

CORAL CURRENT

The Newsletter of The Coral Reef Alliance



Working Together to
Keep Coral Reefs Alive

FIJI DISTRICT CONSERVES MARINE RESOURCES AND CREATES ALTERNATIVE MEANS OF ECONOMIC DEVELOPMENT

CORAL Facilitates Community-Based Tourism Planning in District of Kubulau

Ratu Peni, chief of the Kubulau district in Fiji, commands respect as he walks across the tightly woven bamboo matting of the district meeting house. Activity in the room comes to a halt and a traveling whisper marks his presence for this meeting.

While CORAL was facilitating a workshop on tourism fees earlier this year, villagers from the Kubulau district, including Ratu Peni, asked if CORAL would help develop community-based tourism to raise the standard of living.

Today, chiefs and villagers alike sit cross-legged on the floor waiting to begin. The room fills with anticipation and eagerness.

Fiji Villages Begin Plans

The meeting begins with a brainstorming session. Several viable ideas start to take shape:

"Villagers could be trained as tour guides."

"With a guide from a locally run tour company, resort guests would travel to a nearby village. Here they could choose from a hike in the rainforests or spend the afternoon cooling off with a snorkel over coral reefs."

"Along the way, guests would have the opportunity to buy locally produced handicrafts or participate in a kava ceremony."

The Ministry of Tourism concludes the session by

highlighting government opportunities for financing such ecotourism projects.

Next steps may include working with the villages and ministries to create business plans for these ideas.

CORAL Program Manager, Sherry Flumerfelt, describes the experience, "The feeling as we leave here today is one of great expectation and opportunity. There is a clear connection between successful marine protected areas and communities that benefit economically from them. The villages of Kubulau see themselves as part of that continuum."

Villagers also asked CORAL to help them explore possibilities for sustainable aquaculture for restaurant and aquarium trades as a means for further economic development.

The day closes traditionally with kava. Here, dried kava root is pounded into a powder and placed into a colorful ceremonial cheesecloth. Several rinses of water run through the cloth into a bowl resembling a large wooden mortar. A chief begins the ceremony as a half coconut shell is dipped into the (cont'd. pg 3)

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Chief Ratu Peni asked CORAL to help develop community-based tourism to raise the standard of living in Kubulau, Fiji.



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Mesoamerican Conservation Projects Support Region-Wide Standards

Recently Approved Standards in Diving, Snorkeling and Boating Get Help From CORAL Microgrants

Over the past year, your support has gone far in Mesoamerica. Four countries have come together to create and approve region-wide standards for environmentally friendly business practices in diving, snorkeling, boating and beach front activities. With training from CORAL, participating businesses will be testing the standards' feasibility and effectiveness. Recently, testing locations identified conservation projects necessary to support the standards. Here are some of the projects made possible with your support.

Roatan, Honduras

Tourist and Community Education Program

The Roatan Marine Park Association will use their CORAL microgrant to produce and position brochures, posters and bill boards at strategic entry points around the island, such as the airport and cruise docks. The materials will explain how behaviors such as walking on or touching coral, fish feeding, or buying coral curios can damage Roatan's reef. Future plans include creating an environmental education curriculum for local schools.

Playa Del Carmen, Mexico

Sustainable Business Leadership Network

In Playa, CORAL is funding a project through APSA, the local marine business association. APSA is creating a network of sustainable marine recreation leaders who will train businesses in environmentally friendly practices. This includes subtle changes, such as using sponges to absorb toxic chemicals in bilge tanks and limiting dive and snorkel groups to eight people. The association in turn will promote these businesses through the tourism board.

