

# CORAL CURRENT

The Newsletter of the Coral Reef Alliance

## CORAL's Reef Resilience Program Expands

In the last edition of *CORAL Current*, we announced our new program to train a global network of reef managers, conservation experts, and other key stakeholders in best practices to prepare for and respond to climate change. We are now pleased to share with you several exciting program milestones.

The coral reef managers who attended the first global training in Bali earlier this year are now busy conducting replication trainings in their home communities. As a result, over fifty new participants from Aceh, Bali, and Lombok in Indonesia, Ovalau Island in Fiji, Phuket in Thailand, and the central Philippines have received extensive training in strategies to build reef resilience. These workshops have created a buzz throughout the Indo-Pacific and are capturing headlines in local newspapers including the *Phuket News* and *Jakarta Post*.

"It is inspiring to see how the original Bali program participants are continuing to broaden the knowledge base in their own countries," said CORAL's Naneng Setiasih. She is working closely with participants to identify microgrant funding opportunities that will transform the reef resilience training curriculum into effective conservation projects—one of the primary goals of this program.

The replication trainings have already sparked plans for several local projects that apply the training content. In Thailand, for example, participants have proposed a set of guidebooks to educate both tourists and local residents about

reef ecology. They are also exploring ways to develop a more robust reef monitoring survey for assessing resilience in the Andaman reef region, which would strengthen the current monitoring program at the Phuket Marine Biological Center. In the Philippines, participants are forming a coral bleaching response team to help monitor the reefs within the central Visayas region.

In addition to these exciting developments in the Indo-Pacific region, CORAL has now completed a second global training in Mexico. For this groundbreaking training, CORAL adapted the reef resilience curriculum to target a new audience—marine recreation providers. The training drew ten exceptional marine recreation professionals from coral reef destinations throughout the Caribbean and Mesoamerica.



**Uniting Communities to Save Coral Reefs**

The Coral Reef Alliance (CORAL) unites and empowers communities to save coral reefs. We help the people who live near reefs protect their fragile resources by providing the means to develop local projects that save coral reefs and benefit communities.

Marine recreation providers are often considered the early "eyes and ears" on the reef. "Dive tourism operators make trips to the reef daily, and research indicates that they can detect subtle changes taking place on the reef—sometimes before a reef manager does," noted CORAL's Rick MacPherson. "We believe it is critical to expand trainings to dive tourism operators to provide them with the knowledge and tools to detect early warning signs on the reef and respond effectively."

The response from the Mexico training has been very positive. Participants are excited to return to their home countries where they will lead replication trainings with key dive shops and other marine recreation businesses this fall. To learn more, visit [www.coral.org/resilience](http://www.coral.org/resilience).



Reef resilience workshop participants at the Bali replication training  
Photo by Derta Prabuning

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"Uniting Communities to Save Coral Reefs"

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For comments, questions, or contributions to **CORAL Current**, please email us at [communications@coral.org](mailto:communications@coral.org).

Placencia, Belize  
Photo by Valentine Rosado



# BREAKING NEWS FROM CORAL'S PROJECT SITES

## MESOAMERICA

**MEXICO:** We trained five new CORAL Reef Leaders to spread CORAL's conservation message throughout Cancun and the Riviera Maya. The new leaders represent a diverse cross section of society, with backgrounds in oceanography, ecotourism, conservation, recreational diving, and journalism. They will now take the sustainable marine recreation principles learned in their training and educate their local communities to reduce the negative impacts of tourism on Mexico's coastal environment.

**BELIZE:** CORAL's mangrove reforestation project in San Pedro is thriving. Recent monitoring reports reveal that ninety percent of the mangroves planted by the local community have survived—a true testament to the effectiveness of our reforestation method. Given the success of the project so far, CORAL is preparing to plant additional mangrove seedlings in Boca del Rio Park this winter.

**HONDURAS:** CORAL and our conservation partners led a team of newly trained Atlantic and Gulf Rapid Reef Assessment (AGRRA) volunteers on an expedition to explore and assess coral cover around Roatan. The team surveyed an estimated sixty-nine percent live coral cover on Capiro Bank in the Bay of Tela. This unexpected discovery has led to the creation of a new organization, AMATELA, which is working with CORAL to foster adequate management and protection for this critical reef ecosystem.

