Water Conservation & Efficiency Plan

ERG Update

Appendices

WCC webpage re water tanks (page 4)

Capacity webpage re water tanks (page 6)

GWRC webpage re water tanks (page 9)

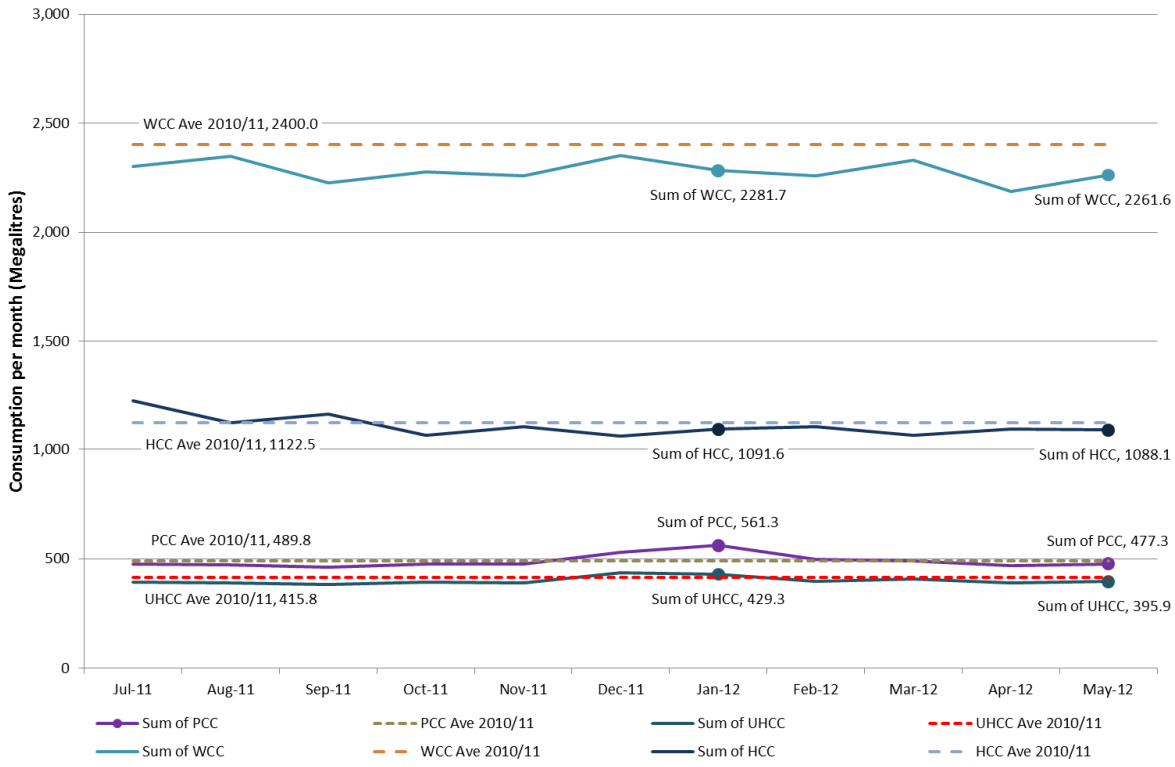
Water Conservation and Efficiency Plan (attached)

Background

In 2011 Wellington City Council formally adopted a "*Water Conservation and Efficiency Plan*" (WCEP) in order to manage the expected demand increases from population growth and climate change.

The WCEP is designed to spread the load of water conservation across the entire community.

