



AlgaEnviro

Enhanced Diatom Growth as a Method for Reduction of Cyanobacteria in Wastewater Treatment Lagoons in SE Queensland

Diatomix

A Natural Way to Control Algae Blooms

Diatomix is a natural solution to control nutrient levels as well as managing problem and toxic algae.

Diatomix is a non-toxic, leading-edge nano-technology for water managing waterbodies.

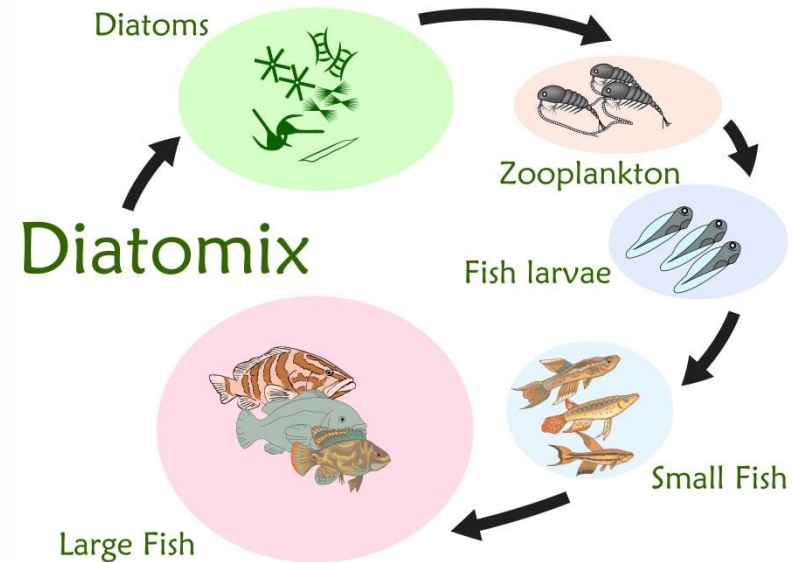
Before



After

How Does It Work?

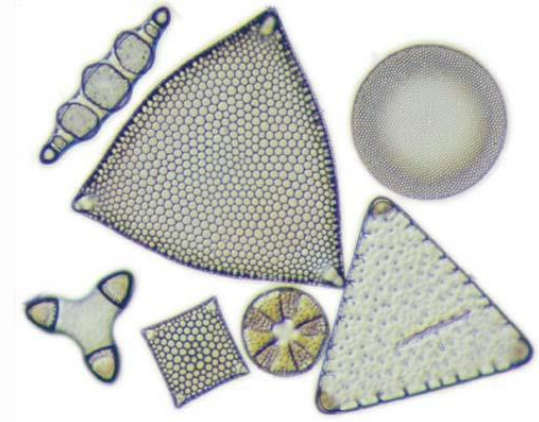
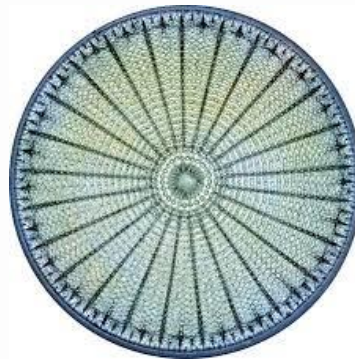
- By boosting diatom growth, Diatomix moves nutrients into the food chain
- Diatoms can out-compete blue-green algae and other problem plant life for the Nitrogen and Phosphorus (N and P) in the water
- N and P in the water are converted into zooplankton, invertebrates and fish biomass, so a healthy balance is restored to the waterbody



What are Diatoms?

➤ At the bottom of the food chain, diatoms are a diverse group of algae and are one of the most common types of organism found in oceans, lakes and freshwater ecosystems

➤ Diatoms are a major food source for zooplankton which in turn are the primary food for invertebrates, fish, and other organisms.



