

Case Study

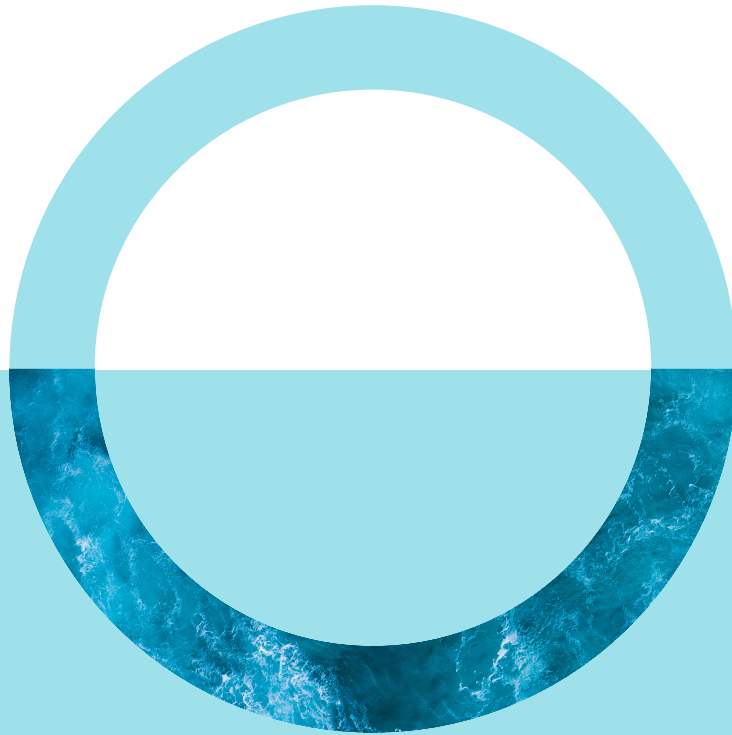
Oxygen Saturation at the
Auckland Domain
Duckpond

OxyJet™
OXYGEN SATURATION



 **PARKLINK**

Case Study Snapshot



Background

LOCATION

Auckland Domain

OBJECTIVES

Increase Dissolved Oxygen levels to improve water quality

CHALLENGES

- To increase DO from 0.1ppm on the sediment layer to >4ppm
- To find something that works in shallow water and doesn't ruin the aesthetic of the pond

SOLUTION

An 8lpm OxyJet System was installed. This increased DO to the target level in just 2.5 days without any unsightly splashing, bubbles or noise.

BENEFITS

- DO increased throughout the pond
- Mitigates the release of nutrients into the sediment layer and helps bacteria breakdown organics
- Simple and reliable

INTRODUCTION

The Auckland City Council, dedicated to maintaining a clean and healthy duckpond, reached out to Parklink to come up with an option for increasing the dissolved oxygen of the water. Low DO, causes sediment bound nutrients to be released into the water column, contributing to harmful algal blooms. This can result in fish death and a poor experience for people visiting the domain.

The Domain Pond as built up with leaves and other organics over many years creating an oxygen demand on the system. This results in algal bloom outbreaks in the summer.

Because the pond is shallow, diffused aeration will be ineffective, and surface aerators produce a lot of noise and splashing and may not distribute oxygen down to the bottom of the pond where it is needed most.



SOLUTION

The OxyJet system can take water with DO as low as 0 ppm and increase it to over 20 ppm. Oxygen is generated on site with an oxygen generator, where it is pumped into a specially designed water-oxygen contact chamber. Here, pumped pond water becomes super-saturated with oxygen. This technology has distinct advantages over other aeration including being able to reach much higher DO levels, having low visual and audible impact, and simple to set up.

The oxygen generator was housed inside an existing pump chamber on site (see image). This was then connected to the contact chamber which was positioned in the pond. This was allowed to run continuously. We took readings before and after installation of dissolved oxygen.

OxyJetTM
OXYGEN SATURATION

Results

of primary objectives

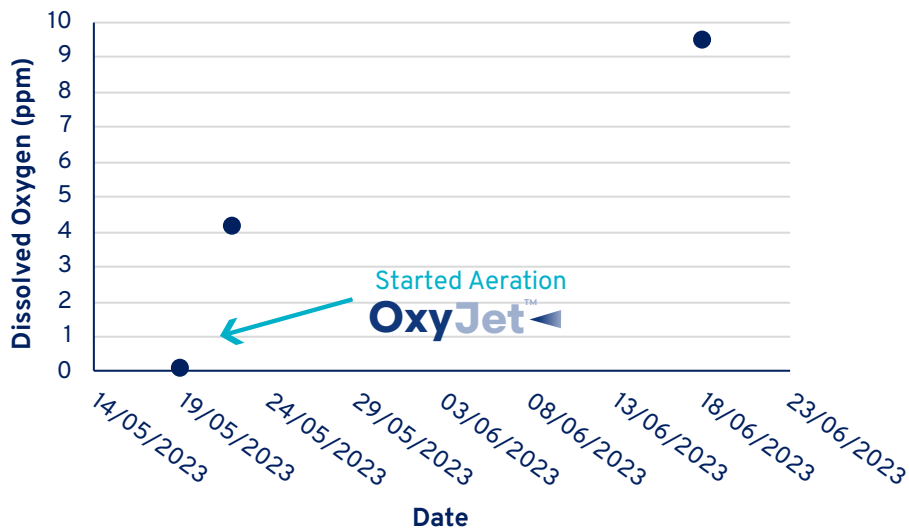
1. Increase DO at the sediment layer to 4 ppm

ACHIEVED

Observations showed that OxyJet:

- DO of the water immediately downstream of the OxyJet was recorded as 18 ppm
- Increased DO to above 4ppm at the sediment layer within just 2 and half days of operation
- Increased DO throughout the entire pond evenly to between 4 and 6 ppm.
- After 30 days, the DO in the pond increased to 9.5 ppm

Average DO at the sediment layer (ppm)



Contact us today:

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