It Is So Simple!

(WP-3) Managing Polluted Lakes Efficiently, Naturally, and Cost Effectively v1

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Existing native, probiotic bacteria have been removing nutrients and muck naturally since the beginning of time.

Today, **poor water quality and excessive nutrients are limiting that process**. Augmenting what our marvelous nature accomplished before excessive pollution is still viable. Today, this process can still be achieved by two enhancement methods.

1) STA's (Stormwater Treatment Areas) or man-made wetlands are primarily designed to clean nutrients from surrounding agricultural areas. These STA's remove excess nutrients by two methods: a) by the utilization of the nutrients which are tied up in growing and dead plant material b) by bacteria living on the wetland plants which are a substrate for bacteria to utilize those nutrients. STA's are expensive to build and maintain.

2) We can bypass the STA's or utilize them by additionally incubating and multiplying natural, probiotic bacteria a billion times and returning them into the water. These bacteria "**Bio-Zyme**" Natural Lake Bacteria effectively remove phosphorous (P), nitrogen (N) and carbon (C) utilizing these nutrients as food and essential body components. **These bacteria are used by protozoa as food and then protozoa are used by fish and thus the nutrients end up in the food chain.**

This eliminates the necessity to provide large tracts of land to reduce nutrients and provide the added benefit of eliminating the organic debris (muck) from decaying plants. The alternative is dredging which is very expensive and not environmentally friendly.

Bacteria are composed of approximately 50% C, 14% N and 3% P. Bacteria therefore, play an essential role in the utilization of elements, using these elements or components in their cell walls, amino acids and enzymes. Five **Bio-Zyme** bacteria are specifically selected to utilize carbon (sugar, cellulose, starches, polymers, enzymes, fats, oils, proteins and other organics). Three **Bio-Zyme** bacteria reduce N (NH_3, NO_2, NO_3 and $N_2\uparrow$). However, **since all Bio-Zyme bacteria use C, P and N, the specific bacteria's primary target is somewhat irrelevant.** All **Bio-Zyme** bacteria use the above nutrients or elements as components to live and multiply, passing these elements up the food (fish) chain. Improved fisheries, reduction in muck, reduction of P and N and the elimination of tussocks are the results. **Bio-Zyme** will not injure plants.

Golf courses, usually high in nutrients, are a prime user of **Bio-Zyme** because of all the above mentioned benefits. They claim it also cleans their irrigation systems and improves turf by reducing the organic material in their soil. Fifteen aquatic companies use **Bio-Zyme**.

About 20,000 lakes are managed with **Bio-Zyme**. It would be effective in all lakes such as Lake Okeechobee, Lake Apopka and other agricultural and urban water, reducing nutrients before they empty into waters of the state and before the nutrient rich water impacts beaches.

Additional data are available at the web site (trmbiozyme.com). We also have an abundance of support data of removing C and P in lakes and of an STA that was very successfully treated.

Click here to view AVC's Chairman of the Board Jim Burney's video

"Removing Muck in the STA's - **Bio-Zyme** vs. Dredging

(Insert Jim's video here)