

# CORAL CURRENT

The Newsletter of The Coral Reef Alliance



Working Together to  
Keep Coral Reefs Alive

## PUTTING TOURISM FEES TO WORK IN PAPUA NEW GUINEA

CORAL Helps Locals Resolve Conflict Around Fee Systems; Reef Owners Find Compensation and Marine Park Gets Needed Funding

Mike Christensen stands 6 feet three inches with ash-grey hair, deep-set brown eyes and an air of purpose. For the past two years, he has been working with his project team creating a network of marine protected areas in Milne Bay, Papua New Guinea (PNG).

You can sense he is a man who has the ability to get things done. Part of that ability is knowing when to get help. When Mike realized that the tourism fee system in Milne Bay was not working properly, he sought CORAL's assistance.

### Customary Marine Tenure

To understand PNG's tourism fee problems, it is first necessary to understand the fee structure

and the concept of marine tenure. PNG's reefs are owned by family groups or clans, unlike the US where the sea and its resources are considered public domain. Many island nations in the Western Pacific embrace this concept of "customary marine tenure" where entering someone's reef without permission is tantamount to trespassing.

In Milne Bay, a visitor must pay approximately five kina (\$1.75) per visit to the owner to enter their reef.

### Problem and Solutions with Fees in PNG

Marine tenure is no simple matter. There are often disputes about ownership between the

clans themselves. With ownership traced through the clans' male or female ancestors, it is sometimes hard to know who the rightful owner is. When ownership disputes arise over reefs where tourism entrance fees have been established, payment to the reef owner can be difficult to resolve. Up to half the reefs in Milne Bay may be under dispute.

"Part of the problem has been that the system wasn't entirely clear and there have also been some conflicts of interest," says Christensen. "An outside party with expertise in tourism fees was needed to act as a facilitator. After talking with CORAL's Program Manager, Sherry Flumerfelt, I knew CORAL was the right group for the job."

He explains further that lack of communication between stakeholders and the resulting mistrust was a key problem.

For example, reef owners were under the impression that dive boat operators were making large sums of money and weren't willing to pay to use the reef. CORAL helped dispel many of these misunderstandings. It allowed people from all sectors to present their points (cont'd pg 3)

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Tourism fees can have great conservation value by providing alternative revenue that allows villagers to stop destructive practices such as dynamite fishing. Fees also fund marine protected areas.



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Special thanks to **Dr. Hillary Vidars** and **Mark Epstein** for their tremendous contributions as CORAL board members.

## Conservation and Safety Standards Created to Protect World's Second Largest Barrier Reef

### Belize, Mexico, and Honduras to Take Lead in Testing

What will you see when visiting a CORAL standards testing location? Dive groups limited to eight. Dive and snorkel leaders giving environmental briefings to all guests. Procedures ensuring no one is left at sea. And that's just the beginning.

Over the past year, your support helped CORAL bring experts from four countries together to create the first set of diving, snorkeling, and boating standards for the Mesoamerican Reef. Businesses, scientists and government officials each brought their unique expertise in creating the standards.

Now CORAL is helping businesses put the standards into practice this June. "This is exactly what we need," says Brian Young, owner of Seahorse Dive Shop in Placencia, Belize, "an action plan that will help us support conservation."

After testing and revision, the standards will be available for all businesses next year. Rich Wilson, CORAL's Caribbean Program Manager has a vision. "I see businesses throughout the region using the standards by 2010. This will make one of the world's most important reefs healthier and more able to withstand pressures like global warming and pollution."

CORAL welcomes contributions to help expand testing to Cozumel, Mexico; Utila, Honduras; and San Pedro, Belize.

Conservation standards for tourism businesses will protect Caribbean reefs like this one by ensuring smaller and better managed dive groups.



### Going to the Caribbean?

Support participating businesses in these locations:

**Placencia, Belize**

**Playa del Carmen, Mexico**

**Roatan, Honduras**

CORAL would like to hear about your experience with businesses who have agreed to test the standards. If you are visiting these sites and would like to give feedback, contact Membership Manager, Eileen Weckerle, [eweckerle@coral.org](mailto:eweckerle@coral.org) or 415.834.0900 x315 prior to your trip.



## Benefiting Community and Conservation with Dive Tags in Namena, Fiji

### Dive Tags Fund Scholarships, Marine Ranger Training, and Patrol Boats

Forty-three children from Kubulau District, Fiji can afford to attend classes this semester. This was made possible by the Children's Scholarship Program funded by Namena Marine Reserve's tourism fees.

