

## Lake Trevallyn blue-green algal blooms

Water quality monitoring at Lake Trevallyn occurs over the summer months between December and March, recording the presence and abundance of blue-green algae during the peak recreational use period. High concentrations of blue-green algae (*Dolichospermum* spp. and *Microcystis* spp.) can result in the formation of potentially harmful algal blooms.

The first recorded bloom in Lake Trevallyn occurred in the summer of 2006-07 and persisted until the end of the following season. Blue-green algae, which occurs naturally in freshwater, is usually more abundant in the second half of summer depending on seasonal environmental conditions. There is a strong likelihood that algal blooms will reoccur in Lake Trevallyn.

### How do we know if a blue-green algal bloom is happening?

Formed after the 2006-07 bloom, the Lake Trevallyn Working Group collaborates through the Tamar Estuary and Esk Rivers (TEER) Program to monitor blue-green algal blooms. The group includes:

- TasWater
- Hydro Tasmania
- Department of Health
- Tasmanian Irrigation
- West Tamar Council
- Meander Valley Council
- City of Launceston
- Institute of Marine and Antarctic Studies

Blue-green algae concentrations are monitored weekly at the Trevallyn boat ramp and at Blackstone Park beach. If blue-green algae concentrations exceed thresholds set in national guidelines expanded monitoring is initiated to determine the extent and magnitude of the bloom. Additional sites include the Cataract Gorge Basin, as well as six locations throughout the Lake which are accessed via boat.

### How will the public be notified?

If the bloom poses a risk to public health, local councils will erect signage as required at the Lake Trevallyn boat ramp, the Blackstone Park beach and the Cataract Gorge Basin. The community will also be notified through the media and via the responsible agencies, as well as via the Tamar Estuary and Esk Rivers Program's Facebook page.

### What is a blue-green algal bloom?

Blue-green algae, which are a type of photosynthesising bacteria, occur naturally in our waterways and are almost always present in low concentrations. A bloom occurs when there is an environmental imbalance, causing algae to grow rapidly and accumulate into dense visible patches at the surface of the water. At high concentrations, blue-green algae can impact public health and the environment.

### What causes algal blooms in Lake Trevallyn?

Algal blooms in Lake Trevallyn can occur because of a range of environmental conditions such as persistent hot weather, low wind speeds, high nutrient levels, and still water. These conditions provide a stable environment for blue-green algae to multiply.



The boat ramp at Lake Trevallyn is one of two sites sampled weekly.

## Is drinking water impacted during a bloom?

Domestic drinking water is safe, and the public will be notified if it is not safe to drink. Drinking water is regularly tested and may need additional treatment when a bloom occurs to remedy impacts to taste or odour, as well as remove potentially harmful substances that may cause irritation. Previous algal blooms in Lake Trevallyn have not impacted the safety of drinking water.

## Are recreational activities impacted during a blue-green algal bloom?

Algal blooms can make the water unsuitable for recreational activities such as boating, swimming, or fishing. In very high concentrations, contact with blue-green algae can potentially be harmful and cause human health problems. Symptoms may include:

- skin rashes
- eye irritation
- earaches
- itchiness
- swollen lips
- hayfever symptoms
- asthma
- gastroenteritis



Water samples are also taken from Blackstone Park beach.

## What can be done to prevent or disperse a blue-green algal bloom?

Prevention is difficult as there are many factors preceding a bloom which cannot be controlled. Turbulence in the water column can help to disrupt blooms, for example from a storm or a managed water release. These events can help disperse a bloom by disrupting the stable conditions favoured by blue-green algae.

## Key Contacts

Organisation	Area of Responsibility	Phone
West Tamar Council	Recreational water quality	(03) 6383 9300
Meander Valley Council	Recreational water quality	(03) 6323 9300
City of Launceston	Recreational water quality	(03) 6323 3000
TasWater	Drinking water quality	13 69 92
Hydro Tasmania	Power generation and flows down South Esk	1300 360 441
Tasmania Department of Health	Public Health	1800 671 738



Lake Trevallyn algal bloom April 2007. Photo: TasWater



Microscopic view of *Dilochoispermum planktonica* in water sample taken from Lake Trevallyn.