- Diatomix is a nano-silica based micro-nutrient liquid solution
- 1 litre of Diatomix promotes the growth of 200 to 1,000 kg of diatoms and can convert up to 80 kg of Inorganic Nitrogen into animal biomass (zooplankton, insects, fish, eels, birds, etc.)
- Diatomix contains: Nano-silica and ten micronutrients: Iron, Manganese, Cobalt, Molybdenum, Calcium, Boron, Copper, Magnesium, Zinc and Potassium

COMPONENTS

Ionic forms of; Fe, Mn, Co, Ca
Mg, Zn, Si, K, Cu, Cl, Mo, B

All metals are adsorbed to nano-silica gel in water to form nutrient for diatom growth

Proudly Made in Australia
By AlgaEnviro Pty Ltd

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DIATOMIX

AlgaEnviro

Nano Nutrients for diatom regeneration
www.algaenviro.com.au

1 Litre-1000ml

SHAKE BOTTLE WELL

Mix required dose with approximately 9 litres of water
Pour the liquid at 4 to 6 locations per site
(If sites have inlets, dose diatomix near the inlets)

DOSEAGE

- Calculate as per Diatomix Representative's instructions
OR use website calculator
Repeat dosage weekly

SAFETY INSTRUCTIONS

- Non-toxic, non-pesticide solution
- Keep out of the reach of children
- Do not ingest
- If splashed in eyes, rinse with clean cold water for 10 minutes
- Avoid contact with open wounds
- Do not overdose

