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Contact: Paul Arinaga
Genki Ala Wai Project
(808) 594-3945
paul@grow-good.com

Revitalizing the Ala Wai Canal

The Genki Ala Wai Project aims to use bioremediation technology to make the Ala Wai Canal swimmable and fishable within seven years

Honolulu, Hawaii, April 17, 2019 – The Genki Ala Wai Project aims to remove sludge and clean the waters of the Ala Wai Canal by using low-cost, environmentally-safe bioremediation technology based on Effective Microorganisms®.

Bioremediation entails the use of living organisms (e.g. bacteria) to remove pollutants from soil, water, and wastewater, and is becoming increasingly popular worldwide. Effective Microorganisms® (EM®) have been used for more than 35 years in over 100 countries to remove sludge, improve water quality and restore eco-systems. In Hawaii, a commercially available bioremediation product (EM•1® from EM HAWAII, LLC) has been used in agriculture (permitted by the State Department of Agriculture) and other applications such as to reduce sediment within shrimp production ponds and the hippopotamus pond at the Honolulu Zoo.

The Four Seasons Hualālai Resort has used this bioremediation technology since 2007 to clean fish ponds that tourists swim and dive in. According to Hiromichi Nago, who is President of EM Hawaii, LLC and consulted on the project, observed sludge levels dropped from 19 inches to 4 inches within just a few months of beginning treatment.

“We’ve been using various products to help maintain our native anchialine ponds, including EM® Genki Balls and EM•1® since 2007 and continue their use today. I personally hope the effort is successful for the Ala Wai Canal,” says David Chai, Natural Resources Director at the Four Seasons Hualālai Resort.

EM® is a mixed culture of aerobic and anaerobic beneficial microorganisms that are found in the natural environment. They are primarily lactic acid bacteria, yeast and phototrophic bacteria that co-exist and work with other microbes in the environment. The main function of EM® is to decompose and ferment organic matter. EM® also effectively suppresses harmful microbes, decomposes harmful chemicals, prevents oxidation and eliminates foul odors. One of the advantages of these microorganisms is that they are safe and environmentally-friendly.

“EM® is safe. In fact, a formulation of it is used as a probiotic by many customers to enhance the health of their gut bacteria,” says Nago.

The Genki Ala Wai Project (www.genkialawai.org) wants to run a pilot test at two sites along the Ala Wai Canal to demonstrate that this bioremediation technology can clean and revitalize the canal at minimal cost. Students from local schools will introduce EM® into the turbid waters of

the Ala Wai in the form of “Genki Balls” which are softball-sized mudballs made from a mixture of molasses, rice or wheat bran, clay soil, water, and EM•1® solution. The healthy bacteria contained in the Genki Balls will sink to the bottom of the Ala Wai Canal to digest and help to oxygenate the sludge, thus helping to restore the Ala Wai’s natural ecosystem.

“A nice thing about this approach is that it involves citizen scientists such as K-12 students and civic groups in the communal activity of making Genki Balls and hurling them into the Ala Wai, as well as monitoring and studying sludge levels, water quality and ecosystems,” says Mary Ann Kobayashi, schools coordinator for the project and a retired DOE science teacher.

One of the main benefits of using EM Technology® is that it’s cost-effective. The Genki Ala Wai Project estimates that as few as one million mudballs may be needed to initially clean organic matter from the polluted waterway at a cost of less than \$500,000. While the technology can’t remove large, inorganic matter, in comparison, the last time the Ala Wai Canal was dredged in 2003 it cost \$7.4 million and a 1998 task force said the canal needed to be dredged every 10 years at an estimated cost of \$10 million each time.

“As a low-cost, community-based solution, we think that EM Technology® should be fully tested in the watershed,” says Paul Arinaga, Genki Ala Wai Project Manager. “It may replace more costly alternatives or be used in conjunction with them.”

The Genki Ala Wai Project is a collaboration between EM Hawaii, LLC and The Hawaii Exemplary State Foundation (HESF). HESF is spearheading a statewide effort in which K-12 schools in their respective *ahupua’a* collaborate with researchers, engineers, Hawaiian cultural practitioners and others to find solutions for flood mitigation, natural resource management, pollution control, and other issues.

“We’re applying a Systems Thinking approach to problems in the Ala Wai Watershed,” says Dr. Kenneth Kaneshiro, President of HESF and a UH Professor. “That’s why we’re excited about this project: EM Technology can be scaled-up to help with the restoration of the entire watershed and can then be applied to clean waterways across the state.”

Together with the Polynesian Voyaging Society, Kaneshiro is organizing the Ala Wai Watershed Summit that will be held on Friday, April 19 at the Hawaii Convention Center in conjunction with the docking of the Hōkūlea and the Mālama Ala Wai Community Fair.

The Genki Ala Wai Project initiators have signed on to Kaneshiro’s vision to make the Ala Wai Canal swimmable and fishable within seven years. “Hiro Nago and I are actually planning to go swimming in the Ala Wai sometime within the next seven years,” says Arinaga.

The Hawaii Exemplary State Foundation envisions a statewide effort in which K-12 schools in their respective *ahupua’a* communities participate in place-based STEM collaborations that will contribute to Hawaii’s scientific knowledge base about the current state of biodiversity, climate, and environmental human health.

EM HAWAII, LLC is the exclusive distributor and EM® consultant in Hawaii with 24 years of experience dedicated to promoting the uses of EM® in a host of applications, including use as an organic soil conditioner in agriculture, to eliminate waste odors in animal husbandry, to reduce the need for chemicals in water and to improve water quality in fisheries.

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