

CORAL CURRENT

The Newsletter of the Coral Reef Alliance

Mooring Buoys Installed in the Namena Marine Reserve

If you've been keeping track of CORAL news, you might remember the important decision of the Kubulau Resource Management Committee to install mooring buoys in the Namena Marine Reserve in order to make it an official anchor-free zone, the first so designated in all of Fiji. We are delighted to report that the last of a total of nine mooring buoys has now been installed. This number includes three moorings located near shore to support village visits by tourists. All moorings are now being used by both tour operators and private vessels.

The mooring installation project was designed as a response to the intensifying anchor damage on Namena's reefs. In the absence of moorings, vessels using the reserve often dropped anchor on or near the reefs, impacting both the health of the reefs and their appeal to tourists. Heavy boat anchors crush corals and churn up sediments, resulting in fewer healthy corals and degraded habitat for fish and other animals; the use of anchors for securing commercial and recreational boats causes millions of dollars in damage to coral reefs around the world every year.

In Namena, local dive operators called for an end to anchor damage in the reserve at a Namena Marine Reserve Stakeholder Committee meeting. They proposed a series of heavy-duty moorings that would secure all vessels using the reserve, eliminating the need for anchoring. The proposal was supported by the Kubulau



Crew members of the *NAI/A* live-aboard dive ship with one of the mooring buoys they now use in the Namena Marine Reserve
Photo by CORAL Staff

Resource Management Committee, and CORAL raised the necessary funds for the installation of the moorings with generous contributions from the Mar Viva Foundation, Greenforce, the Jean Michel Cousteau Resort, and Aggressor Fiji Ltd.

Following the long process of securing project approval from the Fiji Islands Maritime Safety Administration and researching correct GPS information, and after delays caused by tsunamis and hurricanes, the last moorings were finally installed this fall by Dive Centre Fiji Ltd. In addition to six deep-water moorings that serve popular dive sites in the Namena Marine Reserve, three near-shore moorings also allow dive operators and other vessels to access five of the Kubulau villages.



Working Together to Keep Coral Reefs Alive

The Coral Reef Alliance (CORAL) unites 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.

Now that tourists are more easily able to visit the villages, residents will be able to develop tourism microenterprises to generate additional income for their communities. CORAL has also co-sponsored an ecotourism business design training to assist communities in taking advantage of this opportunity. By encouraging tourists to visit their villages, local community members will have the chance to meet the divers who come to Namena, listen to their underwater experiences, and better understand the value of their reefs.

CORAL has provided microgrants to fund mooring buoy installations in project sites around the world for more than ten years, including the installation of more than one hundred mooring buoys in key locations along the Mesoamerican Barrier Reef in Belize, Honduras, and Mexico. These mooring buoy projects are already proving beneficial for reefs, communities, and local businesses—in addition to preventing anchor damage, moorings aid dive operators in the safe delivery and pick-up of their divers, and they have also increased community awareness of reef conservation issues.

Mooring buoys are a simple and extremely effective tool to reduce local pressures on coral reefs, a strategy that is essential for worldwide reef preservation. Healthy reef ecosystems—those that are not heavily impacted by local stresses—have proven much more resilient to global threats like climate change and water quality deterioration. Mooring installations can help to build robustness and resiliency in reef ecosystems while benefiting local communities and businesses.

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For comments, questions, or contributions to CORAL Current, please email us at communications@coral.org.

BREAKING NEWS FROM CORAL’S PROJECT SITES



Cozumel, Mexico
Photo by CORAL staff

MESOAMERICA

MEXICO: The CORAL Reef Leadership Network has now trained over 700 local tour guides in Cozumel, and twenty-six companies have participated in CORAL’s Environmental Walk-Through program. CORAL’s education and outreach work has sparked one large commercial cruise line to request that its local providers comply with a modified version of the voluntary standards for sustainable marine recreation. The cruise line is currently conducting a pilot test with three local providers.

BELIZE: CORAL-funded flashcards and posters explaining mooring buoy guidelines have been distributed nationally, and are now available on the Belize Tourism Industry Association website. CORAL co-sponsored ‘CSI for Coral Reefs,’ an intensive five-day training workshop to help coral reef managers and conservation groups increase their capacity to respond to illegal activities that damage coral reefs. Participants learned about coral reef forensic investigations and rehearsed the procedures that will allow them to present compelling evidence in court.

