

New Lake Aerators at Tomato Lake

Two new aerators have recently been installed at Tomato lake for the purposes of improving water quality. Each aerator consists of three 4 kW AirDuck venturi nozzles with airlines, connected to a pump and injects 3600 L of air per minute into the bottom of the lake. They operate for 12 hours per day from 06.00 am till 6 pm. A similar aerator, although smaller has also been installed in Centenary Park Lake and the Central Belmont Main drain lake at Ascot Waters. A smaller unit has been operating effectively in Norlin Park lake for the last 12 months and has significantly reduced the extent of filamentous green algae over the summer months and improved water quality.

The AirDuck has replaced one of the large RIO lake agitators, which has been in Tomato lake for 4 years to circulate water around the lake by pushing it with a large turbine. This system, while effective in helping to reduce the extent of blue-green algal blooms, had high maintenance and power costs and it was decided to replace it with the new system, when the agitator motor and gearbox seized in June this year.

Whilst aeration is not a solution to all water quality problems, it will certainly improve the health of the lakes, which suffer from lack of oxygen. Some of the benefits that we hope to gain with the new AirDuck aerators include;

- Circulation of the lake water
- Increased oxygen in the water for aquatic organisms
- Reduced anaerobic (low oxygen) decomposition and therefore reduced odour
- Reduced water temperature and reduced evaporation
- Reduced potential for Botulism bacteria which thrives in warm temperature and low oxygen conditions
- Reduced incidence and severity of blue-green algae
- Improved water clarity
- Removal of some excess nutrients (nitrates)

The effectiveness of the AirDuck systems in Tomato Lake will be monitored through the City of Belmont's Tomato Lake Water Quality Monitoring Program. Data has been collected since 1998 to determine the effectiveness of water quality improvement initiatives such as the installation of lake agitators, bacterial application for nutrient reduction and foreshore revegetation. For further information regarding these initiatives contact the Parks Environmental Officer on 9477 7222.

