

Algae and Aquatic Plants

Lakes, wetlands and water quality

The City's wetlands and waterways are important refuges for flora and fauna.

- Lakes, wetlands and some compensating basins are refuges for our native oblong (long neck) turtles, frogs, water birds and other aquatic animals.
- Most of our lakes and wetlands are located within parks where established trees provide feeding and nesting opportunities to native birds.
- Open-cut drains that traverse the City provide safe movement corridors for aquatic fauna, reducing the risks associated with crossing roads.

However, these environments are under pressure from surrounding land uses which contribute to nutrient loading, promoting algal blooms and rapid growth of aquatic plants.

These "blooms" typically occur in the warmer months, when conditions are favourable and can include:

- Floating filamentous and suspended single celled algae (generally non-toxic, however the City will monitor for toxic blue-green algae) and
- Aquatic plants which pose minimal risk to the environment such as *Azolla* and *Lemna* (Duckweed) provide a food source to fauna and help reduce the risk of toxic algal blooms by taking up nutrients and shading the water column.

Will the algal or plant bloom go away?

With cooler temperatures and reduced nutrients these algal or plant blooms will dissipate.

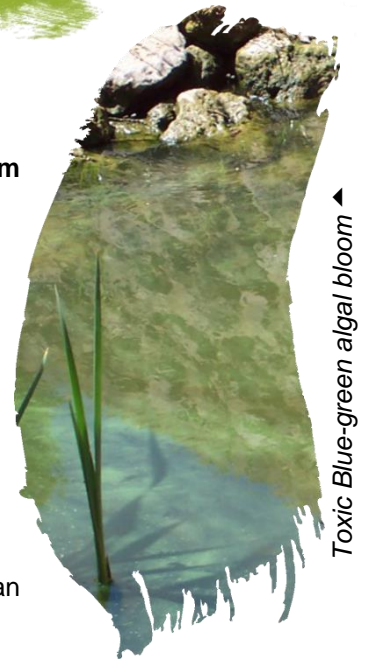
During prolonged periods of algal or plant growth there are nuisance factors which are temporary and unavoidable:

- Decomposing algal and plant material can cause temporary nuisance odours
- Scums or surface materials can accumulate during these events however will dissipate with the bloom
- Low dissolved oxygen or toxic algal blooms can create issues with the loss of fish and the City will work closely with other Government agencies to minimise these impacts.

What the City does to manage this

The City manages these waterbodies in various ways depending on their location:

- Where appropriate and effective, some lakes are aerated with below-surface aerators
- Where possible the lake edge is planted with a vegetated buffer to reduce the risk of nutrient runoff from the surrounding parkland
- The application of an enzyme that reduces nutrient availability to algae has been trialled at selected lakes
- The City's Environmental Officer Light Industry assists local businesses in identifying safe practices for wash bays and chemicals stored on-site
- Stormwater is monitored in some locations to identify changes in water quality
- A leaf tissue analysis is conducted prior to fertilising active reserves, and
- Use of slow release, phosphorus free fertilisers



▲ Toxic Blue-green algal bloom



▲ The aquatic plant *Azolla* is non-toxic and provides waterbirds a food source

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within 15 metres of waterways

- Conduct analysis of nutrient concentrations in leachate from lysimeters installed within selected locations.

What the City won't do to manage Algae and Plants?

The City understands the concerns of the community during algal and plant blooms.

The following however are not considered appropriate management options and may exacerbate environmental impacts:

- Mechanical/ physical removal of algal blooms or floating aquatic plants can release more nutrients to the waterbody through disturbing sediment
- Application of chemicals (i.e. herbicides) impacts other flora and fauna
- Where water levels are low, the operation of an aerator is ineffective and often damages the aerator itself and therefore needs to be turned off
- The use groundwater to "top-up" lakes is an inappropriate use of groundwater and is often lost to evaporation or infiltration.

What are the risks?

During algal blooms it is recommended not to come into contact with the water and to prevent pets from entering or drinking the water.

If you or someone else comes into direct contact with water containing an algal bloom it is recommended to immediately wash/rinse the exposed area.

During algal blooms there is also the risk of fish kills due to reduced oxygen levels.



Safe and non-toxic 'Duck Weed' ▲

What can the community do to minimise algae and plant blooms?

Severity and frequency of blooms are only reduced by controlling the nutrient supply to the water body.

It is therefore important to manage aquatic ecosystems with a holistic catchment management approach.

Everyone can work towards reducing excess nutrients and pollution from entering water bodies.

- Pick up animal droppings from lawns and parks and place them in bins provided
- Please do not feed native wildlife. This can increase faecal waste and affects the water quality. It can also be harmful to native wildlife
- Always place unwanted garden waste in a green waste bin, take it to the tip or use it as mulch or compost for your home garden. Never dispose of green waste in or near a water body
- Wash your car, boat or caravan on the lawn and not on the street or in the driveway and use phosphorus free detergents. This prevents chemicals and excess nutrients from entering waterways through the stormwater system
- Use fertilisers in moderation and follow the instructions carefully or seek alternatives. For more information visit www.fertilisewise.com.au
- If you see or suspect any pollution please contact the City on 9477 7257 with as much information as possible.



► Floating filamentous non-toxic algae

For more information visit the City's Website www.belmont.wa.gov.au/WaterQuality or contact the City's Parks and Environment Department on 08 9477 7257.

