

Frequently Asked Questions - Toxic algae

Toxic algae in the form of cyanobacteria are widespread in many lakes and rivers in New Zealand. These algae can be harmful to animals and humans when eaten, licked, or when water containing the toxins is swallowed. Some people will have an allergic reaction from just touching the algae. There are two types: the kind that occurs in rivers and streams which is recognisable as a green/brown slime on rocks, or dark brown/black mats at the water's edge. Toxic algae in lakes can appear as greenish suspended globules, or can be invisible to the naked eye.

For more information and for alerts see www.es.govt/toxic-algae

What are algae?

Algae are a natural part of our environment, and a key part of our ecosystem, providing a vital source of food for fish. Some can produce poisons that harm humans and animals. This is a particular problem when there is a large growth of toxic algae, or a bloom.

The algae blooms we need to watch out for in Southland that make a river, stream or lake unsafe are cyanobacteria. A number of things can lead to a cyanobacteria bloom occurring, including increased levels of nutrients or run-off in the water, low water flows, and warm conditions.

How could toxic algae affect me?

Exposure to high levels of toxins from cyanobacteria may result in serious illness or death in both animals and humans. These toxins have no known antidotes. Exposure can occur by spending time in or around water where there is a bloom, as your skin is likely to come in contact with the water, or you could ingest the water when doing things like water-skiing or swimming.

Exposure can also occur from consuming fish or waterfowl from areas with a bloom (See: *Can I eat fish, shellfish and waterfowl from waters with toxic algae?*)

Children are at higher risk than adults for illness from toxic algae because they weigh less and can get a relatively larger dose of toxin, and are also more likely to put things in their mouths. The presence of toxic algae in waterways will make it unsafe for you and your dog to swim or enter the water, drink from the water, or use it as drinking water for livestock. You will need to stay informed of toxic algae warnings and be vigilant about looking for toxic algae when out and about, particularly during hot periods of the year.

How do I know if it is present?

There are two types of this toxic algae to be aware of – benthic cyanobacteria (rivers) and planktonic cyanobacteria (lakes).

Rivers: Look for green/brown slime on rocks, or dry brown or black mats at the river's edge that have a velvety texture and earthy/musty smell; if you see them, be cautious and avoid that river site.

Lakes: If the water of a lake is cloudy, discoloured, or has small greenish globules suspended in it, it is better to be cautious and totally avoid that area. Remember that the lake kind can be invisible to the human eye.

Even if no warnings are in place for a river or lake, you should still assess the situation carefully before entering the water. In lakes in particular, the water can appear completely normal to the naked eye, but might still have large amounts of algae present.

While we can expect some blooms to occur during warm weather, there are several other factors that can cause a bloom, so a precautionary approach is recommended. People, dogs and stock should avoid drinking river water in summer, and should avoid touching, licking or eating the mats.

What should I do if I've been exposed and I'm feeling unwell?

Anyone who suspects they are experiencing a reaction due to contact with toxic algae should seek urgent medical attention and advise the doctor of the potential exposure to toxic algae and ask them to notify Regional Public Health.

If a dog or other animal is suspected to have consumed toxic algae, a vet should be contacted immediately.

Is it safe to drink water containing toxic algae?

No. Toxins are not removed by boiling, normal filter systems, steri-pen or UV light or by adding household disinfectant. Arrange alternative drinking water.

Can I eat fish, shellfish or waterfowl from waters with toxic algae?

Fish, shellfish or waterfowl such as ducks that have been in contact with water with toxic algal blooms should only be eaten occasionally (less than 1 meal per week). Consumers should avoid eating the liver and other organs, as this is where the accumulation of toxins may be greatest. Fish may taste earthy due to other compounds produced by the toxic algae; there is no relationship with taste and the concentration of toxins. Contact with the water should be avoided while fishing/harvesting and all organisms should be washed in clean water.

How do toxic algae affect the environment?

Toxic algae in the form of benthic cyanobacteria can form dense blooms, block sunlight and use up all the oxygen in the water, killing other plants and animals.

Planktonic cyanobacteria may be invisible to the human eye, or it may cause the water to become cloudy. Blooms can be directly dangerous to aquatic life, block sunlight and use up all the oxygen in the water, killing animals such as fish.

How can I protect myself, my family from exposure to toxic algae?

- Check the Environment Southland website for toxic algae alerts at www.es.govt.nz/toxic-algae
- Familiarise yourself with the two different type of toxic algae for rivers and lakes (see: *How do I know if it is present?*)
- Avoid boating, swimming, water skiing and recreating in contaminated waters.
- If you are exposed to water contaminated with toxic algae, rinse off with fresh water as soon as possible.
- Do not expect a wetsuit to protect you from toxic algae - it won't. Toxic algae can potentially build up in the collar and cuff areas causing additional skin irritation. A wetsuit will need to be washed thoroughly with clean water if worn in water with toxic algae.
- Don't let pets or livestock swim in or drink from areas where you know there is an alert in place, or the water is discoloured, you see foam, scum, or mats of algae on the water.
- If pets (especially dogs) swim in contaminated water, rinse them off immediately — do not let them lick the algae or water off their fur.

- Respect any water body closures announced by Public Health South.

How can I help reduce the occurrence of toxic algae?

- Reduce nutrient loading of local ponds and lakes by using only the recommended amounts of fertilisers and pesticides on your farm.
- Properly maintain your household septic system.
- Maintain a buffer of natural vegetation around ponds and lakes to filter incoming water.

Can water fowl transfer toxic algae from rivers and lakes to paddocks?

As far as we know, cyanobacteria cannot be transferred from birds to paddocks resulting in the poisoning of farm animals.

Is it safe to boat or canoe in water with toxic algae?

How safe boating and canoeing are depends on the amount of direct contact with the water. If you swallow the water or your skin is in contact with the water while boating or canoeing, you are at risk from a reaction to any toxic algae that may be present.

The higher the concentrations of toxic algae and the longer that people are in contact with the water, the more likely a reaction is to occur. Wash boats or canoes and life jackets down with clean water after use.