



CAN-045-Replanting Coral-Key West

Join us to save coral reefs

Liberty Cast

The World Federation for Coral Reef Conservation 281.971.7703 P.O. Box 311117 Houston Texas 77231
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How breaking coral reefs might save them

Video: <http://www.wtsp.com/news/local/how-breaking-coral-reefs-might-save-them/286317831>

It's a ramshackle, old white building thousands of tourist drive by every day on their way south to Key West, which is a short 20-mile drive away.

The [Mote Tropical Research Laboratory](#) doesn't look like much, but a discovery made here could save one of the world's most important ecosystems.

The rocks crunch underneath Dr. David Vaughan's feet as he leads guests to a canopy-covered area. The sound of traffic on the nearby overseas highway is muffled by the bubbling, hissing and humming of a couple dozen fiberglass tanks, fitted with pipes and tubes pumping saltwater into thousands of tiny coral.

Vaughan lifts a coral out of the water the size of a softball for a closer look.

"This is one that would've taken between 25 to 75 years to grow and it was done in less than two years' time," Vaughan said.

[What are coral reefs and why are they important](#)

Hypergrowth for species of coral that are nicknamed "living rocks" because of the agonizingly slow speed they grow at naturally.

For Vaughan it was literally a breakthrough.

"It started as a mistake," Vaughan said.

Vaughan was trying to move a piece of coral the size of a golf ball. He didn't realize it was attached to the bottom of the aquarium, so it broke.

"I set it aside, thinking it would die and forgot about them," Vaughan said.

Months later he went back to check on them, and was astonished. The pieces had already grown back to the size of the original coral.

"What had taken three years took only three months," Vaughan said.

Vaughan learned that when you cut the coral super small, they grow back superfast.

"Twenty-five to fifty times faster," Vaughan said.

Researchers now use a tile saw to slice coral into tiny microfragments that are then glued to small pieces of tile. They are then placed into the fiberglass raceways or tanks where they grow for three to four months before taking them to plant out at reefs near Key West.

"By the end of the year we should have 10,000, by next year 100,000 and by the next year could be 1 million corals," Vaughan said.

One discovery has led to another and another and so on.

Vaughan plants related corals close together because when they touch, they fuse back together making sizable coral heads that would take decades to grow in just a year or two. Researchers have also been able to help the astoundingly difficult creatures spawn and reproduce naturally. With that discovery, the scientists are using the coral



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like farmers, cross breeding strains to try and grow ones that will be more hearty to the adverse conditions facing oceans around the world.

“It’s basically natural selection, we’ve just speeded up the time in between the hundred years for that to happen,” Vaughan said.

Nearly half of all corals worldwide have been lost, researchers believe, in just the last few decades. This could reverse that by replanting the underwater forests just like is done on land, and the team at Mote is also trying to ensure they are planting corals that will be best suited for the future.

They are testing some corals in simulated ocean water conditions, both the pH and water temperature, for three time periods -- the present, what is predicted 50 years from now and a hundred years from now.

It’s the first bright spot in a field of research that hasn’t had many for a long time.

“It’s hard to be optimistic sometimes,” said Neil Mattocks, a scientist who works for the Australian government. He visited the laboratory to look at Vaughan’s work on his vacation.

“I find this remarkable really. I think for a lot of people working in the field it’s a little bit of hope,” Mattocks said.

Vaughan hopes to transplant this technology around the world, to teach other scientists the technology so even the Great Barrier Reef can thrive again.

A brand-new laboratory is being constructed next to the old lab where thousands and thousands of more coral can begin growing and researchers can come to learn.

“I said that I was probably going to retire in one to two years and that was eleven years ago,” Vaughan said. “In our lab I’ve now set a goal to plant one million corals before I retire and you can see how old I am now.”

For years’ scientists have puzzled how to save one of the planets most important ecosystems, the Keys may have the right pieces.

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Liberty Cast
The World Federation for Coral Reef Conservation
Intern
P.O. Box 311117
Houston, Texas 77231
liberty.cast@wfcrc.org
www.wfcrc.org
281.971.7703 (office)
000.000.0000 (cell)

The only thing necessary for the triumph of evil is that good men do nothing”Edmund Burke (Change this if you want to)