Placencia, Belize

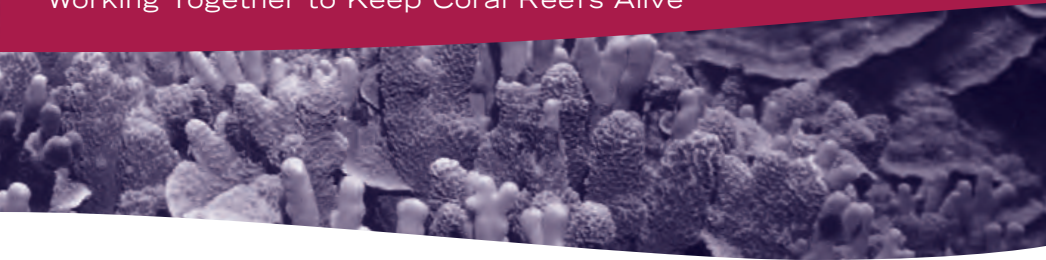
Self-Contained Boat Sewage Pump-Out Station

Untreated sewage flowing into the ocean increases coral diseases and algal blooms that smother coral. Tourism businesses in Placencia will use CORAL funds to create a sewage pump out station for boats in Placencia Harbor. The facility will be managed by the local town council. The group hopes to build on this experience and look at residential sewage issues in the village in the coming year.

Region-wide

Mooring Buoy Programs

Signs of reef damage stemming from anchoring and trampling along the Mesoamerican Reef have become more apparent as tourism continues to grow. Placencia, Roatan, and Playa Del Carmen each plan to use CORAL funds to create a network of mooring buoys to help alleviate the problem. Primarily, the moorings will be used to prevent tourist boats from anchoring on the reef, especially in high visitation areas, and to mark channels to prevent groundings. The program will also train locals in mooring installation and maintenance for future projects.



New Marine Naturalist Training Course In Maui

Opportunity for Marine Recreation Industry and General Public Alike

Unchecked tourism can have devastating effects on coral reef ecosystems. You may have seen coral broken and scarred due to trampling, or once-wild fish begging to be fed. Hawaii, with more than five million visitors each year, sees its share of damage. A new program supported by CORAL in association with our Hawaii partners will help.

The new *Introductory Marine Naturalist Training Course* in Maui is designed to educate employees in the marine recreation industry and the general public on such topics as coral reef ecosystems, fish ID, marine regulations, and interpretation. Marine recreation employees engage thousands of visitors each year and with each contact, have the opportunity to

provide environmental education and promote stewardship.

Each class will be taught by local experts and will include a component on Hawaiian culture directly related to each evening's theme. Participants will also have the opportunity to network with speakers representing a variety of marine-related organizations.

Once the course (consisting of six classes) is completed, participants will receive a C.O.R.A.L. Card (Conservation of our Reef and Animal Life).

In addition to creating a more environmentally active marine recreation industry, the card will help participants meet the requirements for volunteer positions in environmental organizations and attract visitors to a more highly trained staff.

Find out how to get YOUR card today! Contact Eileen Weckerle at eweckerle@coral.org or 415.834.0900 ext. 315.

The *Introductory Marine Naturalist Training Course* was created as a collaborative effort between the following partners:

- Coral Reef Alliance
- Hawaii Eco-Nature Society
- Hawaiian Islands Humpback Whale National Marine Sanctuary
- Hawaii Wildlife Fund
- Maui Community College Marine Option Program
- Maui Ocean Center
- Maui Reef Fund
- Project S.E.A.-Link
- Pacific Whale Foundation



CORAL Hawaii Field Representative, Liz Foote, will be helping coordinate and teach the new *Introductory Marine Naturalist Training Course* in Maui.

FIJI Conserves Resources (cont'd.)

milky liquid and passed around the circle. The mood is festive as hands clap and each drinker chants, "Vinaka." Thank you.

The Tourism/Conservation Connection

Tourism is a backbone of Fiji's economy. However, many tourism businesses are owned by non-Fijians. Making sure the local community benefits economically in this reef-centered industry is an important step in Fiji's reef conservation.

When a marine protected area is established, local people often agree to stop or reduce fishing or other extractive activities. This allows decimated fish stocks to

regenerate and the ecosystem to return to a healthy balance.

As fishing is often the main source of food and income, local people need an alternative livelihood to be able to comply with fishing bans in protected areas. Money earned from sustainable tourism can offset this loss of income and continue to put food on the table.

