



## The SEQ Water Grid An Australian First

### Current SEQ Water Grid bulk water assets include:

- 12 connected dams
- 10 connected drinking water treatment plants
- 3 advanced water treatment plants producing purified recycled water
- 1 desalination plant
- 28 water reservoirs
- 22 bulk water pump stations
- 535 kilometres of potable bulk water mains

**The SEQ Water Grid is the first water network in the world to manage, source, treat, store and supply drinking water on this scale.**

SOURCE



TREAT



STORE



SUPPLY





The SEQ Water Grid Manager is a Government-owned statutory body responsible for managing the strategic operation of the SEQ Water Grid.

The SEQ Water Grid Manager's role is to manage the SEQ Water Grid to maintain water security and quality for the region cost effectively, while balancing the needs of the community and the environment.

To do this, it purchases the services to store, treat, produce and transport bulk water from Seqwater, WaterSecure and LinkWater to sell to Grid Customers – council-owned, businesses and power stations.

To manage the operations of the SEQ Water Grid and maintain water security,



Seqwater is South East Queensland's bulk water supply provider, delivering innovative and efficient management of catchments, water storages, and treatment services to ensure the quantity and quality of the region's water supplies.

Seqwater is responsible for 25 dams and 49 weirs, as well as 46 operational water treatment plants across South East Queensland.

The role of Seqwater, as the region's bulk water supplier, can best be described in three simple words – Catch, Store and Treat.

Seqwater catches the rain falling across more than 1.2 million hectares of catchments and rivers flowing into South East Queensland's dams, aquifers and off-stream storages.

Seqwater stores this water in 25 dams across the region before releasing it for treatment.

Seqwater's 25 dams, 49 weirs and 14 bores and aquifers can supply as much as 90 per cent of South East Queensland's drinking water supply.

Seqwater treats this water at 46 water treatment plants, using some of the most advanced technologies available.



WaterSecure is supplying a new source of water to South East Queensland through its desalination plant and water recycling scheme.

The Gold Coast Desalination Plant is the first large-scale desalination plant on Australia's eastern seaboard and was named Membrane Desalination Plant of the Year (2009) at the Global Water Awards. The plant has the capacity to supply up to 133 megalitres a day of pure drinking water to South East Queensland.

WaterSecure's Western Corridor Recycled Water provides purified water to Swanbank and Tarong power stations with the capacity to supply industry and agriculture. Should Wivenhoe Dam levels once again fall below 40 per cent, the Grid can top the dam up with purified water from the plants, which will guarantee the region's water needs.

Combined, WaterSecure's assets have the capacity to supply water equivalent to the daily needs of more than 1.8 million people under Target 200 restrictions.



The Queensland Bulk Water Transport Authority, trading as LinkWater, is the Queensland Government Statutory Authority responsible for the management, operation and maintenance of potable bulk water pipelines and related infrastructure throughout South East Queensland (SEQ).

In 2008-2009, LinkWater established operational control for 535km of potable bulk water pipelines and related infrastructure that forms the backbone of the SEQ Water Grid. This infrastructure is made up of existing assets acquired from councils under the South East Queensland Water (Restructuring) Act 2007, three new reverse-flow pipelines constructed by LinkWater Projects and two connected pipelines constructed by other alliances.

In addition to bulk water pipelines, related infrastructure under LinkWater's control comprises 28 reservoirs/balance tanks, 22 pump stations and six water quality facilities.

As the network controller, LinkWater moves an average of 600 megalitres of water per day across the SEQ Water Grid, to where it's needed most.



SOURCE



TREAT



STORE



# Who Does What?



## Seqwater

Seqwater provides water for the growing population of South East Queensland.

This water that comes directly from the catchments, water storages, and treatment plants are part of an incredible journey that ensures the sustainable quantity and quality of the region's water supply needs.

The role of Seqwater and the water journey, can best be described in three simple words – Source, Store, Treat and Supply. Seqwater catches the rain that falls as part of the water cycle. This rain falls across more than 1.2 million hectares of catchments and rivers. The water eventually flows into 25 dams, 49 weirs, 14 bores and aquifers and off-stream storages. This water is then treated to drinking water standard at treatment plants across the region.

