

Fact sheet Water Quality and Recreation



Protecting our drinking water

It's your water

We all use water every day – for drinking and washing, to water the garden, for recreation, as well as for agriculture and industry. Water gives and sustains life and helps to create prosperity.

Seqwater is responsible for ensuring a safe, secure and reliable water supply for more than three million people across South East Queensland (SEQ). We are the only bulk water provider in Australia that manages 'open' catchments, allowing the community to enjoy our water supply lakes and catchment land for recreation activities. Our challenge is to balance community access to our lakes and catchment land with our essential role of ensuring a high quality water supply.

The quality of our source water catchments is a critical factor. It's up to all of us to ensure our water is safe for us to enjoy now and in the future.

Drinking water quality

It's easy to take the quality of our drinking water for granted – when we turn on the tap, we expect safe, clean water to flow out.

To ensure the health of all Australians, the National Health and Medical Research Council, in collaboration with the Natural Resource Management Ministerial Council, has developed *The Australian Drinking Water Guidelines*. The guidelines define safe, good quality water, how it can be achieved and how it can be assured. Seqwater is regulated to manage drinking water quality in line with these guidelines.

The guidelines contain six principles which highlight the importance of understanding the source of raw water, the risks and hazards involved, and the management of these issues.

'Guiding Principle 1: The greatest risks to consumers of drinking water are pathogenic microorganisms. Protection of water sources and treatment are of paramount importance and must never be compromised.'

Australian Drinking Water Guidelines 6, 2011

Risks from recreation in drinking water sources

Why is recreation a risk to drinking water sources?

Recreational activities can result in the transfer of pathogens from people to the water, generally without people knowing. The smallest amount of human waste (excreta or phlegm) can contain millions of pathogens that may contaminate a drinking water source.

What are pathogens?

Pathogens are micro-organisms with the potential to cause human disease. Pathogens of particular concern include bacteria, viruses, protozoa and parasitic worms. While each of these organisms can lead to different illnesses of varying severity, they can cause some very unpleasant symptoms, including diarrhoea, nausea, abdominal cramps and low-grade fevers. In extreme cases, some illnesses can cause death.

Fact sheet Water Quality and Recreation

Do you know if you carry pathogens?

No, people can carry pathogens without their knowledge. Some people may be carriers of pathogens, but never exhibit any symptoms of illness. Pathogens can be transferred from person to person by the faecal-oral route, usually as a result of poor hygiene practices, or by ingesting contaminated food or water.

Can pathogens survive in the environment?

Yes, the survival of pathogens is dependent on several factors, including temperature, pH, solar radiation, media (i.e. soil, water, faeces), nutrient levels, competing micro-organisms and the availability of a carrier.

Wouldn't pathogens quickly become diluted in a lake?

Under most circumstances pathogens are diluted. However there are scenarios where they can be directly transported through a lake. Very low concentrations of pathogens still present a potential health risk, even below levels that we can detect.

Don't water treatment plants kill all of the pathogens?

Water treatment plants use various techniques to treat water to appropriate standards. The condition of the raw (untreated) lake water dictates what treatment levels are required by each plant. If water quality in the lakes declines, treatment plants may have to be upgraded to ensure drinking water meets standards, which increases the cost of drinking water for the consumer.

From the catchment to your tap

The condition of a lake's catchment area impacts water quality and also determines just how much treatment is needed before water is safe to drink. By protecting water at the beginning of the supply system, it is possible to minimise or avoid the risk of contamination and reduce the amount of treatment required, which ultimately helps keep water prices to a minimum.

The *Australian Drinking Water Guidelines* recognise that no single barrier will be effective against all sources of contamination. A combination of catchment protection, appropriate treatment methods, monitoring of barriers, and water quality analysis ensures the safe supply of drinking water to communities.

Impact of recreation on water quality

Seqwater's core business is to provide safe water at least cost to SEQ communities. Our water treatment plants are located throughout the region and water treatment methods differ from plant to plant.

Some land-based and water-based recreational activities in drinking water catchments are prohibited or restricted to protect water quality and ultimately public health. For example, you may be able to canoe or kayak on some Seqwater lakes, but not on others. To determine what recreation activities can be undertaken safely at a drinking water storage lake, Seqwater conducts a detailed risk assessment. This assessment considers the level at which the lake's water treatment plant can treat the predicted pathogenic levels in the water and identifies opportunities to reduce pathogen risks within the catchment to improve the catchment barrier. The risk assessment takes into account numerous factors including, but not limited to, catchment health, catchment population, catchment size, catchment usage and treatment capability. Ultimately, the safety of the community comes first in any decision on recreational activities at Seqwater lakes.

How you can help

We all have a role in caring for our catchment and drinking water supply lakes. Here are some ways you can help:

- Check our website—www.seqwater.com.au—for the recreation activities available at each of our lakes and any safety messages before you visit. Once at the lake, only take part in permitted recreation activities.
- Obey all signage.
- Dispose of all rubbish in bins where provided, or take your rubbish home with you and dispose of it appropriately.
- Use the public toilet facilities provided.
- Keep pets out of the lakes. Dogs and horses must not enter the water.
- Stay clear of water intake towers, spillways and weirs.
- Never dispose of effluent, chemicals or waste in or around a catchment area.