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Council Trial

STP site - Started 8 Feb 2016

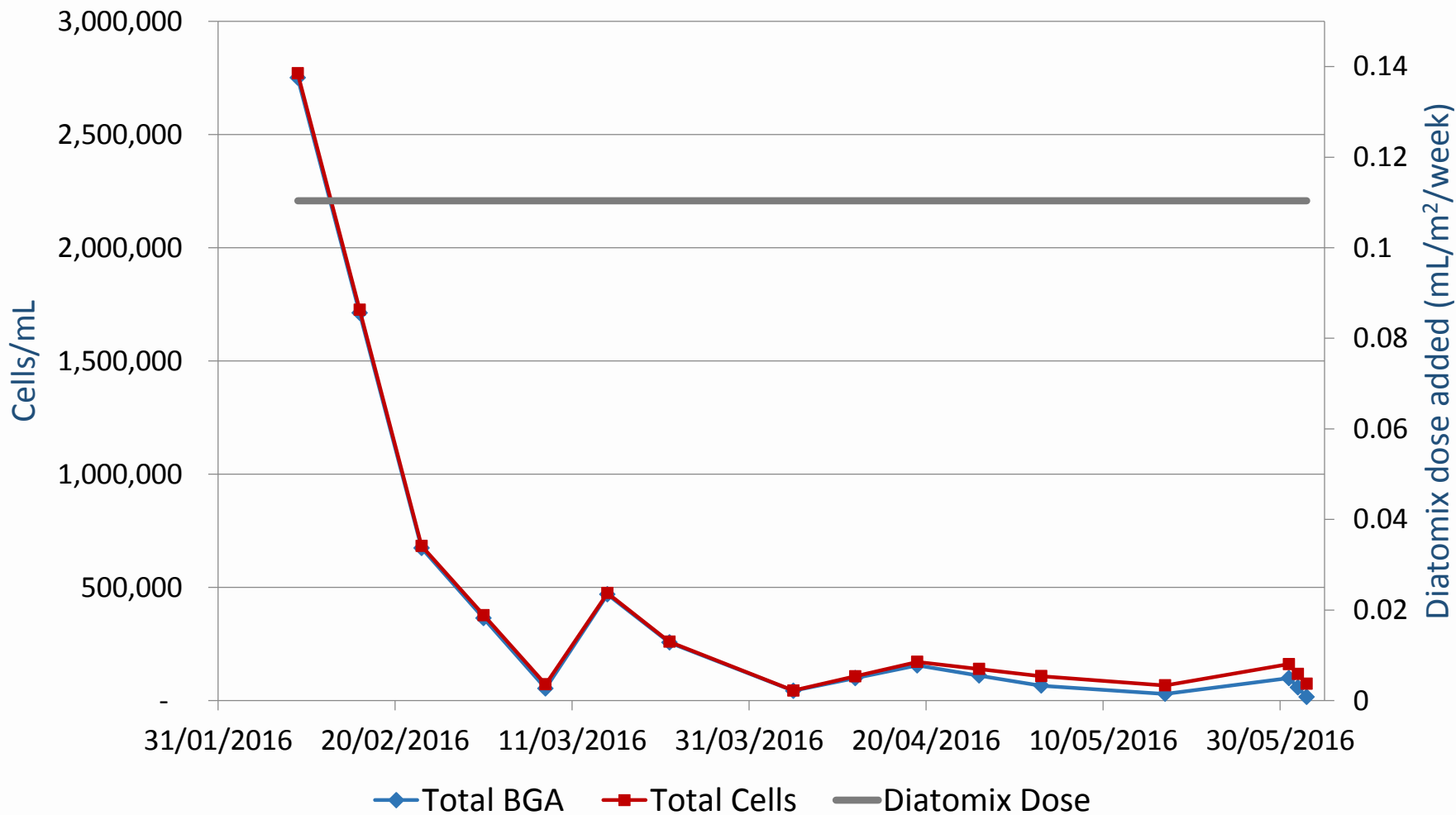
Finished on 3 June 2016



- Dosing rate for the trial was 0.1 mL/m²/week
- Total Blue Green Algae reduction was 99.4% by end of trial

Council Trial

STP site



Council Trial STP site



Council Trial

STP site



Council Trial

STP site



4 March



10 February



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Council Trial

STP site

The New Plan

- Controlling Blue Green Algae (BGA) with Diatomix works
- Started dosing in winter before the problem arises, for easier control
- Automated dosing station reduces OPEX and operator time