For example, tourism fee revenue generated by visitors to the Namena Marine Reserve enabled forty-four children from the Kubulau district to attend school. The revenue also supplied patrol boat fuel for the marine park.

Here at this meeting, Ratu Peni understands that involving his eleven villages in Fiji's already

booming tourism industry is important to Kubulau's economic stability—to the stability of all the families that live in his district.

With additional funding, CORAL will be able to help Kubulau and other Fiji districts implement more programs to involve communities in conservation and tourism through our *Conservation in Action* series. For information about contributing directly to this project, please contact Membership Manager, Eileen Weckerle, at 415.834.0900 x315 or eweckerle@coral.org.



CRITICAL REEF UPDATE



FIJI

FAST FACTS

SIZE

10,020 km² coral reefs

Reefs at Risk: 68%

BIODIVERSITY

457 species of molluscs

398 species of coral

1,198 species of fish

REEF THREATS

COASTAL DEVELOPMENT

Coastal pollution in high tourist areas is compounded by inadequate waste disposal and sewage treatment facilities. Excessive amounts of nutrients from sewage result in coral reef diseases and algal blooms that can smother reefs.

FISHING INDUSTRIES

Overfishing and destructive fishing methods deplete resources and damage coral reef habitats. Foreign fishing fleets overharvest. Use of Derris root for fishing can poison coral colonies. Poaching in marine protected areas continues to be a problem.

CORAL BLEACHING

Rising sea surface temperatures caused serious bleaching events in 2000 and 2002 with 40%-80% mortality on some reefs.

CORAL RESULTS

Working with Partners:

CORAL partner, Resort Support, consults with local businesses and hotels to help them build responsibly. They provide ecological assessments and make recommendations on building practices such as preventing improper sewage disposal and construction runoff.

Establishing No-Take Reserves:

CORAL, working with partner Wildlife Conservation Society, helped create and refine an effective management plan with the Kubulau District Marine Protected Area network. The plan encompasses 13 reserves. These reserves will be monitored to track how effectively they improve fish stocks.

Providing Alternatives to Destructive Fishing:

CORAL is helping villages explore alternative livelihoods including training in sustainable tourism and aquaculture to replace revenue lost from fishing restrictions. This will allow fish populations that are critical to reef health to regenerate.

Increasing Reef Resiliency by Removing Additional Pressures:

CORAL trains businesses in environmental best practices so that reefs impacted by rising sea temperatures may recover. Businesses learn how to make small shifts in their practices, such as using moorings, properly monitoring tourists, and reducing or eliminating pollution from oil and gas.

Tourism businesses identified anchoring as a problem on reefs threatened by sea temperatures. CORAL installed 19 mooring and demarcation buoys in Namena and Waitabu.

Fiji Sets World Precedent with Pledge to Protect 30% of Marine Areas by 2020



Other Nations Follow Suit with Similar Pledges

The Tipping Point.

No doubt you have heard this phrase used to describe a compelling theory for how little changes can have big effects. When enough small changes occur at once, they reach a point of “contagion” and spread.

And thanks to your support, marine reserves in Fiji have reached a tipping point with world-wide effects.

In January 2005, Fijian Prime Minister Laisenia Qarase declared that a ground-breaking 30% of Fiji’s marine areas would be protected by the year 2020.

The pledge has sparked a domino effect. Inspired by Fiji’s commitment, other Pacific Island nations have decided to match Fiji’s pledge, including Palau, the Federated States of Micronesia, the Marshall Islands, Guam and the Northern Marianas Islands.

This “Micronesia Challenge” now has the Caribbean island nation of Grenada following suit by pledging to protect 25% of its marine areas.

These large changes around the world have their roots in the small Fijian marine reserves that you helped support. Ratu Peni, a Fijian district chief (featured on page 1), remembers attending meetings ten years ago to address the problem of poaching in their districts’ traditional fishing grounds. Fish stocks were disappearing. Locals were concerned.

With the help of non-governmental organizations, Ratu Peni set out to establish a protected area with no fishing zones, so that fish populations could replenish.