## INDO-PACIFIC

**FIJI:** CORAL, in partnership with the Pew Environment Group and the Fijian Ministry of Fisheries, is increasing awareness for shark protection through an exciting shark sanctuary campaign. Working alongside the Fijian people, CORAL is raising support for shark protection and championing the creation of a Fijian National Shark Sanctuary. To help educate the Fijian people about the campaign, CORAL is working with a local film crew to produce *Shark Hope*, a thirty-minute documentary on the need to protect sharks in Fiji.

**INDONESIA:** In Raja Ampat, CORAL is increasing shark conservation knowledge among village communities and implementing locally-driven projects to reduce immediate threats to sharks in the region. As part of the outreach effort, CORAL is creating an engaging educational video, writing curricula for school teacher trainings, and developing a student writing competition to raise awareness for sharks and build support for their protection.

## U.S. STATES & TERRITORIES

**HAWAII:** CORAL is conducting targeted outreach to luxury hotels on Maui and Hawaii Island to encourage the adoption of sustainable business and marine recreation practices. Our team is meeting with hotel managers and key staff to explore options for displaying and disseminating coral conservation materials within hotels and through their marine recreation business partners. The outreach project is an important opportunity to engage hotels in conservation while educating guests who plan to visit Hawaii's reefs.

# Medicine Cabinets of the Sea



Coral reef scene, West Papua, Indonesia  
Photo by Jeff Yonover

At CORAL, we often use the term “ecosystem services” to describe the many benefits that coral reefs provide to humans. Perhaps one of the most interesting and overlooked of these services is the medical advancements that come from organisms living in and around coral reef ecosystems.

*Homo sapiens* have long looked to the terrestrial environment for products that help treat injury and illness. It is only more recently, however, that scientists have begun to search for medicines beneath the sea’s surface. And researchers are finding that coral reefs are home to a number of creatures that produce life-saving chemical compounds.

Coral reef species that produce such chemicals have evolved over hundreds of millions of years. These organisms were forced to develop new hunting and defense methods, or risk going extinct. Much like an underwater arms race, this process gave way to more efficient weapons and defenses. While many of these chemical compounds

are essential for the survival of marine species, they also have important medical benefits for humans.

Known for their ornate and beautiful patterns, cone snails possess some of the most lethal toxins in nature. These predators are slow moving, so they require a deadly neurotoxin to paralyze and kill their prey. By isolating molecules from certain cone snail venoms and then replicating them in a lab, scientists have created an extremely powerful painkiller. The drug PRIALT, derived from a cone toxin, is 100 to 1,000 times more powerful than morphine and has no addictive side effects.

Other chemical compounds derived from coral reef organisms can effectively halt cell division, reduce inflammation, kill viruses, and relax muscles. The chemotherapy drug Ara-C, for example, stems from a chemical found in a Caribbean sea sponge (*Cryptotethia crypta*) and is used to treat leukemia and lymphoma.

Other marine-based organisms are showing tremendous promise in the treatment of strokes and age-related dementia. The humble sea squirt (*Ciona intestinalis*) is proving to be a great model for testing new drugs in the fight against Alzheimer’s disease. These tiny animals are one of our closest invertebrate relatives, sharing approximately eighty percent of their genes with humans. For this reason, they are useful for testing new drugs that fight plaque-forming proteins found in human families with hereditary Alzheimer’s disease.

Researchers have barely scratched the surface when it comes to identifying and understanding the ocean’s potential for providing life-saving drugs. Coral reef ecologist Andrew Bruckner noted that the prospect of finding a new drug in the sea, especially among coral reef species, may be 300 to 400 times more likely than isolating one from a terrestrial ecosystem. With so much still to learn, it is clear that preserving healthy coral reef ecosystems will be critical to future medical breakthroughs. Who knows when and where the next cure will be found—just one more reason your support of CORAL is so important!

## Medical Benefits from the Reef

The following list presents some of the many coral reef organisms that researchers are studying for their potential medical benefits.

Source	Medical properties
Caribbean sponge	Anti-viral, anti-cancer
Caribbean sea-whip	Skincare, painkiller, anti-inflammatory
Pacific sponge	Anti-inflammatory
Limestone skeleton of corals	Bone grafting
Sea squirt	Anti-cancer, dementia
Sea worms	Natural insecticide



Cone snails possess powerful toxins, some of which have been used to create potent pain medications  
Photo by Richard Ling

# CORAL Joins Swan Islands Expedition with Dr. Sylvia Earle

Located about ninety miles off the coast of mainland Honduras is a chain of islands known as the Swan Islands. Dubbed the “Galapagos of the Caribbean,” this area is home to rare and endangered species including staghorn coral, elkhorn coral, and the great hammerhead shark. Unfortunately, overfishing has taken a toll on this unique ecosystem, and reefs that would normally be teeming with life are struggling.