CORAL helped the community around the island of Namena establish the fee system to fund conservation and compensate villagers. In return, the villagers agreed to reduce fishing on the reef.

Modeled after the Bonaire dive tag system, local businesses sell dive tags to guests visiting the Namena Marine Protected Area (NMPA). The tag allows them to dive or snorkel in Namena knowing they are protecting one of

Fiji's most important coral reefs. Paulo Kolikata, Chairman of the NMPA Management Committee, says the committee plans to spend additional funding on community projects including rain shelters for fishermen and pedestrians and an incinerator for the local school. The remaining fifty percent of the funds have been set aside for management of NMPA, including patrol boat fuel and ranger training.

"We aim to take our experience in building transparent and effective tourism fee systems in Namena to reefs in need around the world," says CORAL Program Director Rick MacPherson.

## SPECIAL THANKS

CORAL would like to give a special thanks to the following businesses that have been particularly active in distributing dive tags and helping protect Namena's reefs:

Jean-Michel Cousteau Resort/  
L'Aventure Divers

Koro Sun Resort

Moody's Namena Resort

Nai'a Liveaboard Cruises

Namale Resort

Fiji Aggressor

Tui Tai Adventure Cruises



Namena Marine Reserve's dive tags help send Kubulau children to school.

### PNG Tourism Fees (cont'd.)

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Mike Christensen is the team leader for community development in the Community-Based Coastal and Marine Conservation Project in Milne Bay, PNG.

# CRITICAL REEF UPDATE

## FAST FACTS

### SIZE

40,000 square kilometers of pristine coral reefs, sea grass beds, and mangrove forests<sup>2</sup>

### BIODIVERSITY<sup>1</sup>

950 species of mollusks

430 species of coral

1,100 reef fish species

Courtesy NASA Goddard Space Flight Center Image by Reto Stöckli; enhancements by Robert Simmon

## REEF THREATS

### RECREATIONAL DAMAGE

Reefs in tourism sites are beginning to show damage from trampling, repetitive anchoring and boat collisions.

### FISHING INDUSTRIES

Overfishing and destructive fishing for delicacies such as bêche-de-mer, giant clam, and shark fin threaten fish populations and damage reefs.

### POLLUTION & SEDIMENTATION

Sedimentation from uncontrolled logging runoff and garbage due to inadequate trash removal is smothering the reefs and killing wildlife.

## CORAL RESULTS

### Improving Business Practices:

CORAL trained community leaders and tourism businesses in coral reef ecology and best practices. Participants agreed to implement these practices in their everyday life.

### Reducing Anchor Damage:

CORAL gave \$4,000 for mooring installation equipment to PNG Diver's Association. CORAL is also launching a nation-wide mooring project with the association.

### Elevating Education:

CORAL trained tourism businesses on how to give effective environmental briefings to their clients. CORAL also created and printed environmental guidelines to give to tourists.

### Financing for Marine Parks:

CORAL helped reef users and owners in Milne Bay establish a voluntary conservation fee for tourists (see front page article). The fees will help the marine park:

- Establish critically chosen no-take areas
- Create and maintain marine ranger patrols to catch illegal poachers
- Collect data on fish populations

### Raising Awareness:

CORAL helped educate the businesses and the community about sustainable fishing and developed conservation projects to raise awareness in their area.

### Providing Alternatives to Destructive Fishing:

In March, CORAL formalized our partnership with PNG Diver's Association to create an Ecotourism Training Program to provide alternative livelihoods for local fishermen.

### Conservation Projects:

Community members involved in CORAL programs made plans to create a centralized town dump. They also made plans to build an awareness campaign to educate the public about the effects of improper trash removal.

### Partners:

CORAL partner, The Nature Conservancy, is working closely with local landowners, the government, and conservation groups to establish long-term land leases. Through this method, landowners agree to protect their lands for conservation in exchange for benefits such as roads and schools.

# PAPUA NEW GUINEA



***Yu ken mekim nais rip--nau.*** Say this phrase quickly and you'll hear the meaning. *You can make nice reef--now.* This is Papua New Guinea's lingua franca, pidgin; this is Papua New Guinea's legacy, their reef.

With a dense carpet of highland rain forests tumbling down to low-lying foothills and pristine coral reefs, Papua New Guinea (PNG) is a hotbed of biodiversity.

In an area containing more varieties of fish, invertebrates, and corals than any other marine region in the world, many species can be found nowhere else. It is an important reef to save and one of the least protected.

Science shows that marine protected areas are one of the best ways to preserve and save a reef. However, only 0.1% of PNG's waters containing reefs are under protection. That is why CORAL is partnering with community-based groups (see front page article) to create and strengthen a network of marine parks in PNG.

