Greater Wellington Regional Council collects water from rivers and an aquifer, treats it to meet New Zealand’s drinking water standards and distributes this high-quality water to four city councils – Hutt, Porirua, Upper Hutt and Wellington – for their supply to consumers.

**Where does your water come from?**

Our Te Marua Water Treatment Plant treats water from the Hutt River, either directly or via two storage lakes near the plant. The lakes hold 3,400 million litres, and are used to make up for any shortage of water from rivers, or after heavy rain when river water is too dirty to treat effectively.

Our Wainuiomata Water Treatment Plant treats water from the Wainuiomata and Orongorongo rivers and several smaller streams.

The Waterloo and Gear Island water treatment plants draw water from the Waikhetu aquifer – an area of underground gravel beds beneath Lower Hutt.

**How does the water get to your place?**

The Regional Council operates 183km of pipes, which connect its water sources and treatment plants to 43 city reservoirs. These pipes are up to 1,100mm in diameter.

Two main pipelines link the Te Marua and Wainuiomata treatment plants to Wellington (see overleaf), with a connecting pipeline and pumping station at Ngauranga Gorge that allows the transfer of water from either pipeline to the other. This cross-connection gives security from disruption, by allowing water supply to all parts of the network from more than one source.

Normally, water from each of our treatment plants is supplied to specific areas:

<table>
<thead>
<tr>
<th>Bulk water from:</th>
<th>Is sent to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Te Marua</td>
<td>Upper Hutt, Stokes Valley, Porirua and Wellington's northern and western suburbs</td>
</tr>
<tr>
<td>Wainuiomata</td>
<td>Wainuiomata and Wellington</td>
</tr>
<tr>
<td>Waterloo</td>
<td>Lower Hutt, Eastbourne and Wellington</td>
</tr>
<tr>
<td>Gear Island</td>
<td>Wellington (if required)</td>
</tr>
</tbody>
</table>

The Te Marua and Wainuiomata treatment plants are higher than most of the areas that they supply to, so gravity assists distribution. Seventeen pumping stations boost flows in the pipelines when we have to supply water ‘uphill’ (against gravity) or more quickly than gravity alone will allow. They help to provide a constant supply to all reservoirs, despite our region’s hilly terrain.

Both the Waterloo and Gear Island treatment plants incorporate distribution pumps. Waterloo pumps water to Lower Hutt and into the Wainuiomata-Wellington pipeline at Randwick. The Gear Island plant also pumps water into the Wainuiomata-Wellington pipeline.

The need to pump water makes us one of the largest industrial users of power in Wellington. Last year we used 17,600 megawatt-hours of electricity – equivalent to the usage of 2,200 households.
How is water delivery controlled?

Flow meters and reservoir-level gauges provide up-to-the-minute information about the amount of water being supplied and how much is in each storage reservoir. Pump controls automatically refill reservoirs to replace water flowing out to consumers. Our staff monitor the water quality, flows and levels throughout the day via computer and can override the automated controls if necessary.

Reservoirs even out short-term differences between the amount of water being treated and the amount being used. Reservoir storage also maintains local supplies when our distribution pipes have to be shut off for maintenance.

In addition to supplying water to city reservoirs, the Regional Council operates two ‘balancing’ reservoirs, at Haywards Hill (capacity 18 million litres (ML)) and Ngauranga (20 ML).

How much water do we use?

The Regional Council supplies 140 ML of water a day on average, with a bit over 60% of this – about 220 litres per person (two full baths each) – used by households.

In past summers, daily water use has risen to as much as 220 ML, around 60% more than average. The main reason for the higher demand in summer is outdoor water use – particularly for watering. For every hour a hose is running, up to 1,000 litres of water are used. That’s more than a family of four would use indoors on a winter’s day.

There are many easy ways to save water, both indoors and outside. Find out how at:

www.gw.govt.nz/water