HONDURAS: The new CORAL Reef Leadership Network (CRLN) in Honduras has already completed eight Sustainable Marine Recreation workshops on the island of Roatan as part of the outreach program of the Roatan Marine Park. The workshops have reached a variety of target groups, including cruise ship tour guides, dive centers, water taxis, police, and local governments. On Cayos Cochinos, sixteen dive and snorkel moorings and ten yacht moorings have been installed with CORAL funding, and two CRLN Leaders have been integrated into the team that is conducting tour guide certification training.

INDO-PACIFIC

FIJI: CORAL, in partnership with the University of the South Pacific, co-sponsored an accredited training course in tourism business design in the Kubulau District to enable villages to set up community-based ecotourism businesses. This effort compliments the recent installation of near-shore moorings, which allow boat-based tourists to access Kubulau’s villages more easily.

PAPUA NEW GUINEA (PNG): To promote sustainable economic development in Riwo village, CORAL held meetings with the Riwo Cooperative to plan a workshop on traditional fish trap making, as well as community planning and organization strategies.

RAJA AMPAT: As part of the new patrol guidelines and community outreach strategy in Misool, CORAL has implemented the “My Small Library” project, an effort to engage youth in nearby communities. Community patrol boats visit local villages on a weekly basis to lend books to the schools. Through a donation drive based in Bali, CORAL has collected over 400 children’s books for the lending library.

HAWAII: CORAL is conducting educational outreach with the Hawaii Division of Aquatic Resources (DAR) at the new Kahekili Herbivore Fisheries Management Area in Maui. Presentations for area hotel staff integrate elements of CORAL’s Sustainable Marine Recreation training with DAR’s presentations on science and regulations. Shops contracting with the hotels are being recruited into the Fish-Friendly Business Alliance, as fish feeding is now illegal within the protected area. A CORAL microgrant funded a program for youth groups on Maui to learn about coral reef conservation and documentation. The groups created public service announcements that are being shown on local television.

Combating Climate Change with BLUE CARBON SINKS

Future Conservationists

Participants in the Kids in Action program in Belize visit a mangrove forest that is protected in Bacalar Chico National Park
Photo by Valentine Rosado

Most studies about coral reefs and climate change focus on the impacts that increased levels of carbon dioxide will have on reef ecosystems. Higher concentrations of carbon dioxide threaten corals with increasing sea surface temperatures, ocean acidification, sea level rise, and intensifying tropical storms. However, a recent United Nations report presents a different angle on this relationship: the conservation of coral reefs and their associated coastal marine ecosystems could actually be the key to *combating* climate change.

According to the report *Blue Carbon: The Role of Healthy Oceans in Binding Carbon*, marine ecosystems such as mangroves, salt marshes, and seagrasses capture and store between 800 and 1,650 million tons of carbon a year, equal to about half the annual emissions of the global transport sector. These marine vegetated habitats cover less than one percent of the seabed, yet account for over half of all carbon storage in ocean sediment. Furthermore, though their combined biomass amounts to less than one percent of the biomass of plants on land, they store a comparable amount of carbon, making them one of the most intense carbon sinks on the planet. These ecosystems are now referred to as “blue carbon sinks.”

Preserving and restoring marine vegetated ecosystems could contribute to offsetting up to seven percent of current fossil fuel emissions over the next two decades, and it would accomplish that task at a fraction of the cost of implementing carbon capture and storage technologies at power

plants. That figure is equal to more than half of the carbon offsets projected for reducing rainforest destruction. What’s more, while carbon captured and stored on land may be locked away for mere decades, carbon stored in the oceans remains for millennia.

Unfortunately, though, coastal vegetated habitats are being lost at an increasingly rapid pace. Since 1940, more than thirty percent of both mangroves and seagrass beds have been lost, and we are currently losing between two and seven percent of our blue carbon sinks annually—a seven-fold increase over loss rates half a century ago. This rate of destruction is much faster than the rate of destruction of rainforests, and current trends might see these ecosystems nearly disappear within a few decades.