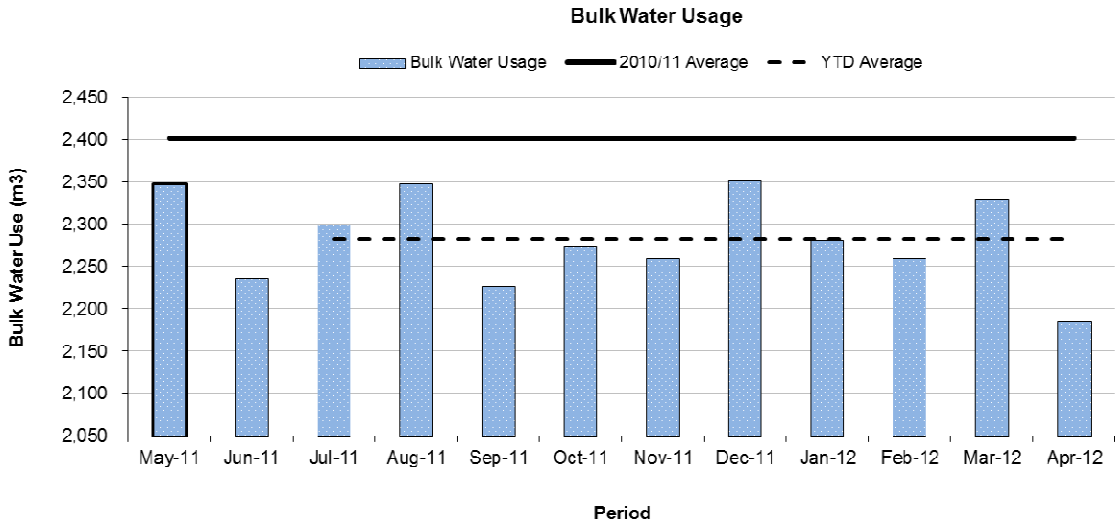
Regional water consumption



As can be seen above all four TA's are tracking below their respective average monthly consumption from 2010/11 – Wellington City Council's consumption is the only TA that shows a marked reduction over the previous year's average.

Wellington City's water consumption

Wellington (as a city) continues to see a reduction over previous year's consumption. The graph below shows that monthly consumption has fallen from around 2,400 megalitres per month to around 2,280 megalitres per month.



WCEP activities

The following work has been completed within the WCEP:

(Work underway or planned for implementation over the following quarter is *italicized*)

- Water Services Bylaw 2012 (Activity 2).
  - The adoption of the Water Services Bylaw enables Council to address leaks on private property through a prescribed communications process and undertaken enforcement of water restrictions where required.
  - The bylaw also requires commercial customer to be on a metered supply – Capacity field staff are undertaking physical surveys for un-metered commercial premises.
  - The bylaw also enables new connections to be built to a required standard.
- Top 25 commercial users (Activity 6).
  - Contact has been made with CentrePort following the analysis over water consumption against seasonal requirements and ship visits. Through this time consuming but effective engagement with the customer a number of anomalies were identified that are now being investigated.

    If proven correct it appears that CentrePort may be able to reduce their consumption by about 96,000 litres per day (35,040,000 per annum).
  - *Continued monitoring of the remotely read (daily readings) meters will allow for other issues to be identified*.
  - *Options for approaching Taylor Preston in order to make better use of the remotely read meters installed on their sites are being investigated. It is likely that these will be presented to Taylor Preston in July.*

-
- Community engagement, education and information programme (Activity 1).
  - *Options for disseminating information are being assessed; these include:*
    - *Utilising the rates' notice to include mail outs.*
    - *Increased 'Our Wellington' page messaging.*
    - *Increased exposure through libraries and public buildings.*
- Leak detection (Activity 7).
  - Leak detection is already proving to be effective in bringing down the city's consumption figures – this is through targeted programmes based on historical consumption and the information collected via the city's area meters.
  - *Increased leak notification for leaks on the public network and the public space is intended through the expansion of a text alert system where members of the public can text WCC advising of a leak (on a public pipe, toby, hydrant or public space such as a park, toilet, tap etc.)*

Reporting

A report to Council highlighting work to date, regional coordination and upcoming programmes will be completed in September 2012.

