

Message In A Test Tube

by **Hugh Hough** and
Mary Hagedorn

A few years ago, I had the pleasure of visiting the [Smithsonian's Conservation Biology Institute](#) in Front Royal Virginia. In this gorgeous setting, deep in horse and farm country, resides a group of scientists working against the clock, using human fertility techniques to reproduce and save all kinds of endangered species.

On this particular day, the scientists had set up mini exhibits (not unlike a high school science fair) featuring reproductive and genetic research used to preserve threatened or endangered pandas, clouded leopards, elephants, black-footed ferrets and baby coral. Yes, endangered baby 'Elkhorn' coral! That's where I met marine biologist, [Dr. Mary Hagedorn](#). There she was with her little aquarium of Elkhorn coral, competing for attention with fuzzy, adorable baby tigers and pandas. Hardly a fair fight.

Mary's exhibit sums up where we are with ocean issues in general. When you ask people about their concerns for the environment, ocean issues tend to drop like baby Elkhorn competing with living plush toys.

Mary's life work has been to further ocean health. She is one of only a few scientists in the world using human fertility techniques to conserve our marine resources. Mary has created the world's first [genome repository for coral](#). In this series of repositories (in Europe and the U.S.) reside frozen sperm from endangered coral, collections that could one day help diversify shrinking coral populations like those in the Florida Keys. Like a scientific Noah's arc, Mary's genome repository may someday help reseed the oceans.

And why should we care? What do coral reefs really do for us? Like any good mother, they feed and protect us. Coral reefs are living dynamic ecosystems. They are the rainforest of our oceans that have been on our planet for more than 200 million years. Although all of the reefs in the world only occupy an area twice the size of Texas, they are small eco-dynamos. They provide invaluable

services to us, such as acting as feeding and nursery grounds for fish and invertebrates, providing natural storm barriers for coastlines, purifying CO2 from the atmosphere, and could provide potential sources for undiscovered pharmaceuticals. Furthermore, coral reefs help produce 30 billion dollars for our world economy every year in tourism and food production.

Unfortunately, coral reefs are experiencing [unprecedented levels of degradation](#) due to the impact of humans. Increased levels of greenhouse gasses are warming our oceans, making them more acidic and causing the coral to stress, bleach and be more susceptible to newly emergent diseases. The increased acidity is decreasing their reef-building calcification, and unless we take action now, coral reefs and many of their associated animals may cease to exist in the next 25 to 50 years, causing the first global extinction of a worldwide ecosystem.

What will prevent this catastrophe? In the end, Mary believes energy conservation will make the biggest impact. Even little changes, like walking to work or school, using cloth bags at the grocery store, planting a vegetable garden and installing solar water heaters can make a difference.

The direct link between the health of our oceans and the health of our planet cannot be denied, and yet the emotional link is missing. Making consumers care as much about baby coral as they do about baby pandas—or baby humans for that matter—is something that we at Green Team, along with Mary and other marine scientists from organizations like [National Geographic](#), struggle to convey.

It's time for oceans to move toward the top of the world's list of critical issues. And we believe that will happen. Over the next few years, we anticipate a rise in the awareness of ocean issues, especially among Awakening Consumers. This could be welcome news for Mary, coral and adorable baby pandas, too.

Green Team is proud to support Dr. Mary Hagedorn's amazing work, and you can contact her at hagedornm@si.edu. As part of our Giving Work program we created [HelpMarySaveCoral](#) to help generate awareness of her work and fundraise for it.