Utility Trial

Trialled at three of their sites



Site 1 - Prior to trial start

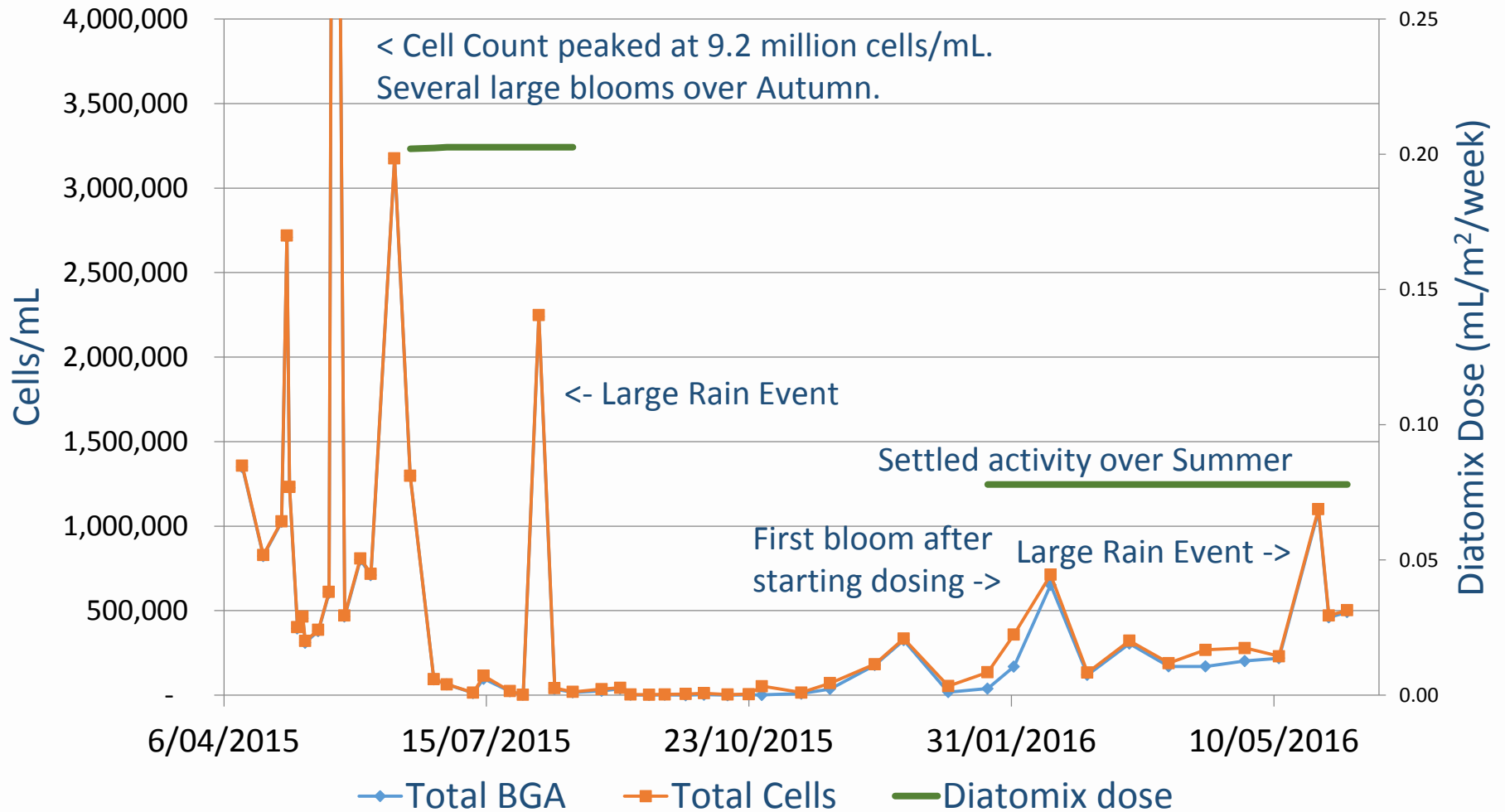


Four months into trial

Dosing rates for trials ranged from 0.08 to 1.0 mL/m²/week depending upon the nitrogen concentration of the lagoon (11 to 37 mg/L Total Nitrogen)

