

Shire of Kalamunda – Lake Juniper Oxygenation

Bird deaths at Lake Juniper within the Shire of Kalamunda were attributed to Botulism. Observed low oxygen levels within the lake yielded anoxic conditions supporting the bacteria. Oxyjet was employed by the shire to raise the level of dissolved oxygen within Juniper Lake and eliminate the conditions favourable to the development and existence of clostridium botulinum.

The Problem

The shire of Kalamunda had received reports of numerous water bird deaths at Lake Juniper in Forrestfield. Field tests undertaken by the Shire revealed very low oxygen levels in the lake.

It was believed that the bird deaths had been caused by Botulism. Clostridium botulinum is an oxygen-intolerant or anaerobic bacterium that persists in the form of dormant spores when environmental conditions are adverse. It was considered that increasing the dissolved oxygen levels in the lake would remove the C.botulinum contamination that had been causing the deaths.

The Solution

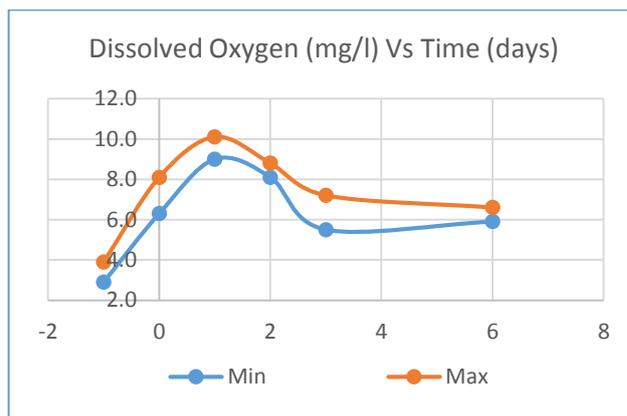
Oxyjet WA attended the site on 29 April 2004 and obtained dissolved oxygen levels at five points around the lake. These readings prior to dosing with Hydrogen Peroxide were between 2.9 and 3.9 mg/l.

Oxyjet Australia applied 225Kg of 50% Hydrogen Peroxide at three points around the bank and with our small radio controlled boat over a one hour period. An additional pumping unit and nozzle assisted aeration and mixing.



Result

Oxyjet continued to observe the levels of dissolved oxygen for six days following the initial dosage. Oxygen levels were observed to rise steeply within a day of application followed by a subsequent drop then stabilization over a number of days.



Following the dosing with Hydrogen Peroxide the Shire of Kalamunda reported that there had been no water bird deaths and the wildlife continued to inhabit the lake without any ill effects.

