

Water Quality & Treatment

Providing a safe, secure and reliable water supply.



Mackay Regional Council ensures residents have access to water of the highest quality. This is achieved through rigorous testing performed by Mackay Regional Council Scientific and Analytical Services at the Water and Waste Laboratory.

The laboratory performs quality control testing of potable and raw water sources to ensure that the water meets the National Health and Medical Research Council's Australian Drinking Water Guidelines.

The State standards for drinking water quality are

detailed in the Water Supply (Safety and Reliability) Act 2008. The region's water supply consistently meets these standards as well as the World Health Organisation's physical, microbiological and chemical requirements for water quality.

The laboratory tests the potable water supply at sample sites located across the region and analyses for a range of parameters including:

- Physical/chemical parameters such as pH, free and total chlorine, colour, turbidity and dissolved oxygen

- Microbiological testing such as e-coli, and total coliforms
- Metals such as aluminium, iron, manganese, sodium, calcium and potassium
- Heavy metals such as arsenic, mercury and selenium
- Other parameters such as pesticides and trihalomethanes

Testing points include untreated water (before it reaches the treatment plant), water that has been treated at the water treatment plant, bore water that goes to the water treatment plant, water from pipe work around the city and sample points outside residential homes.

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Scientific and Analytical Services is a NATA (National Association of Testing Authorities) accredited laboratory. NATA is an independent authority that formally recognises the competence of the facility to perform specific types of testing. It also provides a benchmark for performance through regular assessment checks of the facilities operations.



Water treatment

Water treatment consists of a process designed to remove contaminants. There are virtually no fresh water sources on the planet that can be guaranteed free from contamination. To ensure a safe water supply, all responsible water authorities will apply some treatment to water that is used for human consumption.

The major chemicals that Mackay Regional Council uses to treat the water include:

- Aluminium chlorohydrate - coagulation, when added to the water it combines the dirt and bacteria particles so that they can be filtered
- Chlorine - disinfection, kills

bacteria and viruses

- Sodium hydroxide - pH adjustment
- Poly electrolyte - coagulation/flocculation
- Potassium permanganate - iron/manganese removal
- Fluoride - health reasons, strengthens teeth and bones (for more information on fluoride visit council's website)

Why does drinking water sometimes appear cloudy?

Cloudy water is often caused by air in the pipes and is not harmful in any way. The appearance of your water may range from a light cloudiness to a very milky/opaque colour. After a while, the bubbles rise to the top and disperse and

the water will become clear.

Why does drinking water sometimes appear discoloured?

Occasionally, drinking water may have a slight brown tinge to it. This is largely due to elevated concentrations of iron and manganese. There is no cause for alarm as the water is still perfectly safe to drink.

What is 'hard' water?

'Hardness' in drinking water is caused mainly by two minerals containing calcium and magnesium. These are common, naturally occurring elements in water. The water is said to be 'hard' because it is more difficult to make a lather or suds for washing.

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Water containing little calcium or magnesium is called soft water. Rural communities may experience 'harder water' than those with surface water supply.

Domestic water filters

Given our water supply's compliance with Queensland's Drinking Water Standards and the Australian Drinking Water Quality Guidelines, we do not believe there is a need to use domestic water filters.

In many cases, individual filter units do little to improve household water supply quality. For instance, it may be claimed that water filters remove substances that are not even present to any significant degree in our water supply. In some cases, filter units can actually cause a deterioration of water quality.

Customers considering the purchase of a water filter should carefully evaluate their own needs as well as apparent benefits and relevance of individual units. Mackay Regional Council neither undertakes nor approves of attempts to sell water filters on a "door to door" basis.

It should be noted, however, that there are situations (e.g. industrial applications, medical treatment) where the use of specific, purpose-built water filters is suitable and necessary.

Does Mackay Regional Council conduct door-to-door water quality testing or water filter sales?

No. Mackay Regional Council does not conduct door-to-door selling. From time to time we receive calls from customers concerned about water quality information provided to them by people offering water quality tests and selling water filters. These individuals do not represent or act on behalf of Mackay Regional Council and we do not endorse these companies or their products.

Mackay Regional Council representatives wear a uniform and are always able to produce identification.

Beware of precipitation tests

Precipitation tests have been used for many years to demonstrate the hardness characteristics of water. There are two types of precipitation tests, chemical,



which shows the formation of hardness precipitation that can accumulate in plumbing and on fabrics, and electronic, which uses electrodes that partially decompose when current flows through water that conducts electricity. Both of these tests are not accurate in determining water quality.

Customers who would like more information on water quality can contact Council's Customer Service Centre on 1300 MACKAY (622 529), or visit www.mackay.qld.gov.au.