



Lake Fix Enzyme (Soil-Zyme™) for Water Management - Est. 1996

LAKE FIX ENZYME (Soil-Zyme™ for water) is an Australian Owned & Manufactured product established in 1996. **Lake Fix Enzyme** is used for large water bodies, in conjunction with the aerators with great success. **Lake Fix Enzyme** is a cost effective and safe water treatment compared to foreign bacterial or chemically based alternatives.

Lake Fix Enzyme has proven to:

- Increase DO (Dissolved Oxygen) of 40-60% after the first 7-8 Days*.
- Vigorously increase the healthy growth of aquatic plants (target species) resulting in the reduction or elimination of weed species.
- Reduce or eliminate organic residue like slime, sludge & fouling material.
- Increase the general health of all aquatic livestock.
- Improved water quality and visibility.
- Achieve an 80% or more reduction of Algae and Algae Blooms.
- Eliminate Blue/ Green Algae within 3-4 Days of application.
- Reduce/ Eliminate unwanted outbreaks, when Soil-Zyme™ is used properly.

*Initial DO may drop due to increased BOD (Biological Oxygen Demand).

Lake Fix Enzyme has been tested against a number of biological (bacterial) water treatment products and has shown to be equal if not superior to those products.

Rate of application: 0.7L/ 1,000m³ of water, poured directly into the water.

Best results achieved in water temperatures over 15°C
with high levels of dissolved oxygen.



HAWKER RESERVE LAKE



Project Details

Water all year around is green, has surface algae

WSUD Category: Wetland/lake algae management

Development Type:	Public Open Space
Function/Driver:	Water quality
Government Area:	City of Rockingham
Site Context:	Shallow groundwater
Year Completed:	2019

Submit a Project

Type of wetland

- Constructed
- Has 2 x Aerators and a sub-surface aeration system

Description of the wetland management issue

Water all year around is green, has surface algae.

Treatment trialled

- Name of treatment: Soilzyme
- Quantity used: 35 litres per dose 4 times a year.
- Method of application: Poured around the perimeter of the lake in the concentrated form.
- Is there any known scientific research supporting its effectiveness? ☐ Yes ☒ No

Date(s) of treatment

Applied on 20 August and 13 Sep 2019 (to date).

Outcome of treatment

- Visual observations: Before treatment water was green and had severe surface algae. After the two treatments the water has lost most of the green colour and the surface algae has gone.
- Have water parameters specific to the treatment claims been measured before and after application? ☒ Yes ☐ No
- Water quality tests were completed before treatment but will wait till March 2020 to re-test.

To view the article, copy and paste the link below into your browser.

<https://www.newwaterways.org.au/projects/soilzyme-trial-treatment-hawker-reserve-lake/>

HAWKER RESERVE LAKE BEFORE



HAWKER RESERVE LAKE 2 WEEKS AFTER



KINGS PARK IRRIGATION SYSTEM BEFORE



Concentration pond for Iron settlement. Note, Iron build-up on top of the sump in far-right image below. This indicates iron dropping out the water column from added aeration.



KINGS PARK IRRIGATION SYSTEM AFTER ENZYME & AERATION



KINGS PARK PARKLAND

Kings Park Parkland has an annual cleanout. Years prior to using enzyme, the mud would be a black oozy mess with high levels of organic matter. When enzyme is used, the sediment is healthy & aerobic with far less organic matter and odour.



CENTENARY PARK LAKE



CENTRAL PARK LAKE JOONDALUP

Central Park Lake in the City of Joondalup, clean out after 10 years.

Enzymes had been used for 3 months prior to the cleanout.

Note the core sample from the sediment.

The enzymes have converted the upper layer from grey-black to a light olive-green colour.

This indicates that the sand layer of 400mm was converted into an aerobic condition.

The organic matter has degraded to humus in the top 120mm.

The enzymes would have cleaned the sand entirely over the coming months.



TOMATO LAKE BELMONT



BROADBEACH JOONDALUP



ASCOT DRAIN LAKE



PERTH ZOO TESTIMONY



PERTH ZOO
WESTERN AUSTRALIA

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May 3, 1999

Jan Tschierschky
General Manager
International Rehabilitation & Soil Stabilisation Services
Unit 42, 19 Joseph Street,
MAYLANDS WA 6051

Dear Jan,

Considering the Zoo's long history of water problems associated with its lakes, ponds and pools, and the recent significant improvements we have achieved with your help, I would like to take this opportunity to thank you for your contribution. The consultation you have provided to the Zoo pro bono represents a substantial sponsorship. Your experience and expertise has been extremely valuable.

You have been able to explain the underlying principles and bio chemical processes in a way we can all understand not only the proposals but also how our practices effect the outcomes.

I appreciate your dedication to finding the most practical and cost effective solutions. Your recommendations combining biological, chemical and mechanical innovations with changes in work place practices have proven highly effective. Today the Zoo's water quality has never been better and while we still have a long way to go I am confident that with your support we will achieve very high standards.

Your professionalism has made it a pleasure to work with you.

Thank you,

Sincerely,

Tom Tischler,
Director, Planning & Development

CITY OF BELMONT TESTIMONY

To Whom It May Concern:

The City of Belmont uses Soil Zyme for treatment of algae in several lakes, including Tomato Lake, Kewdale and freshwater Lake, Ascot. Tomato Lake is part of the South Belmont Main Drain stormwater system, and flows into the Swan River. In the City's experience, Soil Zyme in combination with aeration has contributed towards a reduction in the occurrence and severity of algal blooms. There have been no adverse affects of Soil Zyme on the water quality of the lakes, or their surrounding flora and fauna.