After collecting this water the next part of the journey involves Seqwater treating it at 46 water treatment plants, using some of the most advanced water treatment technologies available.

The treated water is then ready to continue its journey via LinkWater pipes and local council water companies to homes and industry.

### Quick Facts

- Did you know that the 25 dams, 49 weirs and 14 bores and aquifers that catch and store the water along with the 46 treatment plants that treat the water can supply as much as 90 per cent of South East Queensland's drinking water supplies.
- Wivenhoe Dam holds more than 2 and a half times Sydney Harbour.
- Wivenhoe Dam holds 2000 days of water.
- Glossy Black Cockatoos and Quolls are two of the rare catchment creatures

# WaterSecure

TREAT



**WaterSecure makes pure water. But how? At the Gold Coast Desalination Plant, water from the sea is turned into pure fresh drinking water by a special process called “reverse osmosis”, which removes the salt from seawater. The end result is water so pure we have to add minerals back into it! We also add a little bit of chlorine to keep the water clean and a little bit of fluoride to make your teeth strong and healthy, before the water is piped to people on the Gold Coast and in Brisbane. When the plant is running at full speed we make enough drinking water every day for 665,000 people! We also make pure water at three Advanced Water Treatment Plants – two near the mouth of the Brisbane River and one near Ipswich. We take used water that would have gone into the Brisbane River and recycle it using reverse osmosis just like in our desalination plant, but we also use two other special processes – micro filtration and advanced oxidation – to make sure the water is completely pure. This water goes to power stations to cool them and when it doesn’t rain and our dams get low again it could be put into Lake Wivenhoe so that we will always have enough water to drink. At full speed our plants could recycle enough water every day for more than a million people! And by not wasting water and recycling it like we recycle paper and aluminium cans we are helping the environment!!**

## **Quick facts**

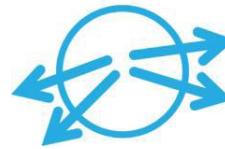
- Water Secure uses the processes of microfiltration, and reverse osmosis to make clean water.**
- Desalinated water is used in many countries throughout the world.**
- Recycled water is drunk in London, Singapore and Los Angeles**
- Recycled water is safe to drink.**

# LinkWater

STORE



SUPPLY



LinkWater looks after the big pipes that transport drinking water from the treatment plants and then into huge tanks called storage reservoirs. Most pipes are under the ground but some are above. LinkWater's network of bulk water pipelines stretches from the Sunshine coast all the way down to the Gold Coast. Pipelines come in many different sizes and are built to last a long time. Many of these pipelines are new but a few are very old and will need to be replaced soon. The oldest pipe in the network was laid in 1892 in Karana Downs. That's 118 years old!! It still supplies water to western Ipswich from the Mt Crosby. The largest pipe in the network is 1.8 metres in diameter. That's big enough for a tall man to stand up in! A megalitre is equal to 1 million litres of water.

## Quick Facts

- LinkWater moves about 600 megalitres of water per day through the bulk water pipe network to where it's needed most.
- – this is equal to
- 300 olympic-sized swimming pools.
- Flushing a toilet 30 million times
- 28 billion ice cubes
- About 114 years in the shower!

# The SEQ Water Grid Manager

The SEQ Water Grid Manager is owned by the State Government and makes sure the water from the SEQ Water Grid goes from where it is made or stored to treatment plants to your taps safely, securely and sustainably.

The SEQ Water Grid Manager makes sure the water you drink and use is clean and that there is lots of it so we never run out.

To do this, the SEQ Water Grid Manager buys the water from the dams, the desalination plant and the advanced water treatment plants and sells it to the council businesses, so that the council business can supply everyone with water.

Decisions on how much water is needed for South East Queensland are made every day by the SEQ Water Grid Manager.

That way we can make sure that your water is safe, secure, sustainable and always available!

## Quick Facts.

The Water Grid is made up of many important parts

- Seqwater
- Water Secure
- Linkwater
- The Water Grid manager
- Unity Water
- All Connex
- Urban Water Utilities

