Hope for Reefs

This year marks the third global International Year of the Reef (IYOR), and 2018 has already shown us both challenges and successes in coral conservation that give us hope for the future. Past IYOR years have focused on local conservation goals to get ahead of the climate change threats that were looming in the future. Since then, coral reefs have experienced a steady stream of global disturbances caused by a warming planet, including cyclones and coral bleaching. But the successes of our coral conservation work with local communities and the proven ability of coral reefs to adapt to warming ocean temperatures with our Adaptive Reefscape has given me reason to hope during this pivotal International Year of the Reef.

My hope for coral reefs isn’t just wishful thinking; it’s based firmly in science and direct observation. We now know that many coral reefs are adapting to the changes in their environments, and the actions that people are taking are making a difference. For example, with CORAL’s support, local communities and governments in Honduras are partnering to protect coral reefs by managing fisheries and preventing coastal pollution. As a result, if you visit these reefs, you’ll experience cleaner water and see a lot more fish, both of which are important factors in promoting coral reef health.

Late last summer, these same reefs in Honduras were hit by very warm water that triggered a huge bleaching event. I visited the reef during the bleaching event, and the experience was surreal as the once-healthy corals were a ghostly, glowing white. But unlike many bleaching events, the majority of the corals survived, and they started to recover as the water temperature went down. And when I visited these reefs six months after the event, most of the bleached corals had regained their color and even showed signs of growth. The good management of many Honduran reefs is helping this process, allowing coral reefs to recover and continue to flourish as the environment changes. The International Year of the Reef gives us all a chance to celebrate coral reefs and their ability to adapt to a changing world with our help.

Sincerely,

Dr. Michael Webster

CORAL CURRENT | SUMMER 2018

All photos by Michael Webster unless credited otherwise.

Table of Contents

3 Hope for Reefs: A Letter from our Executive Director

6 Looking to the Future with Virtual Reality

9 If It’s Your Passion, Why Not Make It Your Legacy?

8 Meet Aileen Lee

10 Spotlight on Nudibranchs

PRINTED IN THE USA BY A CERTIFIED GREEN BUSINESS ON 55% RECYCLED / 15% PCW / FSC CERTIFIED / ACID FREE PAPER
Long-term Conservation in Honduras Pays Off for Coral Reefs

By Jennifer Myton and Alicia Srinivas

In January 2018, we shared the results of Healthy Reefs Initiative (HRI)’s report on the status and trends of reef health in the Mesoamerican Reef (MAR). One of the key findings of the HRI Report Card is that the long-term dedication and collaboration of groups like CORAL in the MAR has paid off, leading to direct and measurable improvements in reef health.

Despite the fact that corals worldwide were hard-hit by mass bleaching over the last few years, 10 years of reef monitoring by HRI tells us that things are looking up in the MAR. The positive trend is attributed to stronger fisheries management and a significant increase in Marine Protected Areas (MPAs), which now cover 57% of the MAR. Legal protection and local management actions like no-fishing zones can lead to a measurable and positive shift in the number and size of fish. And when herbivorous fishes (like parrotfish and surgeonfish) thrive, coral reefs benefit because these fishes intensively feed on harmful seaweeds that can overtake corals.

The results of the HRI Report Card are encouraging for two reasons: First, it tells us that there are indeed straightforward and concrete actions we can take to help corals adapt to the immediate challenges in their environment. Second, it tells us that the strategies that CORAL has been employing in our twelve years of engagement in the MAR are exactly the right things to be doing. We were proud to see in the HRI Report Card that reefs in West End on the island of Roatán are among the healthiest reefs in the entire MAR. For over 15 years, we have been working in West End, supporting and building the capacity of Roatán Marine Park (RMP), our long-time partners and co-managers of the Bay Islands National Marine Park.

Nowhere is the success of our approach more evident than in the recent declaration of the Tela Bay Marine Wildlife Refuge.

Thanks to the hard work of CORAL and partners, in early 2018, the Honduran national government approved the declaration of this new marine protected area, which covers 86,259 hectares of reefs and coastal ocean. Hiding in Tela Bay’s unassuming murky waters are some of the healthiest coral reefs in all of the Caribbean. Scientific surveys have shown that Tela Bay supports a staggering sixty-nine percent of live coral cover, which is more than three times the average coral cover in the Caribbean. The bay supports forty-six coral species, eighty-three fish species and healthy populations of critically-endangered elkhorn and staghorn coral. The refuge will not only ensure the future of this stunning ecosystem, it will also enable the coral reefs to continue to provide food and economic opportunities to the thirteen coastal communities that live on its shores.

