Water quality in tanks, bores and dams

Summary

- Determine the best quality water source available to you and protect it from contamination.
- If you suspect your water supply is contaminated, use an alternative water source for drinking until you determine the cause and solution to the issue.
- Contaminated water can cause severe gastrointestinal illnesses.

Water used for drinking needs to be safe to prevent disease and ill health. Private drinking water supplies from rainwater tanks, bores and dams need to be carefully maintained to prevent contamination.

Drinking water may become contaminated from a range of contaminating sources, including animal droppings, microbes from dead animals, chemicals, farm run-off, industrial or mining waste, urban pollution (such as stormwater) and sewage from leaking septic tanks, or other poorly-maintained onsite wastewater treatment systems.

Private water supplies are also at high risk of contamination during and after bushfires, floods and other extreme weather events. Some treatment of your drinking or domestic water may be required depending on its source and its risk of contamination.

Common sources of drinking water

Most Victorians obtain their drinking water directly from a water corporation through a reticulated water supply. However, where reticulated drinking water is not available, some people obtain their drinking or domestic water from private supplies, such as:

- Rainwater tanks
- Bores
- Dams
- Rivers and creeks
- Irrigation channels.

The highest available quality water should be used for drinking. Levels of risk for possible water sources to be used for private drinking water supplies are shown in the image below.

A risk assessment should be made before selecting which drinking water source best suits your situation. For example, rainwater tanks often provide a good quality source of drinking water. Roofs and gutters can also be easily maintained so that good quality water enters the tank. Water should not be taken from rivers, creeks or dams and used as drinking or domestic water unless it has been treated to make it safe to use.

Contaminated drinking water

Contaminated water supplies have been responsible for major outbreaks of severe gastrointestinal illnesses such as gastroenteritis and infections caused by the protozoan parasites *Cryptosporidium* and *Giardia*. Gastrointestinal illnesses can be particularly severe for the very young, the elderly and people with weakened immune systems.

Private water supplies can also be contaminated by various chemicals or metals which, at elevated levels, can be harmful to your health.

How your drinking water may be contaminated

Your private water supply can be contaminated by a variety of things:

- **Animal faeces (poo)** – such as bird or possum droppings on the roof or from farm run-off into rivers and creeks
- **Human faeces** – leaking from septic systems or wastewater drainage
- **Pesticides** – in run-off from farms or blown on to roofs
- **Arsenic and heavy metals** – in soil from old industrial and mining sites or in some bore water supplies
- **Dust** – containing chemicals blown on to your roof
- **Air pollution** – run-off from roofs in urban and industrial areas that may contain chemicals
- **Lead** – from old paint or flashing on roofs that can flake and end up in tanks
- **Algae** – including toxic blue-green algae (cyanobacteria), which are not destroyed by boiling or disinfection
- **Nitrates** – in some bore water supplies are particularly dangerous to babies
- **Ash and debris** – bushfires produce large amounts of smoke and ash, which can contaminate your water supply
- **Fire retardants** – chemicals used to slow the spread of fire can contaminate water with ammonia and sulphate, making it unsuitable for humans and animals to drink.

There are things you can do to make sure that your water supply remains free from contaminants. If you suspect your water supply is contaminated, use an alternative water supply for drinking. Contact the Environmental Health Officer at your local council or the Department of Health for advice. Laboratories can test your water for possible contaminants.

Collect and store your drinking water carefully

If you carefully collect and store your own water for drinking, you can reduce the risk of contamination by:

- Sealing your water storage so animals, birds and sunlight cannot get in
- Collecting water only from clean roofs – not from roofs that have been recently painted or painted with lead-based paints or coated with tar
- Installing fine-mesh screens on inlets and outlets to prevent mosquitoes entering
- Cleaning your roof, gutters and water tanks regularly
- Installing screens or filters between the supply and storage
- Installing a ‘first flush’ diversion device – the first rain after a dry period contains most of the contaminants
- Making sure surface run-off and leakage from sewage pipes and other drainage cannot enter your water storage.

Monitor and maintain your water supply

Regularly inspect and maintain your water supply system to make sure it is working effectively.

Monitor your system by visually inspecting system components such as:

- The tank and pipework
- Gutters and your roof if you have a rainwater tank
- The borehead and pump if you have a groundwater supply
- Tanks, which should be inspected every two to three years for the presence of accumulated sediments.

Some drinking water supplies will need to be disinfected

In most rural areas of Victoria, rainwater collected from a clean roof and securely piped into a well-maintained above-ground tank may not need to be disinfected, but untreated water poses an elevated health risk.

Groundwater from a shallow bore should be disinfected (typically using chlorine) in case the water has been contaminated with farm waste or leaking effluent from a septic tank. If your water is dirty or cloudy, you should filter it first because dirt particles can make disinfection ineffective.

People with weakened immune systems who source their drinking water from tanks, bores or dams should seek advice from their doctor as to what precautions should be taken in relation to using such water sources as drinking water (which may involve always boiling water prior to consumption).

What to do if there's a dead animal in the tank

A dead animal in your tank will not necessarily cause illness if you drink the water but it is best to take precautions. You should:

- Take the dead animal out.
- Drain all water from the tank.
- Clean inside the tank with household bleach.
- Refill your tank with good quality water.
- Disinfect the water with chlorine.
- For your safety, always maintain good ventilation when you clean out any tank and work with an assistant outside the tank.

If it is not possible to drain the water, disinfect or boil the water before.

The Environmental Health Unit's Water Program, Victorian Department of Health, provides online information about keeping your supply of drinking water safe and healthy.

Where to get help

- Environmental health officer at your local council
- Department of Health, Health Protection, Water Program Tel. 1300 761 874

This page has been produced in consultation with and approved by:

Department of Health and Human Services - RHP&R - Health Protection - Environmental Health Unit