

Algal Blooms this summer

Cyclone Gabrielle's Impact

The Tūtira region was one of the hardest hit by Cyclone Gabrielle. There appears to have been significant amounts of sediment entering Lake Tūtira and Lake Waikōpiro. As a result, there's the potential for algal and cyanobacteria blooms in both lakes in the 2023-24 summer season.

How are we monitoring algae and cyanobacteria levels in the lakes?

The Hawke's Bay Regional Council collects water samples monthly at Lakes Tūtira and Waikōpiro, identifying what species of algae and cyanobacteria are present, and counting the number of cyanobacterial cells present.

Cell counts and sizes are used to estimate the volume of potentially toxic cyanobacteria in the lake. These counts are assessed against guidelines for cyanobacteria in fresh waters. If the levels are too high then the lake may be closed for swimming.

Alongside this, the Hawke's Bay Regional Council has a monitoring buoy in Lake Tūtira which provides near-real-time information on algal and cyanobacteria levels. The Waikōpiro air curtain helped manage algae levels, but this was damaged during the cyclone and will remain off for the 2023-24 summer season.

In 2021 the permanent swimming advisory in Lake Tūtira was lifted. If a result from our monitoring indicates a potentially toxic cyanobacteria level that exceeds the guidelines for cyanobacteria in fresh waters, Te Whatu Ora will be notified and will close the lake for swimming.

Cyanobacterial bloom in Lake Tūtira - 2017

Longer-term the Regional Council is also supporting a project with GNS Science, and Victoria and Otago Universities to quantify the amount of sediment that has been deposited in each lake. Alongside this, we are sampling the sediment quality to assess the nutrients this sediment may have brought into these lake systems.

What are Algae?

Algae are plant-like aquatic organisms, many of which are single-celled. Algae are the foundation of most aquatic food chains and they can be a good indicator of water quality.

Algae blooms, however, are rapid increases in the amount of algae in freshwater ecosystems. This can lead to harmful algal blooms and can:

- reduce dissolved oxygen in the water
- decrease the clarity of the water
- change the colour of the water
- alter the pH of the water
- produce unpleasant tastes and smells
- impact other organisms living in the water
- cause public health concerns especially if there is a bloom of blue-green algae (or cyanobacteria).

What are Cyanobacteria?

Cyanobacteria are microscopic organisms that are naturally occurring and live in a wide range of waterways. Cyanobacteria blooms in lakes are generally bright green and can give the lakes a 'pea soup' appearance. They can also form visible green, blue and red films or scums on the water's surface, especially at the water's edge.

Blooms are more common during the summer months, when low rainfall, warm temperatures, the right level of nutrients, and more sunlight create an environment where it can thrive. Other than the general effects of algae on waterways listed above, cyanobacteria can produce toxins that can be harmful to humans and other animals when ingested, inhaled, or make contact with the skin.



Algae bloom in
Lake Tūtira - 2012

What you can do

- Check you're good to go at **hbrc.govt.nz**, search **#swim** before swimming or undertaking recreational activities in and around Lake Tūtira.
- Check the Te Whatu Ora or the Hawke's Bay Regional Council Facebook page for updates on swimmability in Lake Tūtira.
- Report any unusual changes in water appearance or odour to the Hawke's Bay Regional Council.

How can you find out more information?

- For further information or inquiries, please contact The Hawke's Bay Regional Council on **06 835 9200**
- New Zealand guidelines for cyanobacteria in recreational fresh waters: Interim guidelines
- LAWA Factsheet: Toxic algae
- Department of Conservation information on native algae
- HBRC's monthly water quality and live buoy data are available via the Tūtira Environmental Dashboard

For more information phone
06 835 9200 or visit **hbrc.govt.nz**