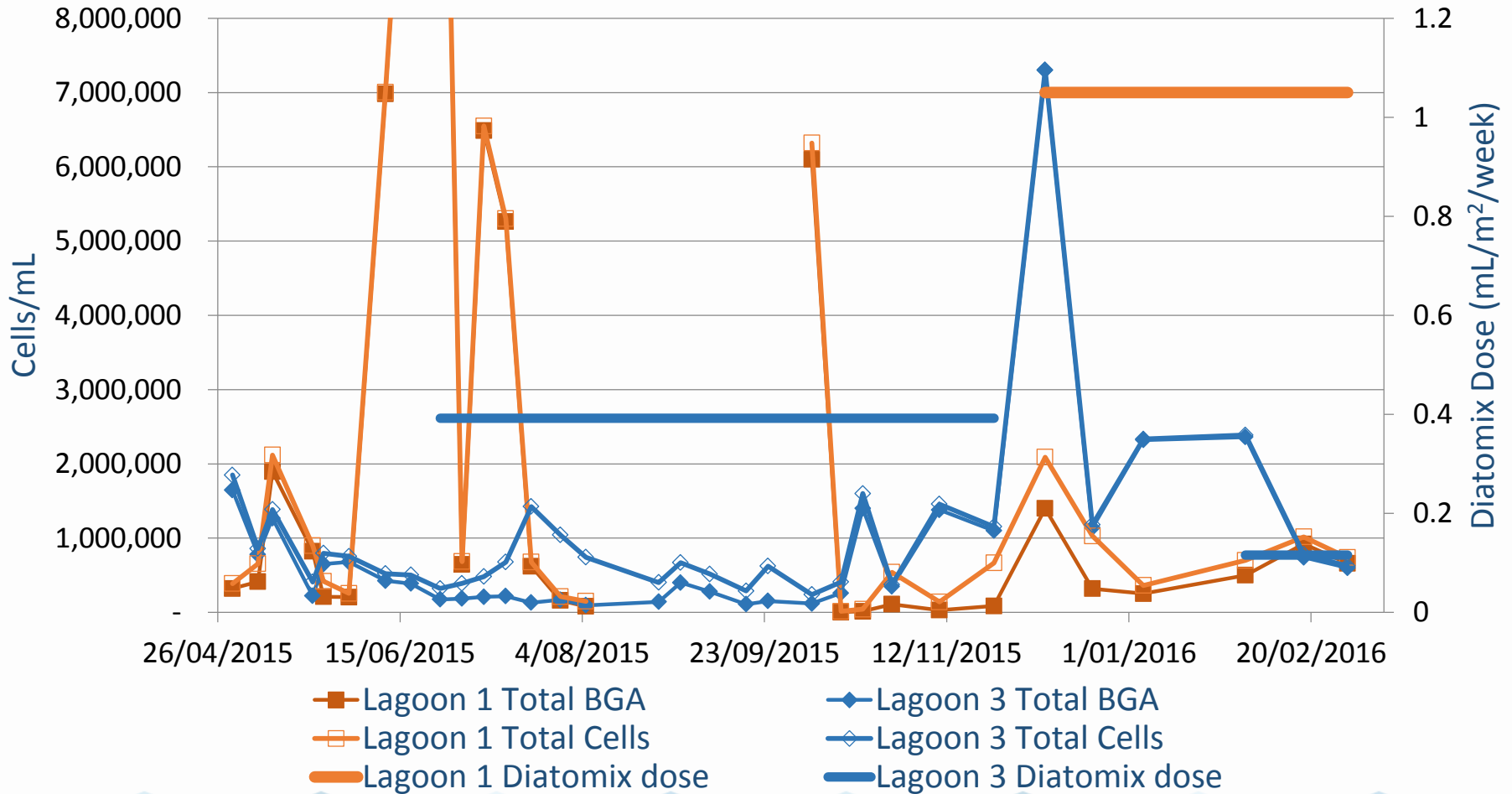
Utility Number 1

Trial Site 1



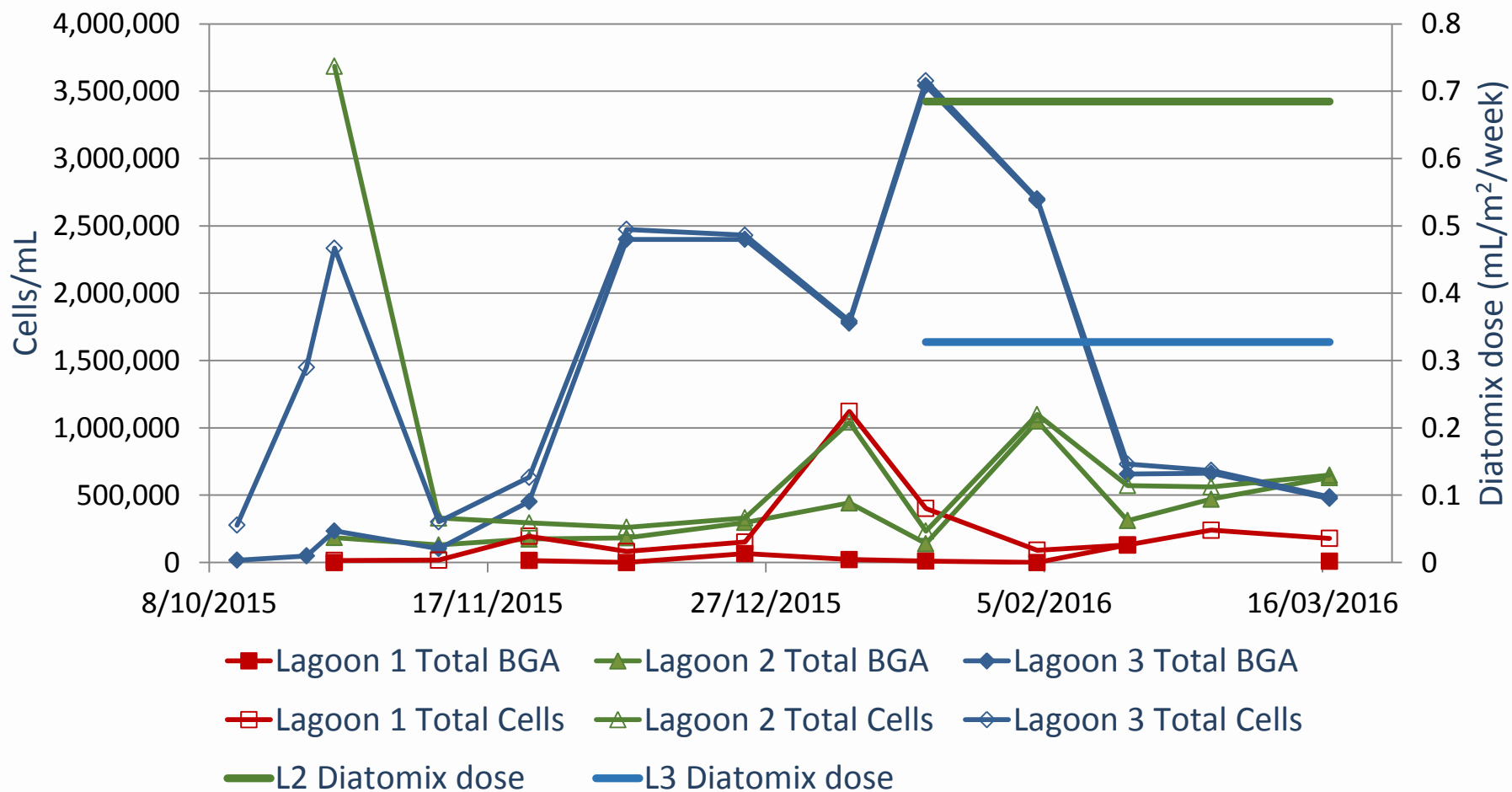
Utility Number 1