“At first, it was a hard start. Some elders in the district did not want to stop fishing. We almost fought over it.” But Ratu Peni appealed to the elders, citing the Fijian long-standing tradition of creating tabus—restricted areas (see Tabus:

A Fijian Tradition). “In the end they saw it was the right thing to do.”

The Namena Marine Reserve was officially launched in 2000 as one of the first protected areas in Fiji. The Kubulau district now has 13 protected areas.

Today, the Namena Marine Reserve is still developing. With your support, CORAL has helped Namena create a reserve management plan and an effective user-fee system. In addition, we have funded local conservation efforts such as mooring projects.

But Namena isn’t the only story. Leaders in the village of Waitabu in Taveuni, Fiji came to CORAL in 2003 to help their Locally Managed Marine Area run more effectively. Today, a sustainable snorkeling program helps replace revenue lost from banned fishing.

This June, Fiji’s Macuata Province designated 59 square kilometers of its Great Sea Reef as a protected

area with the help of CORAL partners WWF and Wildlife Conservation Society. This is the first official designation towards the history-making 30% pledge.

Conservation partners recognized this achievement by bestowing Fiji leaders with this year’s Global Ocean Conservation Award for World Ocean Day.

Tabus: A Fijian Tradition

Fijians have traditionally managed their fishing grounds, or *qoliqolis*, by imposing temporary closures, banning certain fishing practices and/or prohibitions, called *tabus*. *Tabus* began as ceremonial practices. For example, a 100-day *tabu* was often declared when a high chief died to ensure a bountiful harvest on the anniversary of his death. These long standing traditions are perfectly aligned with current marine protected area conservation practices.

Special thanks to Air Pacific. Their continued support has allowed CORAL to bring services to communities and resulted in better managed protected areas in Namena, Taveuni and Savu Savu.



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ASK CORAL



Q: What Makes an Effective Marine Protected Area?

A: Science has shown that Marine Protected Areas (MPAs) are the best way to protect and preserve a reef, so long as they are managed correctly. What constitutes an effective MPA and how is this measured?

In 2004, CORAL compiled data from MPA managers around the world and found that many protected areas lacked the necessary resources and training for effective management. In response to our findings, CORAL created the Coral Reef Sustainable Destination (CRSD) model with six areas of focus in which to measure and build MPA effectiveness. Our original findings and the need for a comprehensive response, such as the CRSD model, have since been supported by other research, including a recent study published in this June's *Science* magazine (see article page 7).



A CORAL survey of MPA manager's found many protected areas lacked resources to be effective. CORAL's CRSD model addresses these shortfalls.

Sustainable Business Practices

Many MPAs are tourist destinations. Businesses that support the MPA by adopting a set of safe environmental practices can increase MPA effectiveness by helping to manage tourists and by supporting MPA managers. For example, dive operators and fisherman can help gather fish data and report MPA infractions.

Conservation Alliances

Saving the oceans is a big job. Collaboration between local non-governmental organizations, large conservation groups, tourism boards, governments, businesses and protected area managers is a key factor in success. All groups using the reef must be involved in its protection. CORAL identifies and fosters collaborative reef conservation efforts among these groups.

Sustainable Financing

Protected areas need money for patrolling, education, signs, mooring buoys, staffing, and conservation projects on an ongoing basis. CORAL works to create sustainable financing mechanisms such as tourism fees to bring needed resources to the MPAs management programs.

Threat Reduction

Each area has its own set of particular threats. CORAL works with MPAs to identify, rank and address threats through conservation projects. Projects may be as simple as installing trash cans or as complex as restructuring sewage facilities.

Effective Management

Managing a resource is really about managing the people who use it. An effective management plan surveys all users and incorporates their needs while conserving the resource. This may include creating a balance of sustainable fishing practices and no-take areas, limiting numbers of visitors, establishing fee systems and maintaining patrolling. MPAs should monitor reef health and fish populations to ensure management strategies are having the desired conservation effect.