Recently, the area received a welcomed boost of conservation support. A Mission Blue expedition, led by world-renowned oceanographer and National Geographic Explorer-in-Residence Dr. Sylvia Earle, paid a visit to the Swan Islands. Dr. Earle’s team of divers and a group of local conservation experts, including CORAL’s Honduras Field Manager Jenny Myton, set out to document the health of this critical ecosystem. The results were alarming. The team found only a few large predators on the reef and mainly juvenile fish species.

“A healthy reef of this kind would normally be filled with large grouper, snapper, and Caribbean reef sharks,” said CORAL’s Jenny Myton. “The lack of protection in the area has sadly led to the over-extraction of marine life.”

After assessing the reefs around the Swan Islands, Jenny led Dr. Earle’s team to Cordelia Banks—one of CORAL’s high-priority conservation areas off of Roatan, Honduras. CORAL has been working to incorporate Cordelia as a marine protected area because of its rare staghorn reef community, valuable Caribbean reef shark population, and growing potential as a grouper and snapper spawning site.

# New Assistant Director of Conservation Programs Joins CORAL

We are pleased to welcome Jason Vasques as the newest member of our Conservation Programs team. With over thirteen years of field experience as a researcher and fisheries resource manager, Jason brings to CORAL a deep understanding of freshwater and marine conservation management. His work has taken him to such diverse destinations as New Zealand, Australia, the U.S. Virgin Islands, Cayman Islands, and California.

Most recently, he worked as a marine biologist with the California Department of Fish and Game, where he played a critical role in ensuring that California’s Marine Life Protection Act—legislation that requires California to evaluate and redesign a network of marine protected areas—was successfully implemented and based on the best available science.

Jason has always been interested in coral reef conservation, but one particular research project afforded him the opportunity to see firsthand the value of reefs. “While I was a fisheries biologist in the U.S. Virgin Islands, I was in charge of developing a seafloor mapping program designed to identify coral reefs and find grouper and snapper spawning aggregation sites. We wanted to be able to create



Photo courtesy of Jason Vasques

marine protected areas that would maximize conservation benefits for these important species and reefs. It was during these surveys that I came to understand how valuable a coral reef ecosystem really is.”

Jason is thrilled to help CORAL move our conservation programs forward and is optimistic about the future. “We’ve pushed our environment to its capacity, but with the gains we’ve made in understanding how we interact with the environment and how ecosystems like coral reefs respond, we have a unique opportunity to do more for coral reef conservation than ever before. It’s exciting to be working for CORAL at this time.”

Dr. Earle’s team was amazed and encouraged to see the expanse of healthy staghorn corals at Cordelia.

On the last day of the expedition, Dr. Earle spoke to a local delegation and presented the findings of the trip. Her takeaway message was one of hope. She explained that while these ecosystems need our help, they are resilient. And, with the right protection, they can be saved. Dr. Earle and her team encouraged the public to join them in taking action to protect these “hope spots” by establishing marine protected areas that safeguard the Mesoamerican Reef.



Healthy Reefs for Healthy People Initiative’s Ian Drysdale (left), Dr. Sylvia Earle, and CORAL’s Jenny Myton aboard the Mission Blue research expedition  
Photo courtesy of Jenny Myton

# CORAL Staff Spotlight: Ratu Manoa Rasigatale

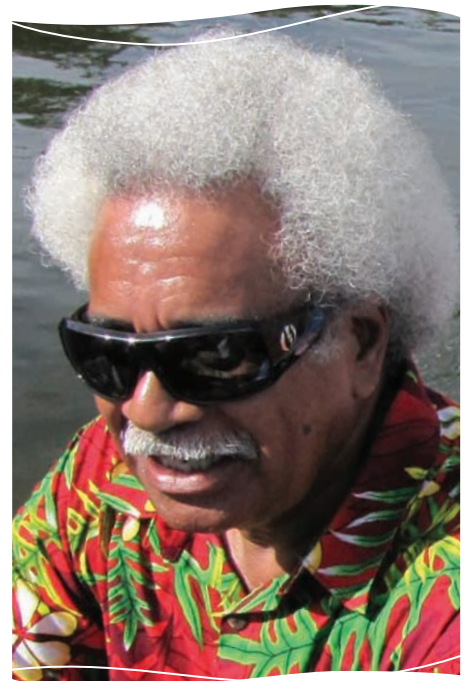
He is one of the most recognized television personalities in Fiji, and his passion for sharks has won him the nickname “Sharkman.” Ratu Manoa Rasigatale, a Fijian cultural icon, is taking on an important cause in his native country—shark conservation.

