 2012. As a result, Wellington Pump 3 will be refurbished in 2012/13 – justified on a payback basis	Water collection, treatment and delivery	Essential services	Minimise the environmental effects of water supply Controlling costs and the water levy (*10-Year Plan 2009-19*, p88)

Service level statement	**Target ref.**	**Target**	**Achievement** and 2011/12 commentary	**Activity**	**Community outcomes**	**Objective** (*10-Year Plan*, p86)
Consider the environmental implications of business decisions	4.13.1	Provide awareness training for all staff and specific training to all staff whose actions have potential environmental impacts – within three months of commencing employment	**Not achieved** Four new staff joined during the year. The awareness training was delayed due to staff resources being fully committed on other projects	Water collection, treatment and delivery	Essential services	Minimise the environmental effects of water supply
	4.13.2	Include environmental performance as an attribute when assessing quotations for all major works and supply contracts	**Not achieved** The tender documents for the Stuart Macaskill Lakes upgrade and seismic work did not include environmental performance as an attribute for assessing the tenders	Water collection, treatment and delivery Water supply infrastructure	Essential services	Minimise the environmental effects of water supply
	4.13.3	An environmental aspect and impact assessments will be completed for all new activities and projects	**Achieved**	Water supply infrastructure	Essential services	Minimise the environmental effects of water supply
Operate an environmental management system that is certified to ISO 14001	4.14.1	Achieve full compliance	**Achieved** Compliance was maintained following a recertification audit, completed 18-19 October 2011. There was one minor non-conformance, which has been resolved	Water collection, treatment and delivery	Essential services	Minimise the environmental effects of water supply
Objective 5 – Being cost-effective						
Ensure that the actual direct operating costs do not exceed the budgeted value	5.1.1	Full-year costs are within budget	**Achieved** Total costs were $22.21 million versus budget of $22.38 million	Water collection, treatment and delivery	Essential services	Controlling costs and the water levy (*10-Year Plan 2009-19*, p88
Areas of significant operational expenditure will be routinely monitored and opportunities for cost reduction will be identified	5.2.1	Unfavourable variances greater than $20,000 or 10% of budget are identified and reported on monthly	**Achieved**			
	5.2.2	Monitor power use, produce monthly summaries and report quarterly on performance and trends	**Mainly achieved** Development of the EnergyPro web-based electricity use dashboard has significantly improved reporting capability, however review of these results needs to extend through the water supply management team			
	5.2.3	Monitor chemical use, produce monthly summaries and report quarterly on performance and trends	**Achieved**			
Practice prudent financial management	5.3.1	Ensure that the asset value recorded in the financial statements is materially correct. Desktop valuations will carried out annually and full valuations carried out every three years	**Achieved**	Water supply infrastructure	Essential services	Asset management principles (*10-Year Plan 2009-19*, p95)

Service level statement	Target ref.	Target	**Achievement** and 2011/12 commentary	Activity	Community outcomes	Objective *(10-Year Plan,* p86*)*
	5.3.2	The risk from overseas purchases will be minimised by purchasing financial currency hedges for purchases valued at over $100,000, or with delivery times longer than one year	**Achieved** No purchases were made that met the criteria in 2011/12	Water supply infrastructure	Essential services	Controlling costs and the water levy (*10-Year Plan 2009-19*, p88)
	5.3.3	Asset insurance cover is reviewed annually to insure that there is sufficient cover for maximum probable loss, through a mix of external insurance and reserve fund, so that the financial impact of any natural disaster is minimised	**Achieved** Our maximum probable loss cover is $43.9 million, the GW reserve fund is $17.0 million, our insurance top-up is $26.8 million			

Financial statements

These financial statements are extracts from Greater Wellington's audited financial statements.