Benefit Sharing

In some tourist destinations that include protected areas, non-locals dominate the tourism industry. In CORAL's eleven years in the field, we have found a clear connection between tourism and conservation because tourism operators depend on the reef for their livelihood. Making sure that local people receive tangible benefits from tourism such as jobs or user fee revenue ensures that they have a stake in reef conservation.

REEFS IN THE NEWS

Need for Global Network of Marine Protected Areas

New Study Shows Current Protection Inadequate; Recommends Better Management, Closer Placement and Minimum Size

Coral reefs are declining rapidly. Multinational efforts such as the 2003 World Parks Congress recommend that 20% to 30% of these ecosystems should lie within protected reserves by the year 2012.

A reserve should reduce pressure on reefs from harvesting and other human activities to allow the reefs to cope with natural disturbances such as storms and warmer sea temperatures.

A recent study published in this June's *Science* magazine set out to quantify the coverage of current MPAs and their efficacy. Researchers compiled data on the existing 980 MPAs covering 18.7% of the world's reefs.

Unfortunately, many of these MPAs are ineffective. They exist only on paper and include little or no enforcement or management. Using poaching as an indirect measure of management performance, they found that only 88 MPAs, less than ten percent, are managed in a way that prevents these activities.

"What we found, in essence, is that we are creating paper

parks," explains coauthor and fellow researcher Ransom Myers of Dalhousie University. "The establishment of Marine Protected Areas is rarely followed by good management and enforcement. And while management of MPAs varies worldwide, it was particularly low in areas of high coral diversity, such as the Indo-Pacific and the Caribbean."

Another problem is that most protected areas are too small. Large herbivore and predatory fish—critical in maintaining reef health—cover several square kilometers in their daily travels. Many MPAs are less than one to two square kilometers and are therefore unsuccessful at preventing loss of these species from harvesting.

Coral reefs also extend beyond protected area boundaries. Coral larva is dispersed during an annual spawning event. If the larva doesn't have a suitable reef on to which to land, it is lost. New evidence shows that coral larva dispersal is most effective if it has a protected place to land within approximately 20 kilometers.

Therefore, in an optimum global

network of MPAs, the areas would be at least 10 km² in size and would be not much farther than 15 km apart. These results suggest a need for expanding and establishing new MPAs and ensuring the effectiveness of those that already exist.

"This paper is a wake-up call," says Dr. Peter Sale at the University of Windsor "It reminds us that despite recent successes in protecting coral reefs, our actions to date fall far short of what is required to save these most diverse of all marine habitats."

Source: AAAS, *Science* 312: 1750-1751 Coral Reefs and the Global Network of Marine Protected Areas.

Mora, C., Andréfou, S., Costello, M.J., Kranenburg, C., Rollo, A., Veron, J., Gaston, K.J., Myers, R.A.

This figure shows MPAs needed for an optimum coverage of the world's coral reefs. Dots represent MPAs of 10 km² and spaced 15 km from each other. This expansion of MPAs only requires the protection of less than 5% of the world's coral reefs. However, more than 2,000 new MPAs would be needed under this model.





GET YOUR 2007 CALENDAR

Notice to Arrive Soon in YOUR Mailbox

The 2007 calendar has arrived with stunning photos from marine protected areas around the world. Each month's photo will remind you of the rich biodiversity supported by coral reef ecosystems. From sea lions in the Galapagos to clown fish in Papua New Guinea, you won't be disappointed.

CALLING ALL FEDERAL EMPLOYEES

Workplace Giving Campaigns to Begin in September 2006

Please support CORAL through your annual workplace giving campaign. To find out when your campaign starts go to www.opm.gov/cfc under campaign locator. **CORAL's federal campaign number is 2388.** For more information contact Kate Dillon at kdillon@coral.org or 415.834.0900 ext. 319. Thank You.



Watch your mailbox for your chance to get your calendar. Remember to respond quickly to ensure timely arrival of your 2007 calendar.

NEW LEAF PAPER ENVIRONMENTAL BENEFITS STATEMENT				
trees	water	energy	solid waste	greenhouse gases
8 fully grown	2,501 gallons	4 million BTUs	361 pounds	701 pounds

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