Earlier this year he joined CORAL to raise awareness and support for shark protection. As a member of our Fiji Shark Sanctuary Campaign team, he is working alongside the Fijian people to engage and educate local community members and government stakeholders to ensure long-lasting protection for sharks.

“Sharks deserve our respect,” he said. “Without sharks, our fish stocks will collapse and Fiji’s magnificent coral reefs will suffer. We needn’t fear these animals; they are our protectors and are an important part of our culture and rich heritage in Fiji.”

Sharks have long held a place of respect and worship in Fiji, but past efforts to legally protect them from local and international fishing pressures were met with resistance. Thanks in part to the recent wave of shark sanctuary designations around the world, however, our current campaign is gaining momentum.

Manoa is contributing to this momentum by leveraging his media expertise and local relationships to spread our shark conservation message. He has met with key leaders from local confederacies, provinces, districts, and villages to engage their full support. He is currently working with the *Fiji Times* on a weekly print column that explores the issues surrounding shark protection. He is also working with CORAL and a local production team to create *Shark Hope*, a thirty-minute documentary that focuses on the importance of sharks to Fiji’s culture, economy, and marine environment.



Ratu Manoa Rasigatale was one of the hundred people featured in the book *20th Century Fiji: People Who Shaped the Nation*  
Photo courtesy of Angelo Villagomez



Coral reef scene, Indonesia  
Photo by Jeff Yanover

## MEDIA ROUNDUP

### Extra! Extra! Read All About It!

CORAL’s conservation work is capturing headlines across the globe. Recent stories highlighting our reef resilience program, shark sanctuary initiatives, mangrove reforestation efforts, and community conservation projects were published in a variety of national and international news outlets. Here are a few of the highlights over the last few months...

- > [Ambergris Today \(Belize\)](#)
- > [Bloomberg News](#)
- > [Fiji Times](#)
- > [Columbus Dispatch \(Ohio\)](#)
- > [CoralWatch \(Australia\)](#)
- > [Huffington Post](#)
- > [Jakarta Post \(Indonesia\)](#)
- > [Lahaina News \(Hawaii\)](#)
- > [Mai Life \(Fiji\)](#)

Your support has made these news-worthy stories possible—thank you! To read these articles and other news from CORAL, visit [www.coral.org/news](http://www.coral.org/news).



## FOLLOW US ON TWITTER

Do you tweet? If so, we have good news: CORAL recently joined the age of Twitter! We encourage you to follow [@coral\\_org](https://twitter.com/coral_org) to get the latest coral reef news and learn more about what we are up to in our project sites. You can help us spread awareness about coral reefs and our conservation efforts by retweeting and favoriting our tweets.

## JOIN US TODAY!



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The Newsletter of the Coral Reef Alliance

Reef Scene, Indonesia  
 Photo by Jeff Yonover ([www.jeffyonover.com](http://www.jeffyonover.com))



For the first time, CORAL's community selected the cover of our annual calendar through an online vote. We were delighted that hundreds of *E-Current* subscribers and website visitors took the time to let us know which Jeff Yonover photograph they wanted to see grace the cover of our most popular publication.

Jeff's Indonesia reef scene was the winner, but if you've already received your 2012 CORAL calendar, you know that all the photos are stunning. We hope you hang your calendar prominently so that you—and those around you—can be inspired by the beautiful images of life you are protecting through your support of CORAL.

If you haven't yet received your copy, don't worry! We have one waiting for you. Simply visit [www.coral.org/calendar](http://www.coral.org/calendar), donate \$50 or more—or become a monthly *Friend of the Reef* donor—and we'll immediately send your calendar to you. You can also send your gift in the enclosed envelope if you prefer.

# You Voted. We Listened.

Coming up, we'll be looking for your opinion on other topics. Please sign up to receive e-mails from CORAL at [www.coral.org/ecurrent](http://www.coral.org/ecurrent) to make sure your voice is heard! And who knows? Yours might be the deciding vote for the 2013 CORAL calendar cover image!