COMPREHENSIVE INCOME STATEMENT

For the year ended 30 June

	Notes	2012 Actual $000	2012 Budget $000	2011 Actual $000
Operating revenue				
Water supply levies		24,164	24,164	23,460
Internal revenue		2,231	2,207	2,265
Other revenue (interest and external)	1	1,007	927	1,326
Total operating revenue		**27,402**	**27,298**	**27,051**
Operating expenditure				
Personnel costs		4,358	4,301	4,125
Contractor and consultant costs		1,867	2,121	2,058
Internal consultant costs	2	3,508	2,999	2,917
Interest costs		3,204	3,665	2,538
Depreciation		8,334	8,359	8,214
Loss/(gain) on sale		388	(109)	(4)
Movement in doubtful debt provision		-	-	-
GW overhead charge		1,051	1,051	937
Operating expenditure	3	8,220	8,239	7,185
Total operating expenditure		**30,930**	**30,626**	**27,970**
Net operating surplus/(deficit) for the year		**(3,528)**	**(3,328)**	**(919)**
Other comprehensive income				
Unrealised revaluation gains (losses)		-	-	-
Other reserve and equity movements		-	-	-
Total comprehensive income for the year		**(3,528)**	**(3,328)**	**(919)**

STATEMENT OF CHANGES IN EQUITY

For the year ended 30 June

	2012 Actual $000	2012 Budget $000	2011 Actual $000
Equity as at 1 July	**305,063**	**305,615**	**305,550**
Total comprehensive income for the year	(3,528)	(3,328)	(919)
Other reserve and equity movements	265	-	432
Equity as at 30 June	**301,800**	**302,287**	**305,063**
Components of equity:			
Closing accumulated funds	200,401	200,673	203,557
Closing other reserves	216	216	108
Closing asset revaluation reserve	101,183	101,398	101,398
Equity as at 30 June	**301,800**	**302,287**	**305,063**

The accompanying notes and accounting policies should be read in conjunction with these financial statements.

BALANCE SHEET

As at 30 June

	Notes	2012 Actual $000	2012 Budget $000	2011 Actual $000
Equity				
Closing accumulated funds as at 30 June		**301,800**	**302,287**	**305,063**
Represented by:				
Non-current liabilities				
Public debt	4	48,892	47,295	43,467
Total non-current liabilities		**48,892**	**47,295**	**43,467**
Current liabilities				
Accounts payable		1,245	2,179	1,697
Employee entitlements		474	-	482
Total current liabilities		**1,719**	**2,179**	**2,179**
Total liabilities		**50,611**	**49,474**	**45,646**
Non-current assets				
Property, plant and equipment	5	329,137	328,269	328,349
Intangible assets	6	338	338	464
Investments	7	18,200	18,202	16,943
Total non-current assets		**347,675**	**346,809**	**345,756**
Current assets				
Accounts receivable		2,602	2,618	2,619
Stocks	8	2,145	2,217	2,217
Accrued revenue/prepayments		(11)	117	117
Total current assets		**4,736**	**4,952**	**4,953**
Total assets		**352,411**	**351,761**	**350,709**
Total net assets		**301,800**	**302,287**	**305,063**

The accompanying notes and accounting policies should be read in conjunction with these financial statements.

FUNDING STATEMENT

For the year ended 30 June

	Notes	2012 Actual $000	2012 Budget $000	2011 Actual $000
Funds from operating activities				
Funds were provided from:				
Water supply levies received		24,164	24,164	23,460
Internal revenue		2,231	2,207	2,265
Interest received		660	647	894
Other revenue		347	280	432
Total operating revenue		**27,402**	**27,298**	**27,051**
Funds were applied to:				
Internal charges		4,559	4,050	3,854
Payments to suppliers and employees		14,446	14,662	13,367
Interest paid on public debt		3,204	3,665	2,538
		22,209	**22,377**	**19,759**
Net funds from operating activities	9	**5,193**	**4,921**	**7,292**
Funds from investing activities				
Funds were provided from:				
Proceeds from sale of non-current assets		142	117	22
		142	**117**	**22**
Funds were applied to:				
Purchase/transfer of non-current assets		466	502	1,239
Capital projects		9,037	16,307	6,259
		9,503	**16,809**	**7,498**
Net funds from investing activities		**(9,361)**	**(16,692)**	**(7,476)**
Funds from financing activities				
Funds were provided from:				
Appropriations/new loans		9,037	14,466	7,264
Transfer from reserves		(108)	108	245
		8,929	**14,574**	**7,509**
Funds were applied to:				
Repayment of public debt		3,613	1,756	5,994
Transfer to reserves				108
Investment additions		1,148	1,047	1,223
Loss on sale of assets		-	-	-
		4,761	**2,803**	**7,325**
Net funds from financing activities		**4,168**	**11,771**	**184**
Net funding surplus/(deficit)		**-**	**-**	**-**

The accompanying notes and accounting policies should be read in conjunction with these financial statements.

