

Water in the Lower Hunter



Planning our water future

Hunter Water is planning for our future now to ensure our region has a sustainable and resilient water system that can adapt and respond to change. We need to consider new sources of water (supply) and find new ways to reduce the water we all use (demand). This series of information sheets provide an overview of the potential water supply and demand option types we're discussing with our community as we plan our water future together.

Supply option: Groundwater

What is it and how does it work?

Fresh groundwater is one of the most common water sources used throughout the world. Groundwater can be found in fractured rock or layers of sand and gravel called aquifers. Aquifers provide natural underground reservoirs that can offer a reliable supply of water, even in times of drought.

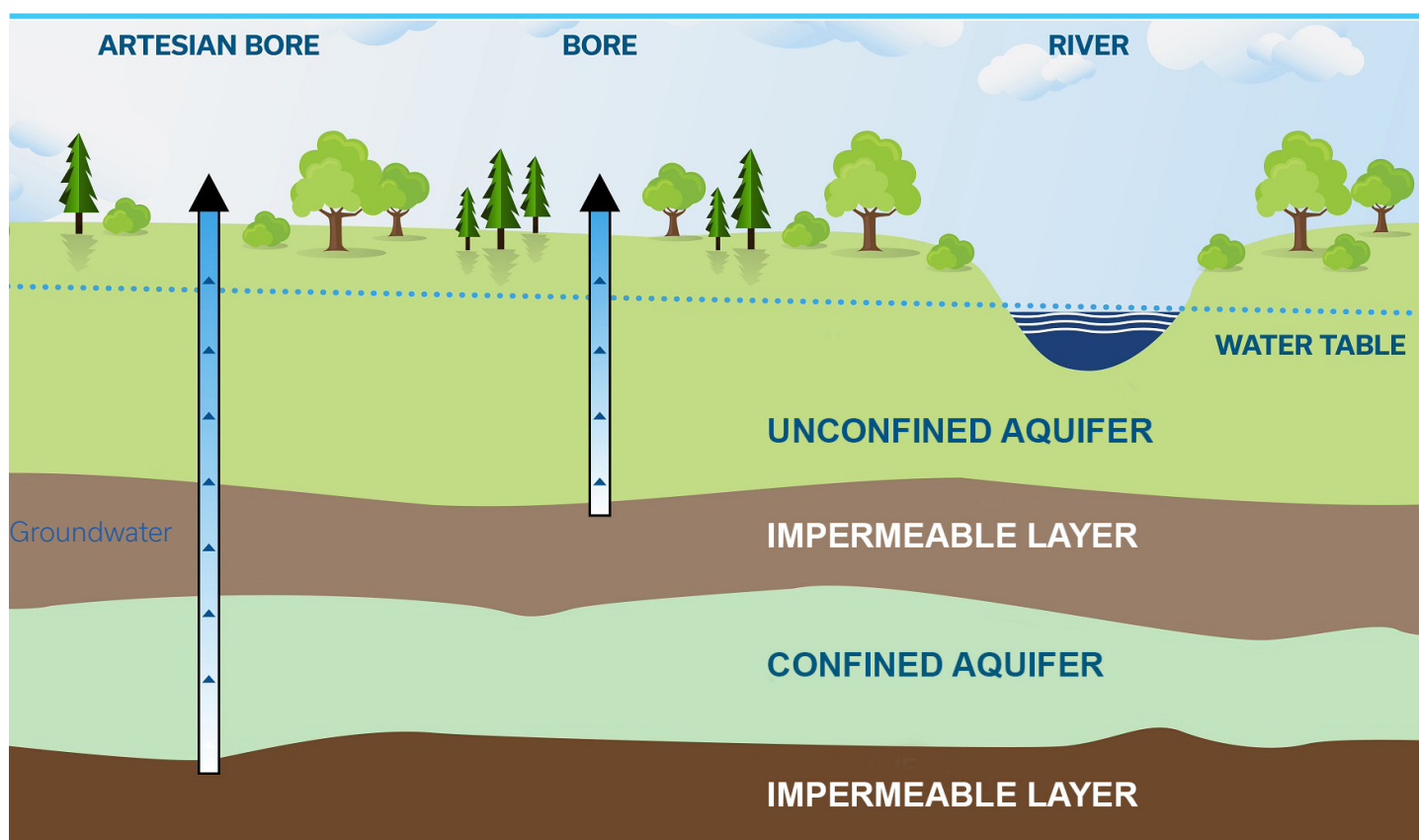
Water is pumped out of the ground through wells and treated for drinking water supply.

All naturally occurring fresh groundwater originally came from rainfall, though this may have occurred a very long time ago.