Trial Site 2



Utility Number 1

Trial Site 3

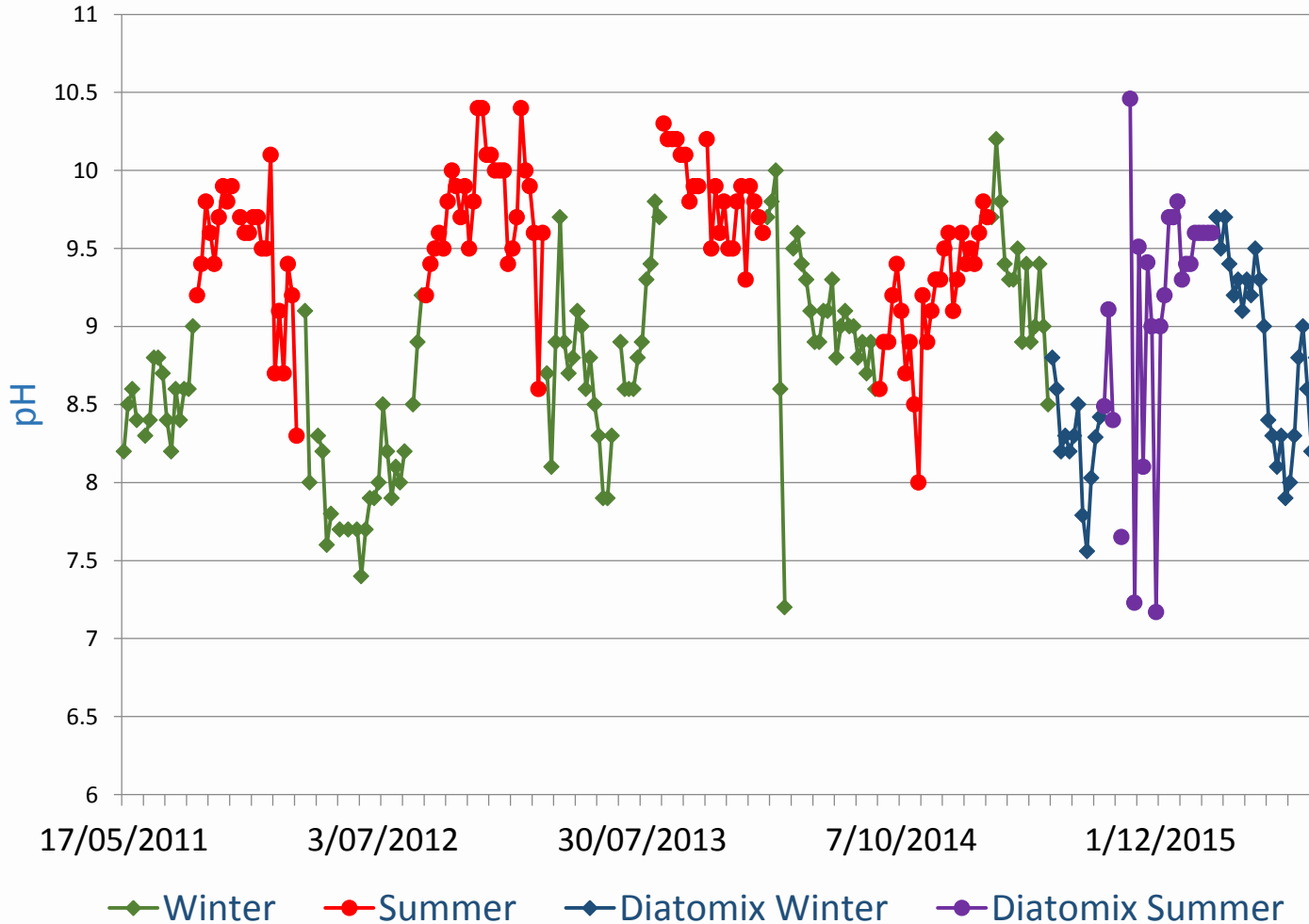




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