Notes to the Financial Statements

For the year ended 30 June

1. STATEMENT OF ACCOUNTING POLICIES

A Reporting entity

The Greater Wellington Regional Council is a regional local authority governed by the Local Government Act 2002. For the purposes of financial reporting Greater Wellington is designated as a public benefit entity. The entity, Greater Wellington Water (GWW) collects, treats and distributes potable water to the four Territorial Authority customers.

B Statement of compliance

These financial statements have been prepared in accordance with the requirements of the Local Government Act 2002 and New Zealand Generally Accepted Accounting Practices (NZ GAAP).

These financial statements are prepared in accordance with New Zealand equivalents to the International Financial Reporting Standards (NZ IFRS), as appropriate for public benefit entities.

Accounting judgements and estimations

The preparation of financial statements in conformity with NZ GAAP requires management to make judgments, estimates and assumptions that affect the application of policies and reported amounts of assets and liabilities, income and expenses. The estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances. These results form the basis of making the judgments about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised, when the revision affects only that period. If the revision affects current and future periods, it is reflected in those periods.

C Accounting policies

Basis of preparation

The financial statements are presented in New Zealand dollars, rounded to the nearest thousand. The financial statements have been prepared on a historical cost basis except for certain infrastructural assets that have been measured at fair value. The accounting policies set out below have been applied consistently to all periods presented in these financial statements.

The following particular accounting policies, which materially affect the measurement of results and financial position, have been applied.

Budget figures

The budget figures are those approved by the Council at the beginning of the year in the Annual Plan. The budget figures have been prepared in accordance with NZ GAAP, using accounting policies that are consistent with those adopted by Greater Wellington for the preparation of these financial statements.

Water supply levies

Levies, a statutory annual charge, represent charges to the Territorial Authorities for the collection, treatment and distribution of potable water. Levies are recognised in the year the charges are raised.

Property, plant and equipment

Property, plant and equipment consists of operational and infrastructure assets. Expenditure is capitalised when it creates a new asset or increases the economic benefits over the total life of an existing asset. Costs that do not meet the criteria for capitalisation are expensed.

The initial cost of property, plant and equipment includes the purchase consideration and those cost that are directly attributable to bringing the asset into the location and condition necessary for its intended purpose.

Property, plant and equipment are categorised into the following classes:

- Regional water supply infrastructural assets
- Regional water supply administrative buildings
- Regional water supply minor equipment
- Regional water supply motor vehicles
- Regional water supply capital work in progress

All property, plant and equipment are initially recorded at cost.

Stocks

Chemical stocks and spares used for maintenance and construction purposes are valued at the lower of cost or net realisable value on a first-in first-out basis. This valuation includes allowances for slow moving and obsolete stocks. Stocks of pipes and ancilliary fittings are also held as a contingency to aid in the rehabilitation of the water supply network in the event of a major untoward event, such as an earthquake.

Depreciation

Depreciation is provided on a straight-line basis on all tangible property, plant and equipment other than land and capital works in progress, at rates which will write off assets, less their estimated residual value over their remaining useful lives.

The useful lives of major classes of assets have been estimated as follows:

- Regional water supply infrastructural assets – 3 to 150 years
- Regional water supply administrative buildings – 10 to 50 years
- Regional water supply minor equipment – 3 to 15 years
- Regional water supply vehicles – 5 to 10 years

Capital work in progress is not depreciated.

Intangible assets

Software is carried at cost less any accumulated amortisation and impairment losses. It is amortised over the useful life of the asset as follows:

- Software – 1 to 5 years

Accounts receivable

Accounts receivable are stated at estimated net realisable value after allowing for a provision for doubtful debts. Specific provisions are maintained to cover identified doubtful debts.