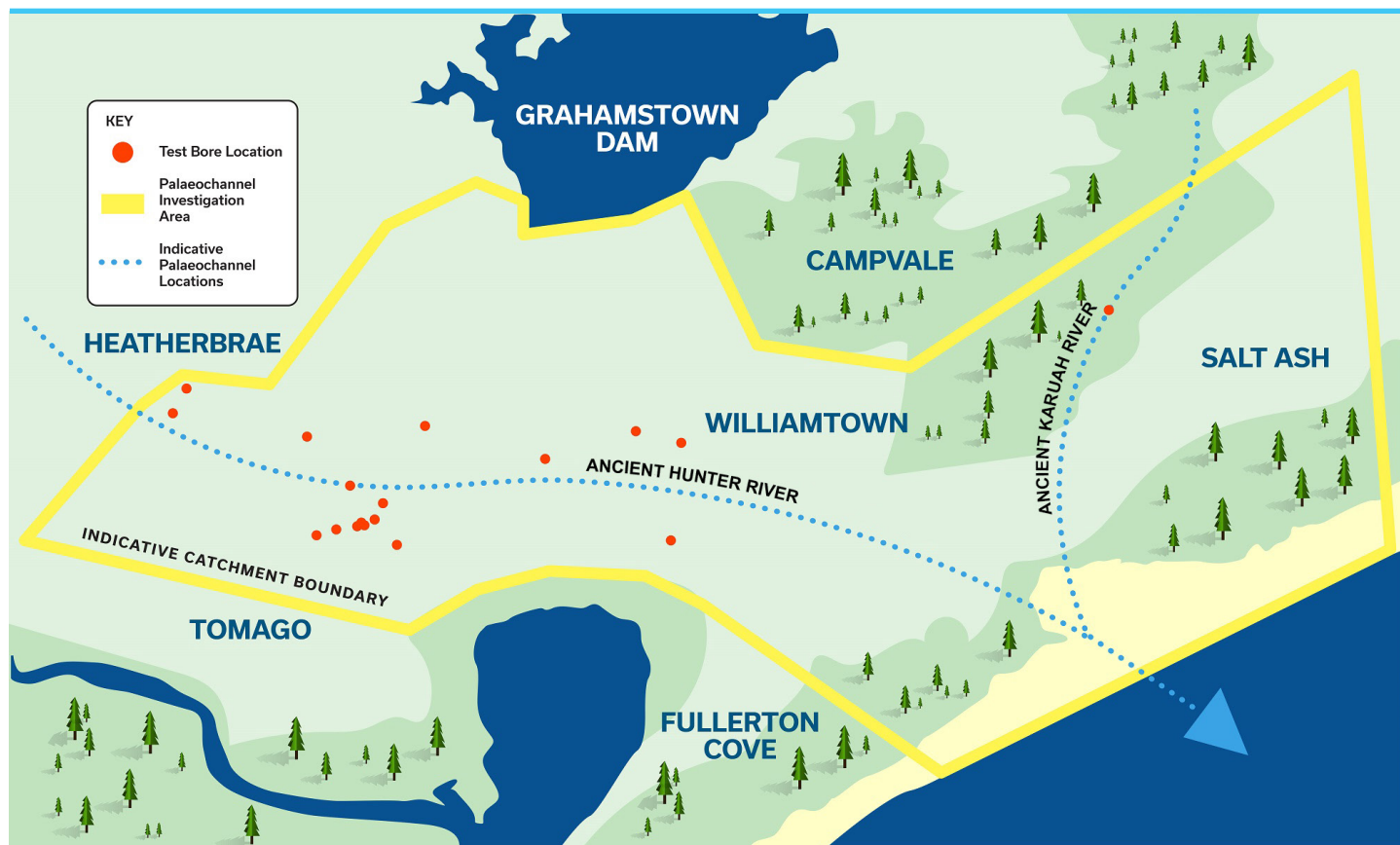
What is currently in place in the Lower Hunter?

Hunter Water currently sources groundwater from the Tomago and Tomaree Sandbeds. The amount of water that can be stored in the Tomago Sandbeds is around 54 billion litres. The Sandbeds are typically used during drought, supplying up to 75 million litres of water per day.

The smaller Tomaree Sandbeds, located near Anna Bay, can hold 16 billion litres of water and provide about 7 million litres per day as an ongoing water supply to the Port Stephens area.



Water in the Lower Hunter



Tomago Palaeochannel Aquifer

Things we need to consider

Harvesting groundwater can have relatively low environmental impacts provided it is carefully managed to protect surrounding flora and fauna.

The infrastructure required to harvest the water is generally limited to extraction wells and pipes. Therefore this option has relatively low social impacts and low cost to construct and operate.

There is also potential to use a saline water aquifer as an underground reservoir by pumping fresh water into it when surplus water is available. This process is known as aquifer storage and recovery.

How we're considering this option for the Lower Hunter Water Security Plan

Tomago Palaeochannel Aquifer

Water bearing sands and gravels associated with the ancient Hunter River and Karuah River systems have been identified deep beneath the Tomago Sandbeds. Options to use this system directly as a source of fresh water, or as an underground storage to be filled with fresh water from other sources, are being considered in the Lower Hunter Water Security Plan.

The extent and connectedness of the water bearing sands and gravels, and any potential pathways from the surface are still unknown. The next phase of investigations will be to install several water supply test bores to measure water quality and understand how the aquifer responds to pumping.

If testing shows that the resource can successfully be tapped, further investigation will be required to determine how to make best use of the resource.

We will continue to investigate this option as a potential future resource.