As part of our efforts to protect the unique reefs of Tela Bay, CORAL also played a key role in the declaration of Honduras’ first coastal managed-access fishery in Laguna de los Micos – a lagoon near Tela Bay where juvenile reef fishes grow up. Amid the often gloomy messages about the fate of coral reefs, we feel it’s important to acknowledge and celebrate the hard-earned conservation successes by dedicated communities of people who care deeply about the future of reefs – from non-profits and the dive community to governments and local fishing communities. We look forward to seeing what more we can accomplish together!
Looking to the Future with Virtual Reality

In 2016, CORAL began an exciting new partnership with the Virtual Human Interaction Lab (VHIL) at Stanford University. Three key players met to kickstart this collaboration: Dr. Michael Webster, CORAL’s Executive Director; Dr. Jeremy Bailenson, VHIL’s Director; and Dr. Robert Richmond, Director of the University of Hawai’i’s Kewalo Marine Laboratory. Although they didn’t know it at the time, their meeting would lead to one of the most popular virtual reality films presented at Tribeca.

Their discussion centered around one key question: How can virtual reality be used to advance coral reef conservation in the face of climate change? The answer became clear when Dr. Richmond, who is also a CORAL Board member, suggested that VHIL staff attend a Palauan congressional meeting to show leaders how their coral reefs looked in virtual reality. This meeting would provide decision-makers and leaders with an immersive opportunity to learn more about coral reefs, their importance and the threats they face. And then, hopefully, to positively influence the trajectory of future laws and regulations affecting coral reefs and coral reef conservation.

With CORAL’s help, two VHIL staff members - Tobin Asher and Elise Ogle - traveled to Palau to film underwater virtual reality footage. Asher and Ogle’s visit coincided not only with the congressional meeting, but also with a Stanford University Overseas Seminar, taught by Dr. Robert Dunbar and Dr. Stephen Monismith of Stanford University and Dr. Richmond. Asher and Ogle were able to join Stanford students and staff from the Palau International Coral Reef Center (PICRC) on daily field expeditions and filmed a diverse selection of both healthy and degraded reefs.

The congressional meeting took place on July 7, 2017 at PICRC; Palauan delegates and senators attended the event. PICRC staff moderated the event and Dr. Richmond and Dr. Dunbar gave presentations on coral reef conservation and management. The goal of the meeting was to connect decision makers and scientists to facilitate understanding of how climate change and local stressors are affecting coral reefs in Palau and the people who depend on them.

After the presentations, Asher and Ogle ran personalized demonstrations of virtual underwater footage from Palauan reefs. Many congressional members had never experienced VR technology before, and for some senators, it was their first time seeing an underwater landscape of coral reefs.

Experiencing coral reefs in virtual reality and seeing the threats they face helped attendees understand the importance of protecting coral reefs, especially the popular tourism sites. Soon after the experience, Palauan senators introduced initiatives that would reduce the number of people at popular tourism sites and make commitments to conduct further research to protect coral reefs.

The VHIL team is now working to bring Coral Compass to popular Virtual Reality platforms, like SteamVR, Oculus and VivePORT. The film should be on VR platforms by summer 2018 and will be available to download for free.

Asher believes the message of hope was critical to the film’s impactful debut. “One of the things that was important to us was that it wasn’t a doom and gloom story. We wanted to emphasize that there are things people can do to combat what’s happening, and if we take action we can see positive results for coral reefs.”
Meet Aileen Lee

Aileen Lee is the newest member of CORAL’s Board of Directors, having joined us earlier this year. You may remember her from her inspirational introduction speech at last year’s CORAL Prize event in Palo Alto. Aileen is the Chief Program Officer leading the Gordon and Betty Moore Foundation (GBMF)’s Environmental Conservation Program, which distributes nearly $100 million each year to protect critical ecosystems around the world. GBMF’s conservation program includes initiatives for the Andes-Amazon, Marine Conservation and Wild Salmon Ecosystems, as well an interlinked portfolio of initiatives focused on market-based approaches to conservation. Aileen is a well-known leader in the global environmental community and the philanthropic sector with years of experience leading client engagements in strategy, operation and organizational effectiveness at McKinsey & Company. We are lucky to have her on our Board.

Why did you decide to join CORAL’s Board?
From my vantage working in environmental philanthropy, I get really excited when I see an organization like CORAL—small enough to be nimble, but deep enough in their expertise to have an out-sized influence on the field. CORAL is lean and efficient, allowing them to stay ‘solution-focused on solutions rather than being distracted by the need to tend to a large institution. At the same time, CORAL’s competencies are also distinctive enough to make them highly desirable as a partner to other conservation organizations interested in coral reef issues, allowing them to extend their reach. Indeed, working in a networked manner as a world-class partner to other organizations whose skills and assets complement their own, CORAL can have a meaningful impact on coral reef conservation at a global scale.