The health of coral reefs is inseparable from the health of these closely associated ecosystems; seagrass beds and mangroves, in particular, are found nearly everywhere that coral reefs occur, and many species rely on a combination of these habitats over the course of their lives. It is therefore critical that the management plans and the design of marine protected areas (MPAs) consider all of these related ecosystems, and CORAL’s holistic Coral Reef Sustainable Destination (CRSD) model encourages just this kind of integrated thinking. CORAL supports effective management of MPAs around the world that include seagrass and mangrove habitats in addition to

coral reefs, and we are also supporting community efforts to curtail the destruction of these habitats and grant them more official protections.

While CRSD wasn’t designed with blue carbon sinks in mind, the new information about the great importance of marine vegetated habitats further demonstrates the value of a holistic approach to conservation. By taking into consideration the whole coral reef ecosystem and all of the factors that influence its health, CORAL’s work has been helping to preserve these additional habitats that we now know are ultimately helping to protect coral reefs—and all other ecosystems—from the impacts of climate change.



A mangrove seedling grows at the Misool Eco Resort in Raja Ampat
Photo by Naneng Setiasih

Large Commercial Retailers Sign On to Make Fish Feeding History

We're excited to report that several of Hawaii's largest commercial merchandisers, including Walmart and Longs Drugs, have agreed to remove snorkeling fish food from all of their Hawaii locations. These companies are following the lead of marine recreation businesses across the state that have become part of the Fish-Friendly Business Alliance through the "Take a Bite out of Fish Feeding" campaign, a CORAL-led initiative that discourages the practice of using food to attract fish for tourists to view.

The use of fish food by tourists and tour operators can have negative consequences for both reefs and the tourism industry, as it disrupts natural ecological relationships on the reef. For instance, when herbivorous grazing fish start eating fish food instead of algae, the algae can flourish and potentially smother the reef. Furthermore, more people are bitten by aggressive fish in areas where fish food is used.

The "Take a Bite out of Fish Feeding" campaign has been spearheaded by Liz Foote, CORAL's Hawaii Field Manager,

and Carlie Weiner, a researcher at the Hawaii Institute of Marine Biology. The two have spent years enlisting businesses to stop selling and using fish food, as well as educating visitors and locals alike about the effects and dangers of fish feeding. The recent effort to secure buy-in from the large retailers in Hawaii was taken up by San Francisco attorney Joshua Rosen, who volunteered his time and talent to convince these important merchandisers to voluntarily take fish food off their shelves. Ultimately, it is in their best interest to protect the health of the reefs that support the Hawaiian economy.

One company that has recently agreed to discontinue the sale of fish food statewide is Longs Drugs, which includes over thirty locations across Hawaii.

"As an experienced backpacker and a PADI Certified diver, I think it prudent not to be considered a food source for any wildlife...no matter what their size," says Bob Ingersoll, Vice President of Hawaii Operations at Longs Drugs. "All Longs Drug Stores in Hawaii proudly support the Fish-Friendly Business Alliance."



Businesses in the Fish-Friendly Business Alliance post this decal in their stores

This success is an important step in the ultimate goal of the "Take a Bite out of Fish Feeding" campaign to end the sale of snorkeling fish food and to eliminate the practice of fish feeding throughout the state of Hawaii.

CORAL Training in Puerto Rico



A group of stakeholders works to rank threats to coral reefs at the Sustainable Marine Recreation training in San Juan, Puerto Rico
Photo by Rick MacPherson

This October, CORAL was invited and funded to present a one-day Sustainable Marine Recreation training at the 22nd Annual U.S. Coral Reef Task Force Meeting in San Juan, Puerto Rico. CORAL's Mexico Field Manager, Kenneth Johnson, led the well-attended workshop in Spanish for a diverse group of stakeholders, including marine recreation providers, government officials, and representatives of other non-profit organizations.

In addition to learning best environmental practices for marine recreation, participants worked to identify and rank local threats to coral reefs in Puerto Rico and then brainstormed solutions to these key problems. Marine recreation providers at the workshop, who came not only from the main island, but also

from the neighboring islands of Culebra and Vieques, signed on to an environmental pledge and committed to make the pledge available to their clients.

Conservation Programs Director Rick MacPherson presented the key outcomes of the workshop to the full Task Force during its business meeting the next week, and CORAL has now collaborated with the Puerto Rico Department of Natural Resources to submit a proposal requesting supplemental funding for CORAL to return to establish the CORAL Reef Leadership Network there. CORAL would provide intensive training for eight to ten new Puerto Rico-based Leaders, who would then be able to present Sustainable Marine Recreation workshops to marine recreation providers across the territory.