Rainwater tanks

GWRC have made the following comments regarding rainwater tanks for the Wellington Region:

> "Household rainwater tanks have also been mooted as a way to both conserve water and indefinitely delay the need for a new water source. Greater Wellington continues to encourage households to store water for an emergency, and the Canterbury earthquakes have demonstrated the value of household emergency water tanks. However, the results of a Water Group-commissioned investigation into the cost-benefit of installing household water tanks in the four cities – to replace reticulated supply for some uses – show that they wouldn't provide an economic alternative to bulk storage or offer sufficient stored water when it really counts – toward the end of a very dry summer."[1]
>
> "RAINWATER TANK INVESTIGATION
>
> Advocates of household rainwater collection and storage see it as a more sustainable alternative to expansion of the public water supply. However, recent modelling of the monetary costs and benefits involved has not supported that view.
>
> In 2010, we had consultants Harrison Grierson model the use of rainwater tanks for household toilet flushing and outdoor uses in Wellington. Modelling covered a range of tank and roof sizes, and house occupancy rates, for both normal and dry rainfall years. Harrison Grierson's report was received this year and found no financial imperative for householders to install a suitably sized rainwater tank, given the very low marginal-cost saving expected from reduced use of water from the public supply.
>
> The cost of a publicly funded programme of tank installations would be many times more expensive than new bulk water storage, while providing much less storage capacity.
>
> We also investigated the use of domestic water storage tanks for emergency use only. The Christchurch earthquakes demonstrated clearly the value of household emergency water tanks in providing a degree of self-sufficiency immediately after the event, and avoiding the need to queue at city water points daily to collect and carry water. Our analysis shows that 750-1,000 litres of stored water should provide a sufficient emergency supply of water for many households, particularly when the tanks are able to refill from rainwater off the roof. Greater Wellington will

[1] GWRC "Water Supply Annual Report (for the year ending June 2011)", Wellington 2011 (page 5)

continue to promote the use of rainwater tanks for emergency readiness."[2]

[2] GWRC "Water Supply Annual Report (for the year ending June 2011)", Wellington 2011 (page 12)

WCC water conservation webpage

Save Water

When it comes to conserving water, every drop counts - a dripping tap can waste up to 90 litres of water a day.

Here are some easy things you can do to help conserve our water:

turn taps off while you shave, and brush your teeth

run your dishwasher only when it's full

turn your taps off properly and repair dripping taps

store drinking water in the fridge instead of running the tap cold.

The Council's Water Conservation Efforts

The Council is serious about saving water and does this through:

- watering our grounds and gardens responsibly
- monitoring water consumption and water restriction compliance throughout the city
- running a public education campaign on water conservation and water restrictions
- installing water efficient devices on social housing units as part of the housing upgrade project.

The Council's plan for water conservation and efficiency is detailed in:

Water Conservation and Efficiency Plan

Help Plug Any Water Leaks

The Council responds to about 12,000 calls annually to fix leaks and other water problems.

If you see water leaking from a hydrant, a toby (your main water shut-off valve) or anywhere else, contact the Council or use the online form:

Council Contact Centre

Phone: (04) 499 4444

Freetext: 3400

Fix It - Repair Request Form

Water Shortage

During periods of drought, the shortfall is currently made up by water supplied from the Stuart Macaskill Lakes at Te Marua.

As part of a Greater Wellington Regional Council project to upgrade Te Marua water storage lakes, one lake has been drained. This has halved the stored water supply available to Wellington, Lower and Upper Hutt and Porirua.

This could lead to a water shortage if Wellington has a warm and dry spring or summer.

Remember that garden watering restrictions are in place all year. Water patrols operate over summer to make sure people are using water in the garden as and when they should.

For more information on the upgrade of the water storage lakes, see:

- Water Supply Upgrade Begins - Greater Wellington Regional Council website
- News - Help by Saving Water - 31.10.11

Water Restrictions

During periods of high demand, the Council places greater restrictions on some uses of water, such as watering gardens. This is to make sure that the primary needs of the city can be met like supplying drinking water to homes, hospitals and the commercial sector.

Sprinklers & Garden Hoses:

Year-round restrictions apply. Use sprinklers and garden hoses 6.00am - 8.00am and 7.00pm - 9.00pm on alternate days. If you have an even-numbered address, you can use sprinklers on even days of the month and vice versa.

Hand-held Hose or Watering Can:

May be used at any time.

Water Your Garden Efficiently

Wellington's highest water use happens in summer when more water is used outside, particularly on gardens.