Nicole Davey

Environmental Coordinator

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City of Belmont

215 Wright St (LMB 379) Cloverdale WA 6105

BALI GOLF AND COUNTRY CLUB TESTIMONY



Bali Golf and Country Club

In regard to: **International Rehabilitation and Soil Stabilisation Services of 42/19 Joseph St, Maylands Western Australia**

Bali Golf and Country Club have a number of unique Environmental problems due its location and design. One of the main problems has been our Lake (3ha Surface area, 2m deep).

To solve the problems we are engaging the service of Jan Tschierschky from International Rehabilitation and Soil Stabilisation Services (IRASSS).

So far the advice and service given has been good, cost effective and simple to implement. Without hesitation do I recommend IRASSS to any one with unique Environmental problems.

Yours faithfully,

Mark S. Isley
Superintendent
Bali Golf and Country Club

WATERGARDEN WORLD TESTIMONY

Watergarden World

To whom it my concern,

I have been managing the fish and plant production of Watergarden Worlds Armadale operation for 11 years.

In that time we have used the enzyme from International Rehabilitation for serval purposes. The main use is in the maturation of recirculation systems were fish are held in density.

This is performed in our quarantine stations, 2-3 ml of enzyme is added to 3-4,000 L of water. This helps to condition the water and start the biological cycles that aquaculture filters need to operate. This prevents the condition of "NEW POND SYNDROME" were biological filters cannot cope with heavy fish stocks.

The enzyme is also used as a tool to reduce the silt recruitment in established systems, this increase the time between the manual cleaning of silt from the recirculation systems. Only ground water is available to us at the nursery and this is very high in iron, in display systems that are newly filled iron scum forms on the surface of the water. This looks unsightly for serval days.

By adding the enzyme to water in a watering can and broadcast over the pond's surface, the iron scum is broken up and dissolves almost upon contact.

We find the enzyme helps us to reduce the time required to "RUN IN" systems holding fish. It also aids in the reduction of maintenance on established ones helping our operation to save time and money.

Regards,

Iain McGregor

Branch Manager

EL CABALLO GOLF COURSE TESTIMONY

Overcoming Super Challenges

Jeff Austen, superintendent at El Caballo Golf Course for the past eight years, is a young, award-winning professional with plenty of work on his plate.

The El Caballo course is an 18-hole layout about 60km east of Perth, in the heart of some of the harshest and most drought-affected territory in Australia. The landscape is severe and hostile — a far cry from the more manageable terrain of Royal Perth Golf Club where Austen served his apprenticeship from 1986–1991.



Built on the side and top of a hill in the Darling Ranges, El Caballo must withstand temperatures ranging from 47 °C in summer to -3 °C in winter; cold snaps in 2001 produced 48 frosts.

This unique and forbidding course is characterised by 3kms of open rock drains, 12 lakes, two storage dams and 10 effluent treatment ponds, all clustered within a high-salt area that requires constant attention. About half of the water features are currently bone dry. Despite the obvious climatic and environmental hurdles facing him, Austen has somehow managed to create a course that is not only playable, but which also offers golfers the prospect of enjoying challenging golf in healthy surrounds for many years to come.

The uniqueness of the course rests squarely on its exceptional location.

"The golf course was originally built to cater for the discharge of effluent water from two sheep and cattle abattoirs (now closed)," Austen explains. "The water had high levels of salts and nutrients and proved to be very damaging to the original irrigation system. With the golf course being built on a rocky laterite and clay, this combination proved to be devastating on the local fauna and flora."



Austen's solution was to install sub-surface air injection units which reduced water temperatures from 30+ °C to 22 °C within a week.

These days the course is cleaner and more manageable than ever before. Tees of Windsor Green Couch about fairways decked with Greenless Park Couch and Saltene (a salt tolerant variety harvested from a local creek). Two greens varieties, Saltene and Santa Anna Couch, are used according to their respective salt and frost tolerances.

The Saltene greens are cored annually, though Austen has found that he "would prefer to mini-tine every 6 weeks during the growing season if I had the staff."

"The Santa Anna greens are scarified heavily during the growing season to reduce thatch, as it appears the salt tends to do more damage to the playing surface when thatchy.

"Fairways have only been scarified once since construction, again because of the saline conditions and the clay soil the turf grows in. I've found the use of a verti-drain has been extremely useful in promoting growth and reducing compaction."

Tees, last renovated years ago, are tended as required.

Austen and his staff of five cut the greens six times per week during the growing season. Fairways and tees are mown once per week as the moderate salt levels reduce growth. The couch roughs are mown monthly, "however in winter this picks up as we encourage winter grass to grow in roughs to create some definition."

Tees are fertilized every eight weeks, and greens are fed every three or four weeks with low-index salt fertilisers. Sparing use helps minimise disease.

The harsh conditions mean environmental sustainability is always forefront in Austen's mind. And ongoing education as fundamental to success.

"There is so much information available that without suitable training and experience you would be doing your employer a disservice and potentially harming the industry through mismanagement of chemical and fertilizing practices."

By John Power

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AUSTRALIAN MADE & OWNED