As PNG comes out of a subsistence society, the pressures on the reef will grow. Commercial fishing, harvesting of coral, pollution, and sedimentation from logging and mining are already on the rise.

**"The best chances to conserve PNG's reefs rest with local management, combined with support from non-governmental organizations."**

Bêche-de-mer (sea cucumbers), a delicacy in Asia, are in great demand. Coral harvesting for betelnut consumption continues. Ebony, mahogany, and rosewood are logged daily.

In a country that was recently rated one of the world's Least Developed Countries by the United Nations, PNG has little resources to deal with increasing pressures.

According to the report, Status of Coral Reefs of the World: 2002, PNG has inadequate government structure for supporting conservation. The best chances to conserve PNG's reefs rests with local management, combined with support from non-governmental organizations.

We have a unique opportunity with PNG because there is so much left to save and CORAL has solutions. Let's save it --nau.

## SAMPLE PROJECTS

Your contributions are helping PNG's community make reef conservation solutions a reality.

Forty people in CORAL's PNG *Conservation in Action* program created plans for 7 projects addressing pollution and education issues. Here are some highlighted proposals from their working groups:

### The Sing Coral Group

Launch a school competition to design a jingle that raises public awareness of coral reefs and coral conservation; awareness campaign would be targeted in local languages and broadcast on local radio.

### Hea Hea Group

Devise curriculum and materials to empower teachers to teach coral conservation in schools.

### Lauhea's Group

Create awareness campaign for proper disposal of trash; increase the use of biodegradable materials and reduce the use of excess packaging.

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Photos: Rick Macpherson

## PARTNERS

- Papua New Guinea Diver's Association
- Locally Managed Marine Area Network
- Mahonia na Dari
- The Nature Conservancy
- Milne Bay Community Based Coastal and Marine Conservation Project (CBC&MCP) supported by the:
  - United Nations Development Programme
  - Global Environment Facility
  - Japanese Human Development Trust
  - Australian National University
  - Conservation International
  - Milne Bay Provincial Government
  - Government of Papua New Guinea

# ASK CORAL

Dr. Alex Brylske



**Q:** What is Killing Caribbean Reefs?  
What Can I Do to Help?

**A:** There is no doubt; the oceans are warming. All ten of the hottest years on record have occurred in the last fifteen years. This is directly related to the bleaching and loss of much Caribbean reef this past summer.

## Global Warming: Coming Soon to a Reef Near You

This past summer, coral heads hundreds of years old in the Caribbean were destroyed. Large sections of reef stand stark white, dead. It began with widespread bleaching.

Bleaching occurs when coral expel their symbiotic algae due to stress; this time, the stress is heat. Heat leaves the coral weakened, unable to withstand pressures like repeated contact or pollution. The coral is more susceptible to diseases, like the black band disease, and will die in a few weeks time if conditions do not change.

The National Oceanic and Atmospheric Administration (NOAA) stated that sea temperature stress levels in the Caribbean this past year tripled the levels needed to cause bleaching and doubled the levels that can kill coral.

After reports of specific coral damage reaching from Florida to Panama, NOAA placed Staghorn and Elkhorn coral on the threatened species list.

"Time will tell whether there was large-scale mortality or not," said Professor Robert Van Woesik from the Florida Institute of Technology. He notes that corals do have some ability to bounce back but that this was an unusually warm event.

## World Wide Trend

Queensland University's Professor Ove Hoegh-Guldberg, head of a group of 100 scientists monitoring bleaching, worries that we are seeing the same sort of destructive trends previously seen on the Great Barrier Reef.

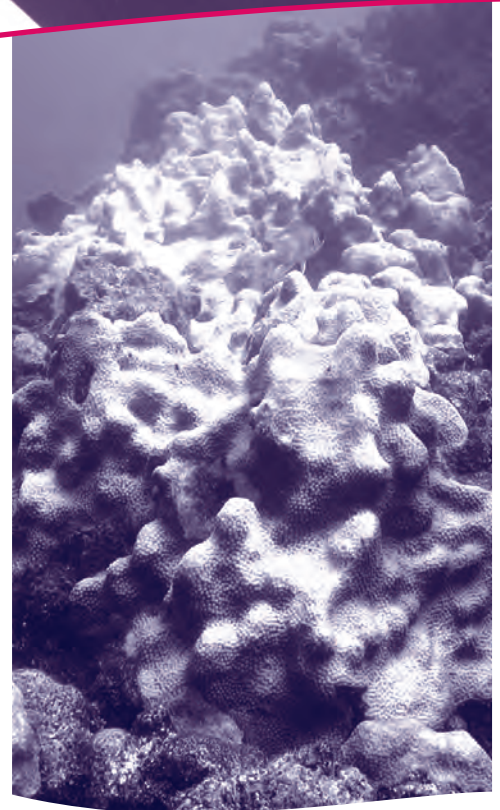
In 2002, between 60 and 95 percent of the reefs that make up the Great Barrier Reef were bleached. Most corals survived but in some locations up to 90 percent were killed. Hoegh-Guldberg said projections from 40 climate models suggested that oceans would warm by as much as three to four degrees Celsius in the next 100 years.