All known losses are expensed in the period in which it becomes apparent that the receivables are not collectable.

Goods and services tax

All items in the financial statements are stated net of GST, with the exception of receivables and payables, which are stated as GST inclusive.

Employee entitlements

A provision for employee entitlements is recognised as a liability in respect of benefits earned by employees but not yet received at balance date. Employee benefits include salaries, annual leave and long service leave. Where the benefits are expected to be paid for within 12 months of balance date, the provision is the estimated amount expected to be paid by the Group. The provision for other employee benefits is stated at the present value of the future cash outflows expected to be incurred. Obligations for contributions to defined contribution superannuation schemes are recognised as an expense in the Income Statement as incurred.

Funding statement

The following are the definitions of the terms used in the funding statement:

- Cash means cash balances on hand, held in bank accounts, demand deposits and other highly liquid investments in which the Group invests as part of its day-to-day cash management
- Operating activities include cash received from all income sources of the Group and the cash payments made for the supply of goods and services
- Investing activities are those activities relating to the acquisition and disposal of non-current assets
- Financing activities comprise the change in equity and debt capital structure

Changes in accounting policies

There have been no changes from the accounting policies adopted in the last audited financial statements.

2. INTERNAL CONSULTANT COSTS AND REVENUE

These statements contain internal transactions that are eliminated on the consolidation of Greater Wellington's statements. Previous statements had these transaction eliminated. They have now been included to aid direct comparison of these figures to the Council's Annual Report and Long-Term Plan.

3. OPERATING EXPENDITURE

Operating expenditure comprises payments for transportation costs, plus materials and supplies, such as chemicals and power.

4. LONG-TERM PUBLIC DEBT

	2012 Actual $000	2011 Actual $000
Balance at 1 July	**43,467**	**42,197**
New loans	9,037	7,264
Operating cash surplus applied to debt repayment	(3,613)	(5,994)
Balance at 30 June	**48,892**	**43,467**

All public debt obligations are fully secured against the rateable property of Greater Wellington Regional Council. The interest rate charged on the facility as at 30 June 2012 was 7.00% p.a. (30 June 2011: 6.00% p.a.). Any operating cash surplus is used to retire debt.

5. PROPERTY, PLANT AND EQUIPMENT

2012	Deemed cost $000	Revaluation reserve $000	Accumulated depreciation $000	Net book value $000
Land	2,926	4,941	-	7,867
Water supply infrastructure	245,401	96,242	30,363	311,280
Office equipment	311	-	256	55
Plant and equipment	393	-	354	39
Motor vehicles	1,529	-	920	609
Work in progress	9,287	-	-	9,287
	259,847	**101,183**	**31,893**	**329,137**

2011	Deemed cost $000	Revaluation reserve $000	Accumulated depreciation $000	Net book value $000
Land	2,925	4,941	-	7,866
Water supply infrastructure	236,075	97,773	22,627	311,221
Office equipment	304	-	225	79
Plant and equipment	393	-	338	55
Motor vehicles	1,390	-	1,050	340
Work in progress	8,788	-	-	8,788
	249,875	**102,714**	**24,240**	**328,349**

Regional water supply plant and equipment assets were revalued by John Freeman, FPINZ, TechRICS, MACostE, Registered Plant and Machinery Valuer, a Director of CB Richard Ellis at 30 June 2008 using Optimised Depreciated Replacement Cost (ODRC) methodology. Water supply buildings were revalued by Paul Butcher, BBS, FPINZ, Registered Valuer, a Director of CB Richard Ellis at 1 July 2008 using Optimised Depreciated Replacement Cost (ODRC) methodology. Further asset revaluations are planned for 2012. Water Supply Infrastructure Assets are defined as those assets which make up the supply and distribution of water and these are valued at their component levels respectively. GWW's asset information system holds detailed valuation information on each item. Property, plant and equipment have been accounted for in accordance with NZ IAS 16.