Quick Fact:

In summer, if every Wellington household turned on a garden hose for 1 hour a day, 70 million extra litres of water would be used - almost double Wellington's daily winter use.

You can still keep your plants well watered by following these tips:

Check soil moisture - if your soil is moist 10cm below the surface, you don't need to water.

Water in cool, settled weather - water your garden on calmer days, in the cool of early morning or in the evening.

Aim low and slow - water close to the ground at a rate the soil can absorb.

Using a sprinkler - established plants should only need 30 minutes watering once or twice a week in dry weather.

Use mulch - mulch protects your soil from the drying effects of wind and sun, and can cut evaporation by 70%.

Saving Water in the Garden (151Kb PDF)

Water Conservation at Home - Capacity website

Related Links

- Be the Difference - Greater Wellington Regional Council website
- Car Washing - Greater Wellington Regional Council website
- Housing Upgrade
- News - Water Conservation - 20.12.10
- Water Efficiency Labelling Scheme - Ministry for the Environment website
- Wellington Water Charter (229Kb PDF) | Text version (455Kb Doc)

Capacity rainwater tank webpage

Your water

- Water conservation at home
  - Setting up a rainwater tank
- Drinking water
- Wastewater
- Stormwater
- Who owns what
- Approved water supply contractors

Setting up a rainwater tank

Installing a rainwater tank to collect water for outdoor use is easy to do, and in most situations, you won't need a building consent.

Rewi Elliot puts stored rainwater to good use at Otari-Wilton's Bush.

So you want to install a rainwater tank?

Diverting rainwater from your downpipe to a storage tank is a great way to reduce your use of treated water especially for gardening or outdoor cleaning.

It can also increase your options in the event of as water supply emergency.

It can be relatively simple to install a kit that diverts the 'first flush' of rain from your roof and gutters, which contains most of the contaminants, away from your tank, feeds clean water into your tank, then directs overflow back into your stormwater system.

Do I need council consent?

For Outdoor Use - urban areas.
If you're installing a typical (say, 2,000 litre) tank to collect rainwater for outdoor use only, such as garden watering or emergency supply, then as a general rule you don't need a building consent in Hutt City, Upper Hutt, Wellington or Porirua.

Please note however that other considerations may apply, such as the resource consent requirements for your area.

For example, if you were planning to put your tank on an elevated platform you would still need to observe the height and boundary limits that apply in your area, and there are capacity limits relating to height above ground as well. Call your local council if this applies to your situation

For indoor use
If you're planning to connect your rainwater tank to your toilet or washing machine, you will need a building consent.

This is to ensure pipe entry to the house is properly sealed, and that rainwater from your system can't enter the public water network. You will need a registered plumber to carry out this work for you.

And if you want to use if for drinking, you'll need to have the water treated or purified, and may need an annual inspection. Again, contact your local council's building consents team for details.

What else do I need to know?

You will need to regularly check and clean your gutters and should at least have a filter over the inlet to the tank. And remember rainwater collected from your roof is not suitable for drinking without treatment - you might consider affixing a sign near the outlet tap.

Why do it?

We drink or cook with only about 5% of the treated water that is piped to our homes. The rest ends up in the waste-water system, used for washing, cleaning, gardening or simply wasted.

Using a rainwater tank for garden or lawn watering can reduce your water use by around 20% - depending on your needs, of course.

Up to 65% of water use can be replaced by plumbing a rainwater collection system into your toilet and washing machine.

Read more about installing rainwater tanks at:

smarterhomes.org.nz/water/collecting-and-using-rainwater

The Department of Building and Housing's schedule of exempt building work has details regarding tank construction.

dbh.govt.nz/bc-no-consent-schedule-1#tanks-and

However please note that your local council may have other applicable guidelines, so if you have any questions, please contact them for guidance.