What’s most exciting to you about CORAL’s work?
CORAL brings a wonderful combination of the capacity and skill to do deep work at the community level, with the scientific expertise and vision that amplifies the effectiveness of that local work and ties it to impact at a larger scale.

How does the Environmental Conservation Program at the Gordon and Betty Moore Foundation approach conservation?
Whenever I’m asked to describe the Moore Foundation’s approach to conservation, I think back to something Gordon (Moore) once said to our staff. He said that his aspiration was “to win in the environmental arena instead of just losing slowly.” I think that simple but powerful statement animates much of our approach. We try to work in landscapes and seascapes where we can envision securing durable conservation gains. We seek solutions that preserve nature but are also pragmatic in how they anticipate and accommodate necessary development and other activity.

Do you feel hopeful about the future for coral reefs?
CORAL’s work on Adaptive Reefscapes has given me real hope for the future of coral reefs. I used to think that the reality for coral reefs was pretty bleak in our age of climate change. But CORAL’s science helped me understand that coral reefs have a capacity to adapt that is much greater than many people think if we just give nature a chance. CORAL’s vision for Adaptive Reefscapes – creating networks of healthy reefs that are diverse, connected, and large – gives coral reefs a real chance to adapt at the pace and scale required to meet the challenge of climate change. And for me the really exciting part about this solution is that it doesn’t require us to place our hopes on technological breakthroughs that let us build “better” coral reefs. It’s really about making existing conservation solutions that are already within our grasp, but at a larger and more ambitious scale

Creating a better future for coral reefs and the communities who depend on them may be easier than you think. Including CORAL in your legacy plan:

✓ Costs you nothing during your lifetime
✓ Allows you to be more generous than you may have ever thought possible
✓ Still gives you a chance to make changes later on down the road
✓ Ensures coral reef conservation well into the future
✓ Just takes a simple paragraph

Join us today and in the future by emailing savecoralreefs@coral.org for more details. And stay tuned for our first ever CORAL Legacy Society Magazine, available in August, 2018.

A small effort…
...why not make it your legacy?

Other Giving Tips
• Gifts of appreciated assets, like stocks, can also benefit both you and CORAL
• You will receive an immediate charitable tax deduction for the value of the transferred stock and avoid capital gains tax
• CORAL can invest the gifted funds directly into our global conservation programs
Spotlight on Nudibranchs

Nudibranchs are Incredibly Diverse

There are over 3,000 species of nudibranchs, with new species being discovered almost daily. All nudibranchs are sea slugs, but not all sea slugs are nudibranchs.

Eolid and Dorid

Nudibranchs are categorized into two subgroups, Eolid and Dorid. Dorid nudibranchs have a gill plume on their back, while Eolid nudibranchs are identified by appendages on their body called cerata.

Watch Out, They Sting

Eolid nudibranchs keep away predators with nematocysts, and some Dorid nudibranchs can make their own toxins to sting potential predators.

Hungry, Hungry Nudibranchs

Nudibranchs are carnivores and eat sponges, anemones, barnacles and other sea slugs. Like corals, some nudibranchs are hosts to symbiotic zooxanthellae that provide nutrients through photosynthesis.

Hermaphroditic Reproduction

Nudibranchs are hermaphroditic, which means they have a set of both male and female reproductive organs. They lay their eggs in ribbon-like spirals and can produce over one million fertilized eggs.

Nudibranchs (class Gastropoda)

Photos by Craig Holmes and Michael Webster
With AmazonSmile, customers can continue shopping on Amazon.com and the AmazonSmile Foundation will donate 0.5% of eligible purchases right back to CORAL. If you buy anything on Amazon, please be sure to do it via www.smile.amazon.com and select “The Coral Reef Alliance” as your charitable organization of choice.

Hawaiian Airlines allows individuals to donate frequent flier miles to participating charities. If you’ve got some extra miles or you haven’t yet put yours to use, please consider donating them to CORAL. CORAL uses donated miles to help our team move around to visit different communities in Hawaii and also to back and forth to our headquarters in Oakland.

LeisurePro is the number one online store for scuba diving and snorkeling equipment. And they’ve been a great partner to us over the years. If you need any new gear or replacements for your upcoming summer trips, visit www.leisurepro.com. While making your final purchase, add on a donation to support CORAL’s efforts.