Utility Number 2

Trial Site 1



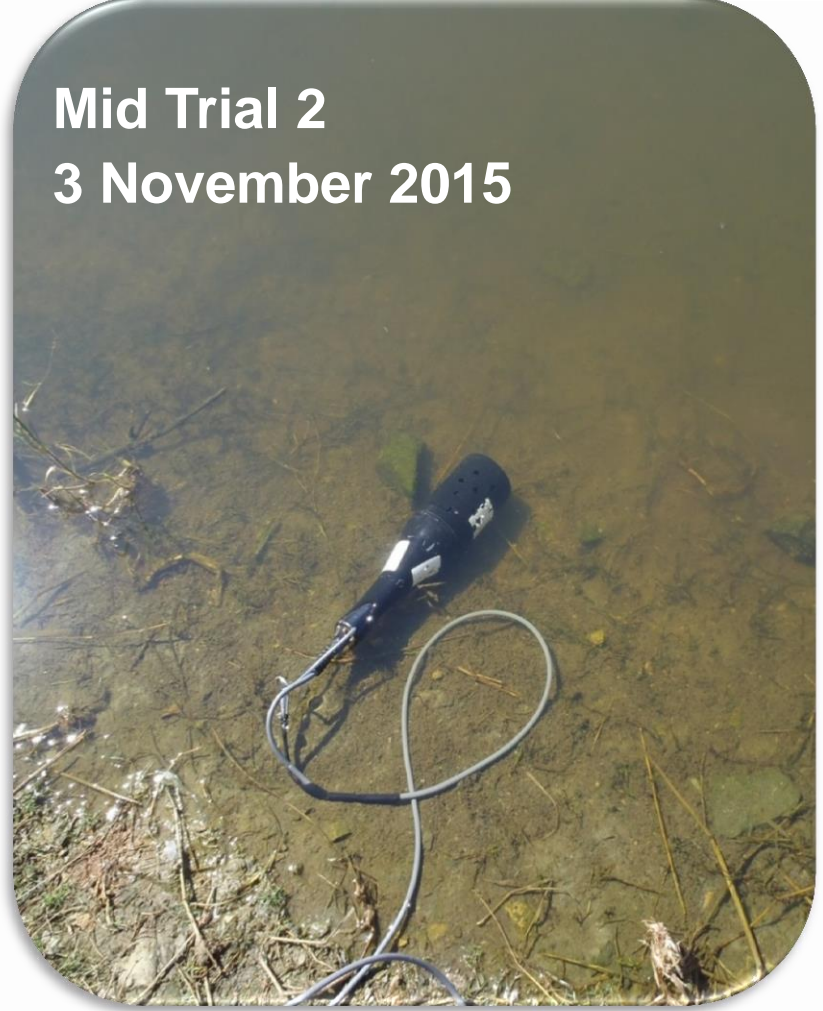
Site 2 - Storage Dam Changes in Appearance



