



## Where our water comes from and what makes it so good

This fact sheet provides you with information on where our water comes from, what's in it and why it's so good.

We are committed to providing you with the highest possible quality of water. Our water is monitored from the time it leaves protected catchments right up until the point when it reaches our customers.

We purchase our water from our wholesaler, Melbourne Water, who is responsible for harvesting, storing and treating water prior to its arrival in our system. Our distribution system is integrally linked with Melbourne Water's transfer system. After treatment, water is transported via a secure closed network to various covered storages. It is then delivered to customers via the smaller reticulation water mains in the street. The distribution system operates 24 hours a day, on demand, and provides drinking water for almost 1.5 million South East Water customers.

A large component of our drinking water comes from protected or uninhabited mountain ash forests high in the Yarra Ranges east of Melbourne, where more than 157,000 hectares has been reserved for the primary purpose of harvesting water. These water supply catchments were set aside more than 100 years ago to supply high quality water that requires minimal treatment. The catchments are managed by Melbourne Water and Parks Victoria. Melbourne is one of a handful of major cities in the world that has such protected catchments.

From the uppermost catchments, water flows into the Thomson and Upper Yarra Reservoirs where water may be stored for many years before being used. Holding the water for a long period of time allows sediments washed in from the forests to settle, providing natural purification. Water from the upper reservoirs is then transferred to Silvan and Cardinia Reservoirs. Upon leaving the reservoirs, it is disinfected by using chlorine to kill potentially harmful micro-organisms and maintain public health.

Thanks to the construction of the North-South Pipeline supplying water from Goulburn to Melbourne Water's Sugarloaf Reservoir, more of Melbourne's drinking water supply can now be provided from the Winneke Water Treatment Plant (WTP) located at Sugarloaf Reservoir. Water stored in Sugarloaf Reservoir is harvested from both the Yarra River at Yering Gorge and the Goulburn River. It is then treated by filtration at the Winneke WTP before undergoing the same treatment as water from Silvan and Cardinia Reservoirs. To maximise the supply from Winneke WTP, South East Water customers in the South Melbourne and Caulfield water quality localities are supplied with treated water from the Sugarloaf Reservoir, helping to conserve supplies in the Upper Yarra and Thomson reservoirs.

Since June 2009, towns from Bunyip to Lang Lang, as well as the Mornington Peninsula and Cranbourne, have received water from the Tarago Reservoir and WTP. This is a state-of-the-art water treatment plant, constructed and operated by Melbourne Water. Water from the Tarago WTP is fed directly into South East Water's supply system via the Tarago Westernport Pipeline.

## What's in our water?

Our water requires minimal disinfection given the secure location of our catchments. At Silvan and Cardinia Reservoirs the only three compounds added to water during its treatment are chlorine, fluoride and lime. Chlorine is used worldwide by major urban water suppliers and is an effective disinfectant, killing potentially harmful micro-organisms to maintain public health. Chlorine levels in our water are monitored 24 hours a day at treatment plants and various locations across our service area. The water is fluoridated to improve dental health – a requirement of the *Health (Fluoridation) Act 1973*. The water's acidity (pH level) is also corrected by the addition of lime to maintain a neutral pH. At Sugarloaf and Tarago Reservoirs, alum and polyelectrolyte are also added to the water to provide full filtration.

To improve the aesthetic quality of our water as it travels through our system, South East Water has installed a number of secondary disinfection plants. These plants provide a more balanced level of chlorine and minimise fluctuations that can occur with changing demand and water temperature. The locations of these secondary disinfection plants are shown on the adjacent map of our water supply system.

For more information on the water we provide, please refer to our Annual Drinking Water Quality Report which is available on our website.

## Five reasons to turn on the tap instead of turning to bottled water when thirsty:

1. The environmental cost associated with packaging and distributing bottled water.
2. More than 65 per cent of used drink bottles end up in landfill.
3. Water bottle use in Australia accounts for more than 60,000 tonnes of greenhouse gas emissions each year.
4. Fluoride provided through tap water helps reduce tooth decay.
5. Melbourne's drinking water is amongst the best in the world and cheap by comparison to bottled water.

## Key facts:

- 8,748 kilometres of water supply mains
- 1.48 million customers
- 647,375 properties served
- 39 water quality localities
- 80 pump stations
- 67 water storage facilities
- 20 secondary disinfection plants

**South East Water Limited**  
ABN 89 066 902 547  
Faults and Emergencies **132 812**  
General Enquiries **131 694**  
Account Enquiries **131 851**

20 Corporate Drive  
Locked Bag 1  
Heatherton VIC 3202 Australia  
[info@sewl.com.au](mailto:info@sewl.com.au)  
[southeastwater.com.au](http://southeastwater.com.au)

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WATER** 