6. INTANGIBLE ASSETS

2012	Deemed cost $000	Revaluation reserve $000	Accumulated depreciation $000	Net book value $000
Computer software	1,436	-	1,098	338

2011	Deemed cost $000	Revaluation reserve $000	Accumulated depreciation $000	Net book value $000
Computer software	1,436	-	972	464

7. INVESTMENTS

	2012 Actual $000	2011 Actual $000
Asset rehabilitation fund	18,092	16,835
General reserve	108	108
	18,200	**16,943**

The Water Group contributes annually to an asset rehabilitation fund. Interest earned on the fund is capitalised annually. Insurance is purchased to cover the difference between the value of the fund and the maximum probable loss resulting from a major earthquake affecting the Wellington Fault.

8. STOCKS

	2012 Actual $000	2011 Actual $000
Chemicals	308	353
Capital spares	1,837	1,864
	2,145	**2,217**

Chemical stocks represent those stocks held to reasonably cover operating requirements in the foreseeable future. Capital spares include seismic stock held to make emergency repairs in the event of a major untoward event such as earthquake.

9. RECONCILIATION OF FUNDS FROM OPERATIONS TO OPERATING SURPLUS

	2012 Actual $000	2011 Actual $000
Reported surplus/(deficit)	(3,528)	(919)
Add/(less) non-cash items:		
Depreciation	8,334	8,214
Reserve movements	-	-
Loss/(gain) on sale	388	(4)
Total non-cash items	8,722	8,210
Net cash flow from operating activities	**5,193**	**7,292**

11. FINANCIAL INSTRUMENTS

Currency risk

The Water Supply Group had no foreign currency exposure at 30 June 2012.

Credit risk

Financial instruments which expose Greater Wellington Water to credit risk are principally bank balances, receivables and investments. A provision for doubtful receivables has been maintained and the subject of a regular review. Bank accounts are held with New Zealand registered banks in accordance with Greater Wellington Water 's policy.

Concentration of credit risk

Greater Wellington Water derives the majority of its income from the regional water supply levy. Regional water supply levies are collected from the four Wellington metropolitan city councils.

Interest rate risk

Greater Wellington Water's debt is managed by Greater Wellington's Internal Treasury unit. A fixed rate of interest is charged by the unit which minimises the exposure of Greater Wellington Water to interest rate fluctuations.

Fair values

The estimated fair values of all of the financial instruments of Greater Wellington Water are the book value of those investments.

12. RELATED PARTIES

Greater Wellington Water contracts from and to other groups of Greater Wellington for some operational services. All such transactions are carried out on normal commercial terms.

13. CONTINGENCIES

As at 30 June 2012, Greater Wellington Water had no contingent liabilities (June 2011 $314,000).

14. COMMITMENTS

Greater Wellington Water leases Level 4, Regional Council Centre from Greater Wellington on an arm's length basis. As at 30 June 2012, Greater Wellington Water had capital works programme contractual commitments of $4,392,320 (30 June 2011: $2,185,000).

Social and Cultural Wellbeing Committee members

The Greater Wellington Regional Council established the Social and Cultural Wellbeing Committee in November 2010. The committee comprises eight members. Its membership at 30 June 2012 was:

Cr Nigel Wilson (Chair)

Cr Sandra Greig (Deputy Chair)

Cr Judith Aitken

Cr Jenny Brash

Cr Paul Bruce

Cr Prue Lamason

Cr Paul Swain

Cr Fran Wilde

Kim Skelton
Appointee, representing the interests of the Iwi of the Wellington region

Water Supply management team

At 30 June 2012, the management team members of the Water Supply Group with responsibilities for wholesale water supply were:

Chris Laidlow
(Group General Manager)

Noel Roberts
(Operations Manager)

Geoff Williams
(Team Leader, Assets and Compliance)

John Duggan
(Team Leader, Engineering and Projects)

Andrew Samuel
(Team Leader, Marketing)

Murray Ruddell
(Group Accountant)

Water, air, earth and energy – elements in Greater Wellington's logo that combine to create and sustain life. Greater Wellington promotes **Quality for Life** by ensuring our environment is protected while meeting the economic, social and cultural needs of the community

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