



# Managing blue-green algae in Torrens Lake

The **River Torrens/Karrawirra Pari** is the main river in Adelaide, flowing from the Mount Lofty Ranges to the sea at West Beach. **Torrens Lake** refers to the section of river from Torrens Weir to Frome Street Bridge.

Together they form one of Adelaide's most recognisable landscape features, and make an important social, economic and environmental contribution to the city and the wider metropolitan area.

Each year over summer, water stops flowing into the lake and it slowly heats up, becoming susceptible to blue-green algae blooms. At high concentrations, toxins from some blue-green algae species can be harmful to people and wildlife. When that happens, the lake has to be closed for recreational use.

Through monitoring algae levels, catchment management and using flows of fresh water, we can successfully control blue-green algae in the lake. Managed flows released from Kangaroo Creek reservoir mix up and cool down the water in the lake, successfully disrupting the growth of algae.

The amount of water released depends on summer weather conditions at the time and the frequency and volume of recent rainfall. To help the water out to sea, a small channel is excavated across the beach from the Torrens outlet to the sea at West Beach.



## Monitoring

- Remote water quality monitoring at a permanent station in the lake throughout the year.
- Twice weekly water quality monitoring at 7 locations in the lake over summer.
- Twice yearly fish monitoring along the river and around the lake.



## Minimising nutrients

- Duck feeding station in the lake closed.
- Over 15,000 native aquatic plants placed in the lake to take up nutrients.
- Floating wetlands (aquatic plants grown on a floating platform) trialled near Torrens Weir.
- Phoslock (a chemical that gets rid of phosphorus) trialled in 2006.



## Catchment management

- Regular removal of carp – over 3.5 tonnes removed to date.
- Erosion prevention and riverbank planting.
- Woody weed removal and replanting with native plants along River Torrens Linear Park.
- Regular dredging and clean-up after major storms (3000m<sup>3</sup> of rubbish removed in 2017).
- Fencing-off stock from rural areas.
- Wetland and stormwater reuse schemes created at First Creek, Kensington Gardens Reserve and Felixstow Reserve.
- Biofilter and stormwater reuse schemes established at Linde Reserve and Klemzig Reserve.



## Improving water quality

- Aerators to add oxygen to the water, trialled for a number of years.
- 2008 and 2012 trials of transportable biofilter to clean up the water.
- Managed flows trialled at different flowrates from 3–5 days, to mix up, cool and exchange the water.



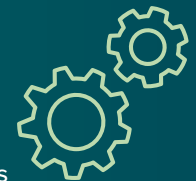
## Hydrogen peroxide trials

- Hydrogen peroxide was trialled at low doses as it kills blue-green algae but not other aquatic species.
- 2014-2015 trials undertaken in the laboratory and small ponds.
- 2016-2018 trials undertaken near the Adelaide Zoo and Torrens Weir.



## Infrastructure

- Gross pollutant traps on all stormwater entering the lake and throughout the catchment, including First, Second, Third, and Fourth creeks capturing over 5000 tonnes in the last two years.
- Upgrading the gross pollutant trap on Second Creek at St Peters to increase litter trapping effectiveness.



*The project is a collaboration between Green Adelaide, Department for Environment and Water, SA Water, Environment Protection Authority, the City of Adelaide and the City of Charles Sturt.*