FACT SHEET JUNE 2022

TOMAGO SANDBEDS

THE TOMAGO SANDBEDS ARE A SAFE AND RELIABLE SOURCE OF WATER FOR THE LOWER HUNTER

Operating the Tomago Sandbeds

- The Tomago Sandbeds are an important part of the Hunter Water supply scheme. They provide a safe and reliable source of water from the ground that can be called on to supply water at any time.
- The Sandbeds can provide a large portion of our region's drinking water for short periods, and are an important source of water during droughts.
- We routinely operate the Sandbeds for approximately six weeks each year for maintenance purposes.
- We have an extensive 'catchment to tap' water quality monitoring program in place as part of our Drinking Water Quality Management System. We routinely test for a wide range of physical, chemical and biological characteristics at all stages of the supply system to ensure that our drinking water complies with the Australian Drinking Water Guidelines.
- We have the ability to choose which bores are used and which are not when drawing water from the Sandbeds. Two bore stations located inside the Williamtown Management Area have been isolated as a precaution, and are not used for supplying water.
- In collaboration with the NSW PFAS Expert Panel, a comprehensive plan has been developed to safeguard the water supply when the Sandbeds need to be operated. This plan includes a detailed monitoring and quality assurance testing program.
- We have an extensive network of monitoring bores that have more than 50 years' worth of data to understand how groundwater moves in the aquifer.
- Our customers can have confidence in the controls that have been put in place to ensure their drinking water remains safe.

Frequently Asked Questions

Q: How do the Tomago Sandbeds work?

Groundwater is water found underground in aquifers, which are geological formations of rocks, sands and gravels that can hold water. The Tomago Sandbeds are one of our underground water sources and play an important role in improving our region's drought resilience. The Sandbeds run parallel to the coast between Newcastle and Port Stephens, starting at Tomago and stretching north-east for 25 kilometres towards Lemon Tree Passage.

The aquifer is unconfined, meaning water is stored above an impermeable clay and rock base in the sand. Rainwater lands on the sand surface to replenish the aquifer. The water cannot travel through the clay and rock so it runs through the sand to the sea. Averaged over the area of the Tomago Sandbeds, the water table is approximately 4.8 metres above sea level when full and 1.8 metres above sea level when empty.

Q: Why do we need water from the Sandbeds?

The Tomago Sandbeds are a safe and reliable source of water for the Lower Hunter. This water source can be used for a range of different purposes, including during times of water shortfall or as a back-up supply in the event of an unexpected water quality issue.

The Sandbeds also help us improve our drought resilience. Modelling using different climate scenarios has shown that they can be used to significantly extend our water storage levels, provided they are used at the right time. This must be early enough in a drought to harvest water before it naturally flows out to sea, but not so early that the water level cannot recover between droughts. It is based on this analysis that we have found the optimal time for using the Sandbeds is when Grahamstown Dam drops below 70 percent storage volume.

Q: Why don't you operate the Sandbeds continuously?

The Sandbeds played a crucial role in our response to the most recent drought in 2019. Each year we also operate them for approximately six weeks for maintenance purposes.

One of the reasons we do not operate them continuously is due to the high cost of treating the water. Due to its geology, the Sandbeds have naturally occurring iron and manganese in the water. This is not a health concern, but it can discolour the water. These minerals are costly and difficult to remove at our water treatment plant.

We continuously run a small number of bores at the north-eastern end of the Sandbeds to supply the communities of Lemon Tree Passage and Karuah, and some adjacent to Grahamstown Water Treatment Plant to recover water that is produced during the water treatment process. We regularly test this water to ensure it is safe to drink.

Q: How is water from the Sandbeds different to water from a dam?

Due to the geology of the Sandbeds, naturally occurring iron and manganese in the water can change its appearance. Discoloured water is an aesthetic, not a health issue. These minerals are difficult for us to remove at our water treatment plant. We remove most of it, but not all of it. It's one of the reasons we don't run the Sandbeds continuously.

Discoloured water tends to occur in localised areas, and may be worse in 'dead-end' or cul-de-sac water mains. Our customers can first try flushing their plumbing by turning their outside tap closest to the water meter on until the water runs clear. If the water remains discoloured after flushing, it is best to contact our team on 1300 657 000.

Q: What are you doing to ensure our water supplies are safe from PFAS contamination?

We have an extensive 'catchment to tap' water quality monitoring program in place as part of our Drinking Water Quality Management System. We routinely test for a wide range of physical, chemical and biological characteristics, including for PFAS compounds, at all stages of the supply system to ensure that our drinking water complies with the Australian Drinking Water Guidelines.

In collaboration with the NSW PFAS Expert Panel and NSW Health, a comprehensive plan has been developed to safeguard the water supply should the Sandbeds need to be operated. This plan includes a detailed monitoring and quality assurance testing program.

In addition, we test for PFAS compounds, including PFOS, PFOA and PFHxS, at all six of our drinking water treatment plants, at Campvale Canal and at 74 locations across our drinking water network. Our water quality testing results are updated monthly and can be found at www.hunterwater.com.au/waterquality.

There have been no detections of the chemicals in our water supply above the Australian Drinking Water Guidelines. These guidelines provide guidance limits based on a person's lifetime exposure.

Q: How can we be confident Grahamstown Dam is safe given its proximity to the Williamtown Management Area?

Decades of ongoing hydrological testing and modelling have shown us that groundwater flows in a general southerly direction in the vicinity of RAAF Base Williamtown. The groundwater from this area therefore cannot make its way into Grahamstown Dam.

We have the ability to choose which bores are used and which are not when drawing water from the Sandbeds. Two bore stations located inside the Williamtown Management Area have been isolated as a precaution, and are not used for supplying water.

It is possible that these bore stations may be able to supply safe drinking water again in the future if appropriate management strategies can be implemented. In the interim, our scientific team will work with NSW Health to determine if this possible.

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