

Water Quality

Blue green algae (cyanobacteria) poses health risks to people who swim, boat and fish at Snowy Hydro storage lakes and reservoirs.

What is blue green algae and where does it occur?

Algae are a natural feature of aquatic environments. While most algae are harmless, some types of algae (cyanobacteria or 'blue green algae') are not. Blue green algae can produce toxins that can pose risks to fish and livestock and cause public health issues for people.

Blue green algae are a natural feature of all Australian waterways and reservoirs, including the Snowy lakes and reservoirs and occurrences or 'blooms' of blue green algae have been recorded on numerous occasions over the years (before the construction of Snowy 2.0). Toxic blue green algae species have been detected previously in all Snowy lakes and blooms have occurred previously in many of them.

What causes blue green algae outbreaks to occur?

Blue green algae outbreaks, also known as blooms, occur due to a combination of naturally-occurring environmental factors, such as:

Nutrients

Blue green algae needs nutrients to thrive, particularly phosphorus and nitrogen, which can originate from natural sediment runoff into waterways and also agricultural processes. Bushfires can exacerbate this process, often for years after the event, as higher than normal volumes of nutrient rich ash and debris can enter waterways and lakes.

Warm temperatures

Blooms are common in warmer months as warm temperatures increase algal growth and reproduction.

Stagnant or slow-moving water

Calm, stagnant, or slow-moving water bodies like reservoirs are ideal as the algae can remain near the water surface where they have access to sunlight.

Blue green algae blooms where the species proliferates in high concentrations aren't as common across the Snowy Lakes as some other waterways in NSW, mainly

because of our high elevation, relatively cold water and National Park setting, however, they do occur periodically, particularly in long hot summers like the one we are experiencing right now.

There is no doubt that the Black summer bushfires of 2019/2020 also contributed high volumes of sediment and nutrients to Scheme reservoirs, including Tantangara, that has increased the likelihood and frequency of blooms across the Scheme because this adds nutrients like nitrogen and phosphorus to the system.

Of the Snowy Scheme reservoirs, Tantangara currently faces the highest exposure, both now and into the future, due to the above naturally occurring environmental factors.



Image of a blue green algae bloom at Tumut 2 Tailbay in 2022 after the 2019/2020 Black Summer bushfires.

Is it dangerous to human and animal health?

Depending on the type of bacteria that causes the blue green algae bloom, some bacteria can produce toxins which are dangerous to human and animal health and can cause fish kills.

It's important for both humans and animals to avoid contact with water bodies affected by blue green algae blooms and to follow any advisories or warnings issued by local health authorities and WaterNSW.

Fish kills in rivers and lakes

What is a fish kill and what causes it?

Fish kills are defined as a sudden mass mortality of fish.

It may not always be obvious why a fish kill has occurred as there are complex interactions of environmental factors that can make determining cause challenging, however often they are caused by natural events.

Some common causes include:

- Blue green algae blooms: Algae consumes oxygen as it dies off, and if the dissolved oxygen levels drop too much, this can lead to fish kills.
- Pollution: Toxic substances such as pesticides can be lethal to fish.
- Extreme weather events: Heavy rainfall, droughts, or heat waves can disrupt aquatic ecosystems and trigger fish kills.
- Disease or parasites

Who manages it?

The Department of Primary Industries (DPI) is responsible for investigating and reporting on fish kills.

Any fish kills observed in Snowy reservoirs, or any other NSW catchments, should immediately be reported to NSW DPI via the Fishers Watch Phonenumber on 1800 043 536.

Where can I find more information?

More information on blue green algae and fish kills can be found at these websites



WaterNSW - Algae



Department of Primary Industries - Fish Kills



MDBA Water Quality Threats



Water Quality Australia