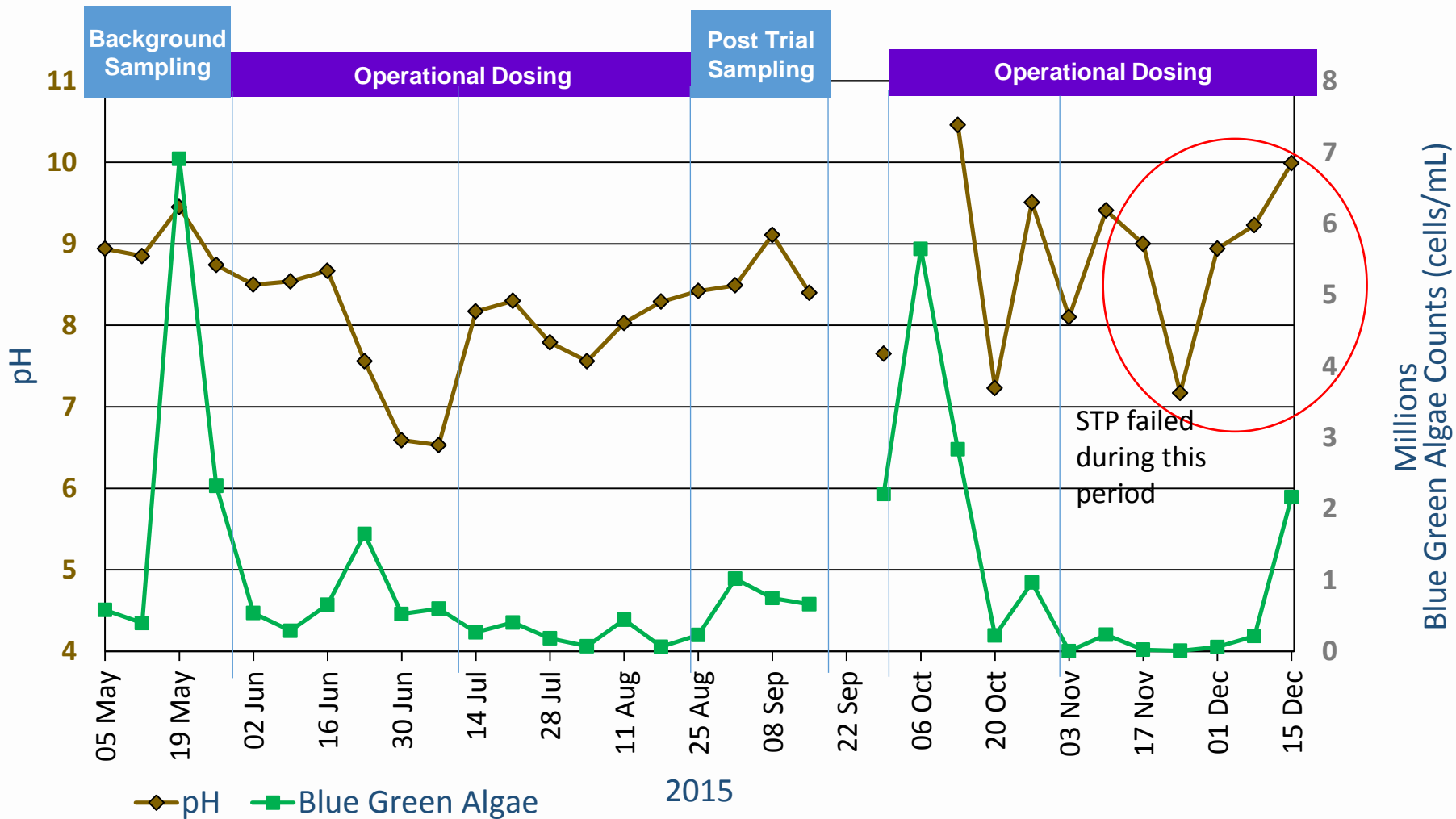
Start Trial 2
29 September 2015



Mid Trial 2
3 November 2015



Site 2 - Algae Counts during two trial periods



Site 2 - STP Improvement Options

Improvements	Cost	Includes
Full Upgrade	Capital Cost: \$15 million	Two parallel decant tanks, dosing unit + pH correction + increasing sludge removal
Increase Land Disposal Area Available	Capital Cost: \$2 to 5 million	Land cost (if available) + cost of pipes and irrigation set up
STP Chemical Phosphorus Removal	Capital Cost: \$1 to 2 million	Dosing unit + pH correction + increasing sludge removal
Diatomix Dosing	Capital Cost: \$2,800 Operational Cost: \$5,200	Diatomixer unit + 40 litres of Diatomix

Contact Details

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AlgaEnviro



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For more information please visit our website:

www.algaenviro.com.au