The Ministry of Health has a series of publications related to drinking water systems

health.govt.nz/our-work/environmental-health/drinking-water/drinking-water-publications

Council contact numbers
Wellington 499 4444

Hutt City 570 6666 (Ask to speak to the Eco Design Advisor, or e-mail ecodesign@huttcity.govt.nz)

Upper Hutt 527 2169

Porirua 237 5089

GWRC water conservation webpage

Our Environment

Our Environment » Bulk water supply » Water conservation

Water conservation

Use a bit less, make a big difference

With one storage lake 'down' this summer, there'll be less stored water for Porirua, Wellington, Upper Hutt and Lower Hutt, so there's more chance of a water shortage if the weather's fine.

Now more than ever, it's worthwhile to use a bit less water. If we all work together, we can ease the pressure on the water supply and avoid tough restrictions.

There are loads of easy ways to use a bit less – and help make a big difference – so please read on, pick something new that's simple for **you** and be water-smarter this summer.

Use a bit less – outside

- Mulch your garden to keep moisture in
- Control your hose with a flow 'trigger gun'
- Choose plants well suited to local conditions

More on water smart outdoor tips

Use a bit less – inside

- Fix leaks – taps, toilets and pipes
- Toilets – use an old plastic bottle to save a litre or two every flush
- Look for water-efficiency labels on appliances such as washing machines

More on water smart indoor tips

Why do we need to conserve water?

The water supply for Lower Hutt, Porirua, Upper Hutt and Wellington comes from several rivers and an aquifer (an underground water source). These sources are dependent on regular rainfall.

During spring and summer, long periods of low rainfall can restrict the amount of water available to treat and cause water use to increase – by as much as 50%. At these times our ability to supply enough water to meet demand can be tested.

Using a bit less water has environmental and cost benefits, and this summer, with only about half the usual reserves in our storage lakes to back up river and aquifer supplies, the risk of a shortage is higher than usual, so we'll need everyone to be ready to save a bit more water.

Find out more about why it's important to conserve water in the four cities.

Current watering restrictions

Check the current watering restrictions for Wellington, Porirua, Upper Hutt and Lower Hutt

Why conserve water?

The water supply for Lower Hutt, Porirua, Upper Hutt and Wellington comes from the Hutt, Wainuiomata and Orongorongo rivers and the Waiwhetu Aquifer (an underground water source) beneath the lower Hutt Valley, which are dependent on regular rainfall.

Our water supply system has relatively little storage capacity, so we rely largely on there being enough water each day from our rivers and aquifer to meet that day's public demand for water. In most months of most years we receive enough rainfall, but not always.

During spring and summer, long periods of low rainfall can restrict the amount of water available to treat and cause water use to increase - by as much as 50%. Our ability to supply enough water to meet demand at these times can be tested. Two water storage lakes, at Te Marua near Upper Hutt, help to make up for any shortage of water from our other sources, but even they don't guarantee we'll always have enough water to satisfy everyone's wants.

The population that we supply with water is steadily increasing and – at current levels of water use – we're nearing the design capacity of our existing water sources and supply assets, so meeting all demand is becoming increasingly uncertain during dry periods. In addition, with only about half the usual reserves in our storage lakes to back up river and aquifer supplies this summer, the risk of a shortage is higher, so we'll need everyone to be ready to save a bit more water.

Every litre of water that we supply requires electricity to pump it and treatment chemicals to make it clean and safe, and every litre that we treat contributes to the volume of waste that must be disposed of. Any reduction in water use therefore helps to reduce the impact on the environment of supplying water as well as reducing the monetary cost.

Careful use of water during summer is critical

The most extreme peaks in water use each year are largely due to high levels of garden watering on top of regular indoor use during summer. A garden sprinkler can easily deliver 20 litres of water every minute, which adds up to a bathful roughly every five minutes – so an hour of watering can use as much water as a typical family of four would need in total on a winter day. Few people realise how much water they may be using in their garden, but its easy to see how careless watering or leaving the tap on by accident can waste a lot of water. High water use usually occurs when it's dry and our rivers are low, so going easy with water under those conditions in critical, as a growing risk of water shortages will guide when new storage – estimated to cost tens of millions of dollars – will be built.

There are lots of fairly easy – and often cheap or free – ways to use a bit less water for everyday tasks, both indoors and out, so please check our water-wise tips and pick something new to try at your place