

AQUANEWS

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Electricity Jolts Coral Reefs Back To Life

Bali experiment shows striking success, but world threat is dire

PERMUTERAN BAY, Indonesia – Just a few years ago, the lush coral reefs off Bali were dying out, bleached by rising temperatures, blasted by dynamite fishing and poisoned by cyanide. Now they are coming back, thanks to an unlikely remedy: electricity.

The coral is thriving on dozens of metal structure submerged in the bay and fed by cables that send low-voltage electricity, which conservationists say is reviving it, and spurring greater growth.

As thousands of delegates, experts and activists discuss climate change at a conference that opened this week in Bali, the coral restoration project illustrates the creative ways scientists are trying to fight the ill effects of global warming.

The project – dubbed Bio-Rock – is the brainchild of scientist Thomas Goreau and the late architect Wolf Hilbertz. The two set up similar structures in some 20 countries, but the Bali experiment is the most extensive.

Goreau said the Pemuteran reefs off Bali's northwestern shore were under serious assault by 1998, victims of rising temperatures and aggressive fishing methods by impoverished islanders, such as stunning fish with cyanide and scooping them up with nets.

“Under these conditions, traditional (revival) methods fail,” explained Goreau, who is in Bali presenting his research in the U>N>-led conference. “Our method is the only one that speeds coral growth.”

Some say the effect is severely limited.

Rod Salm, coral reef specialist with the National Conservancy, said while the method may be useful in bringing small areas of damaged coral back to life, it has very limited application in vast areas that need protection.

“The extent of bleaching ... is just too big,” Salm said. “The scale is enormous and the cost is prohibitive.”

Others note the Bali project is mostly dependent on traditionally generated electricity, a method that itself contributes to global warming. Goreau himself concedes it has yet to attract significant financial backing.

Nonetheless, scientists agree that coral reefs are an especially valuable – and sensitive- global environmental asset. They provide shorelines with protection from tides and waves, and host a stunning diversity of plant and sea life.

Goreau's method for reviving coral is decidedly low-tech, if somewhat unorthodox.

(Continued on page 2)

AQUANEWS

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What Goreau's Bali project has done is to construct metal frames, often in the shape of domes or greenhouses, and submerge them in the bay. When hooked up to a low-voltage energy source on the shore, limestone- a building block of reefs – naturally gathers on the metal. Workers then salvage coral that has broken from damaged reefs and affix it to the structure.

Goreau and his supporters say the electricity spurs the weakened coral to revival and greater growth.

“When they get the juice, they are not stressed,” said Rani Morrow-Wuigk, an Australian-German woman who rents bungalows on the beach and has supported efforts to save the reef for years.

And indeed, the coral on the structures appear vibrant and supporters say they have rebounded with impressive vigor. The coral in Permute ran teems with clownfish, damselfish and other colorful tropical animals.

Funding, however, is a major problem. There are some 40 metal structures growing coral in Permute ran Bay and about 100 cables laid to feed them with electricity, but only about a third of the wires are working because of maintenance problems and the cost of running them, said Morrow-Wuigk.

The electrification program is part of a wider effort in the bay to save the coral.

Rockland Aquanauts Organization Inc.
Mission Statement:

To provide, promote, and advance environmental protection, care, and voluntary clean-up of waterways by any and all lawful means; to promote the importance and care in every manner possible by environmental awareness and otherwise; to purchase, print, publish, and circulate literature to promote the importance and care of the waterways and the work of the Corporation. To perform all acts the Corporation may deem appropriate or advisable in such operation; to establish, provide, and voluntary clean-up waterways, to encourage, support and subsidize the cleaning and protection from pollution.

How Looe Key Got Its Name

Adapted by Melissa Bogen from

<http://www.scubanews.com/story10608.html> and

<http://www.divespots.com/scuba/spotID-86/view.divespot>

Five miles seaward of Big Pine Key is a spit of land that 264 years ago was the scene of a dramatic shipwreck and rescue. Looe Key is named after the wreck that blew up over the reef in 1744.

History of the *HMS Looe*

The British warship *HMS Looe* was built in 1741 in Longreach, England, fit for 190 crewmen and 42 cannon. Off the coast of Spain in 1743 she captured 4 Spanish vessels in a harbor. As a result, the Spanish began attacking Fort Frederick in Georgia and harassing the British settlers along the east coast of the Carolinas. To answer the governor of South Carolina's request for a warship to protect their coastline, the *HMS Looe* was sent on what was to be her final voyage.

What Happened

Captain Ashby Utting was directed to Charleston to provide the protection requested. By Saturday, February 4, 1744, the *Looe* was on station in the Bahama Channel. That day the *Looe* captured a Spanish "Snow" or small merchant ship. Utting decided to escort the *Snow* back to Charleston.

