Drinking water: taste and odour issues along the Murray River region

Goulburn Valley Water customers in our northern service region may be experiencing taste and odour issues with their drinking water supply at the moment, where the water tastes and smells ‘earthy’.

A number of water authorities sourcing water from the Murray River to supply drinking water are experiencing similar issues, stretching from Wodonga to Mildura.

This is due to a harmless, naturally occurring dissolved compound in the water, called geosmin, which can be caused by blue-green algae (BGA).

**Blue-green algae and the Murray River**

Elevated levels of BGA have been detected in the Murray River along with some surface scums, and there have been reports of very strong odours from the water. We are continuing to monitor the levels of BGA in the raw water, and the levels of geosmin at sampling sites indicate this is an unprecedented taste and odour event that is proving a challenge for many water treatment systems.

BGA (also known as cyanobacteria) has always been present in the Murray River, and hot weather and still water provides ideal growing conditions. A range of microorganisms including BGA can produce taste and odour causing compounds such as geosmin and 2methyl isoborneol (MIB). The species of algae we’ve currently identified in our source water is part of a group known to produce taste and odour compounds.

**BGA and the water treatment process**

We use many treatment technologies to remove algae, particulates and dissolved compounds from surface water. To remove geosmin, we mostly use activated carbon (powdered or granulated) which is added pre-treatment and is then removed as part of the filtration processes. Activated carbon is extremely porous and absorbs taste and odour compounds onto its surface.

Our carbon dosing rate to treat this algae is greatly exceeding typical rates, and our neighbouring water authorities have reported similar issues. The amount of activated carbon needed to remove the levels of geosmin below taste/odour detection levels is exceeding the design capacity of the treatment systems in some cases. We are currently investigating options to improve the design capacity of some treatment plants if necessary.

**Is the water safe to drink?**

Yes, any potable town water supplied by Goulburn Valley Water is safe to drink. Our water treatment processes are designed to remove any harmful toxins, algae and other organic matter or particulates.

Any water we supply fully complies with all health-based guidelines in the Australian Drinking Water Guidelines. We’re working with other water authorities affected by geosmin and algae to resolve taste and odour as quickly as possible. Extensive monitoring continues to confirm there are no health risks associated with the drinking water, as geosmin is only an aesthetic concern.
We do appreciate people’s patience and understanding while we continue to do everything we can to improve the taste and odour problems in our drinking water supply.

**Why can I still taste and smell it if it’s being removed?**

Unfortunately, geosmin has a very strong, unpleasant taste and odour, which is harmless. Sensitive individuals may still detect the odour of geosmin at extremely low levels, as it has a taste and odour threshold of approximately 0.00001 mg/L (10 ng/L). In comparison the taste threshold for chlorine is generally considered to be between 0.1 and 0.4 mg/L.

**When did it start and when will it be fixed?**

We first received reports of the taste and odour issue in early to mid January in Numurkah, and it has become more widespread across the region due to ongoing favourable conditions for algae growth.

As the algae has spread through the Murray system, other towns have been affected by the taste and odour issue.

It’s not possible to predict how long the BGA will remain at high levels in the raw water. Once the bloom has declined, there may still be high levels of geosmin in the water afterwards. However, as the weather cools, geosmin levels typically decrease.

**Is there anything I can do to reduce the taste?**

Some people have reported that putting water in a jug in the fridge can help with any taste and odour issues. You could also consider adding lemon or fruit wedges (orange, mint, watermelon, etc) to help.

**Recreational water use**

Recreational warnings may be issued by Water NSW and Victorian water authorities during algal blooms, advising water users to avoid contact with water in storages. These recreational warnings do not relate to the quality of drinking water supplied by urban water authorities, but recreational users of the Murray River should be aware of alerts.

**More information?**

Current BGA information and recreational alerts
www.g-mwater.com.au/water-resources/water-quality/blue-green-algae

BGA and your health