CORAL Welcomes Two New Board Members

CORAL is pleased to welcome Curt Berrien and Jim Tolonen as the two newest members of our Board of Directors

Curt Berrien



Curt Berrien with his wife, Janet, and youngest daughter, Jenny
Photo courtesy of Curt Berrien

Curt Berrien brings a rich background in business management and organizational consulting to CORAL's Board. He is founder of Berrien O'Brien Inc., an executive development practice, and works as a partner with Sustainability Partners to bring sustainable business practices to a wide variety of government and corporate clients.

Curt's deep appreciation for nature developed at a young age during summers spent at his grandmother's home in New Hampshire, and later as a smokejumper for the U.S. Forest Service. He became an avid scuba diver while stationed in Japan as an officer in the U.S. Naval Supply Corps, and made over 1,000 dives around the Ryukyu Islands archipelago. His most vivid dive memories include night cave dives along the Okinawan coral reefs and a hair-raising encounter with a great white shark.

While Curt's appreciation of the awe-inspiring beauty and biodiversity of the Earth's coral reefs remains strong, he is deeply concerned about their rapid deterioration, the plight of the half-

billion people who depend on them, and the loss of potential sources of next-generation cancer drugs. He has seen the dramatic impact that CORAL's work has made with a relatively small amount of time and resources, and believes that CORAL stands out from other environmentally-focused non-profits because donors can see the clear and rapid impact of their contribution dollars.

Curt has particular confidence in CORAL's Coral Reef Sustainable Destination (CRSD) methodology. In his experience, many fieldwork efforts fail because they do not apply a systems approach to the issue they are addressing. The CRSD holistic model is more effective because it induces local communities to adopt sustainable business practices that produce both economic and conservation benefits for all stakeholders.

A beekeeper and motorcyclist in his spare time, Curt enjoys spending weekends at his ranch in Mendocino, CA. He and Janet, his wife of 47 years, have two daughters and three grandchildren.

Jim Tolonen

Recently retired from the Silicon Valley technology sector, Jim Tolonen is an avid fisherman, motorcycle rider, and scuba diver. Jim first learned about CORAL through diving publications in the mid-1990s, and was immediately interested in CORAL's approach of working with local people and industries to provide cooperative, sustainable reef management solutions. He has been an annual contributor ever since.

Born and raised in Michigan, Jim started diving as a young boy with returning Korean War navy divers. They dove with rudimentary gear and built their proficiency with drills like diving a full tank with no fins or mask, or stealthily shutting off each other's air. Before he could afford a wet suit, Jim dove in long underwear to stay warm and avoid abrasions.

Since those early days, Jim has had the good fortune to dive among coral reefs around the globe, including those in Mexico, Fiji, Turks and Caicos, the Red Sea, and Belize. Just this year he participated in a night manta ray dive in Hawaii, and he looks forward to exploring the coral reefs of Australia and Palau. Jim's favorite dive spot? His next dive.

Jim is excited about working more closely with CORAL, and hopes to help spread CORAL's work to more areas of the world. He is keenly aware that time is of the essence when it comes to coral reef protection, and he believes that CORAL's CRSD model is an effective and successful approach to improving reef health. In the face of growing threats like global warming and population expansion, he firmly believes that the time to make a difference is now.

Jim resides in Soquel, CA, with his wife Ginger. They have four children and six grandchildren.



Jim and Ginger Tolonen on a trip to New Zealand
Photo by Janet Bertolus



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Bluespot butterflyfish (*Chaetodon plebeius*)
 Photo © Georgette Douwma

Our Board of Directors Has Issued a Challenge And We Need You!

Our Board of Directors has offered a wonderful opportunity for you to double your impact on the conservation of our planet's coral reefs. Make a donation to CORAL before January 31st, and our Board will match the amount up to \$100,000! It's a lofty challenge, but one that we know our donors will step up to meet.

If you've already given in support of this challenge, thank you! If you haven't, this is your chance. You know that coral reefs need your help. You know that CORAL's approach to conservation works. And, since your gift—if made before January 31, 2010—will be doubled, there has never been a better time to give.

Please donate today at www.coral.org/2009, or mail your donation in the enclosed envelope.

Thank you!