At 1:00 a.m. the following morning, the lead line was thrown to sound for depth, and no bottom found at 300 feet. But just 15 minutes later, the watchman reported white water with breakers dead ahead. Just as the ship veered off, the sails caught a cross-wind, the stern struck the reef, the rudder sheared off, and she began to fill with water. The Captain ordered his Chief Gunner to save as much of the bread and gunpowder as possible. In the meantime, the *Snow* was being pounded to pieces on a nearby reef. Utting shouted to the crew to throw her cannon and anchors overboard, but the *Looe* was doomed.

As daylight broke, Utting and his men found themselves on a small sandy key, they weren't sure where. On Wednesday, February 8, 1744, the entire crew of the *Looe* and the *Snow*, all 274 men, were rescued. Before leaving, Utting set fire to the *Looe*, perhaps to protect her from salvagers, and the ship blew up.

Artifacts Recovered

Artifacts were scattered several hundred feet due to the explosion. From the 1950s through the 1970s divers recovered many artifacts from the area, purportedly from the *Looe* and other wrecks that joined her there: anchors, cannon balls, pewter mugs, coins, brass buttons and basins, jars, utensils, a porcelain bowl, copper spun plates, a brass door knocker, pewter teapot, clay pipes, and silver candlestick holders. Many of the artifacts were in conglomerates that had badly burned wood and other shipwreck material.

Today

The wreck is on the ocean side of Looe Key Reef. Today, not much remains of the vessel other than some ballast stones and some copper plating thought to have come from the hull. An interesting sight is an old anchor that has become encrusted in a coral finger that has grown around it. Looe Key Reef became a National Marine Sanctuary in 1981. This sanctuary designation means that there are absolute restrictions on spear fishing, tropical fish and shell collecting and wire fish traps. Salvaging artifacts is illegal, but sightseeing is encouraged.

For more info about diving in the Lower Keys, see <http://www.lowerkeysdiving.com/>

Approved Hessian Lake Dives 2008

Saturday June 7th 9:00 am

Sunday July 13th 9:00 am

Saturday August 9th 9:00 am

Sunday Sept. 7th 10:00 am

Saturday Sept. 27th 10:00 am

Sunday Oct. 12th 10:00 am

Saturday Oct. 25th 10:00 am

BBQ Help Needed

We have BBQs after every Hessian Lake dive, but next year, we don't want the chef tasks to fall on the same people all the time, so we are asking for your help. If you plan on coming to the Hessian Lake dives, please consider offering to set up, cook, or break down the BBQ gear.

Setting up might mean you set up before diving, get out of the water first, or forego diving that day. **Cooking** means you cook for everyone who shows up, not just yourself & your friends.

Breaking down the BBQ gear means you stay until everyone has eaten and the grill is cool enough to put into your car to store until the next dive.

You don't have to be a Board Member to help. Everyone can pitch in. Any expenses, like buying food, are reimbursable. So please look at the dive dates and let us know when you can help out.

Thank you

ANNUAL MEMBERSHIP FEES ARE DUE

Rockland Aquanauts Organization
2008 Dues

I guess it is that time of the year again, Membership Dues are due. Last year all our members received much more than they gave out to the Organization. As usual you will be receiving a tax donation for the first \$25.00. All members who attended the Annual Dinner not only received money off their own dinner but they also received money off their guests dinner. Everyone whom attended also received prizes, some worth many times the cost of their Dues. Don't forget the Annual Picnic as well as all the BBQ lunch's after the Lake Dives.

So please send in your \$42 dues early to;

Rockland Aquanauts Organization
c/o
Paul Galeazzi Jr.
4 Greensward Drive.
Valley Cottage New York 10989

Annual Dinner

by, Paul Galeazzi Jr.

For those of us that went to the Aquanauts Annual Dinner, we all know what a good time was had by all. This year we had a whole lot of giveaways for everyone who attended. Everyone was able to pick out the item that they wanted by a lottery of tickets drawn. Even guests were part of this giveaway.

No one went home empty handed or hungry for that matter.

As usual Arthur's Steak House did a fine job of feeding us and the deserts were fantastic. You we be able to see some of the photo's taken on our web site at www.RocklandAquanauts.org shortly.

To all who didn't come, there is always next year!

Don't Forget to Visit EmbroidMe for your Rockland Aquanauts Apparel

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April 2008

Electricity Jolts, How Looe Key Got Its Name, Annual Dinner, Hessian Lake 2008 Schedule, Membership Dues

****There will be NO April Meeting****