"We're starting to get into very dangerous territory where what we see perhaps this year will become the norm and of course extreme events will become more likely," he said. "The climate is changing so quickly that coral reefs can't keep up."

## What You Can Do

Your support of CORAL ensures that marine protected areas give weakened corals the extra protection they need. But what can we do to stop global warming? Join CORAL and StopGlobalWarming.org in a virtual march.

Go to [www.StopGlobalWarming.org/partners/reefalliance](http://www.StopGlobalWarming.org/partners/reefalliance) to demand that governments, corporations, and politicians take steps to stop global warming. Also, find simple ways you can produce less carbon dioxide in your life.



This past summer, coral colonies hundreds of years old were destroyed. Large sections of reefs stand stark white like this one. It all began with a widespread bleaching event due to rising sea temperatures.

Dr. Brylske has a Ph.D. in marine science education and master's degrees in both marine biology and coastal zone management. He also wrote the original curricula for the PADI Instructor, Divemaster, and Rescue Diver courses. He is currently a senior editor for Dive Training magazine and is CORAL's Education Specialist.

# REEFS IN THE NEWS

## Kiribati Designates New Marine Protected Area

Last year, CORAL Executive Director, Brian Huse, visited the Pacific island nation of Kiribati (pronounced Kee-ree-bahss).

Brian joined a team of other leading experts to create an action plan for long term protection of Kiribati's reefs.

Today, Kiribati is a conservation leader. As recommended by the team, the Kiribati Government recently created one of the world's largest marine protected areas to protect against overfishing and climate change.

Greg Stone of the New England Aquarium says, "With climate change, there's not much you can do for reefs except for removing all other existing threats." He adds that because of the healthy numbers of fish and lack of human

contact in Kiribati, the reefs there are recovering quickly from a 2003 bleaching event.

In their excellent condition, they are essentially a baseline reef--a control site. He says, "They offer a valuable reference point for measuring the impact of climate change on reef systems there and elsewhere."

Midway between Fiji and Hawai'i, the new protected area contains 120 species of coral and hundreds of species of fish. This includes the world's highest concentration of Napoleon wrasse.

The protected area will be funded by CORAL partner, Conservation International. In addition to financing the protected area, they

**"If the coral and reefs are protected, then the fish will thrive and grow and bring us benefit."**

**-Kiribati President Anote Tong**

will also compensate Kiribati for lost revenue from cancelled fishing licenses to foreign commercial fleets.

"If the coral and reefs are protected, then the fish will thrive and grow and bring us benefit," said Kiribati President Anote Tong, announcing the protected area. "In this way, all species of fish can be protected so none become depleted or extinct."

Source: MPA News April 2006 <http://depts.washington.edu/mpanews/>

CORAL, Executive Director, Brian Huse, visited Kiribati last year to create an action plan to protect its reef. Kiribati, pictured here, recently designated one of the world's largest marine protected areas.



Planting trees prevents runoff and sedimentation that can smother reefs.



## MEMBER NEWS



### Children's Educational Programs in Fiji and PNG Need Materials

Two CORAL field sites have started marine environmental education programs for school-age children and need our help building their libraries. To contribute **new or used marine educational materials**, please contact Eileen Weckerle at [eweckerle@coral.org](mailto:eweckerle@coral.org) or 415.834.0900 x 315. The following items are needed:

- Fish ID books
- Children's educational books
- Posters
- DVDs
- Videos
- Snorkel gear

Thank you very much!

### Monthly Giving Program Nourishes CORAL Conservation

CORAL would like to welcome our newest monthly contributors. Sustained contributions through the ***Friends of the Reef*** program helps CORAL be more effective. Thank you for your support!

- Melchor E. Apodaca
- Sarah Irene Dye & John Coulter
- Gerald & Rosette Koch
- Heather Lambe
- Gabriel Peñagaricano
- Margo Reyerson
- Shauna Trieb
- Roxanne Warren



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