Issue 5 - Volume 1, April 2005

Reef Check Teams in Action

COCOS (KEELING): High School Students Establish New RC Site
Submitted by Robert Thorn

Cocos high school students with RC coordinator Robert Thorn (in front) *Photo: Robert Thorn*

Cocos (Keeling) Islands District High School students established a Reef Check survey site as part of an environmental awareness and education program. Each year the 10th and 11th year students get to camp on Direction Island, one of the 27 islands that form the Cocos islands group. During the camp, students were keen to establish a permanent reef monitoring site so that each year when students camp on Direction Island they will be able to learn more about the marine environment and what Reef Check is all about. The students were amazed at how many different marine animals there were when they had a close look. Contact coordinator Robert Thorn (Robert.Thorn@deh.gov.au) for more information.

MADAGASCAR: New Volunteers From Two Teams Participate in Reef Check
Submitted by Christian Solterer and Simon Harding

From left: Fred Sinniger, Pascal Muliatteri, Anne Bollen, Christian Solterer *Photo: Christian Solterer*

Four dedicated biologists from Switzerland and Belgium followed team scientist Christian Solterer on a expedition to Madagascar, December 3 2004 to January 4 2005. Besides Christian, who has been involved in Reef Check in this region since 2001, it was the first Reef Check campaign for all volunteers. During the 21 days of diving, three transects were checked at Olaf's Reef (Sakatia Island), Fred's Reef (Sakatia Island) and Seven Little Sharks (banc de l'entrée). In addition to the Reef Checks, the objective of the expedition was to collect specimens of zoantharia for a thesis on phylogeny with the University of Geneva. Samples of sponges were also taken for the Museum of Geneva, as well as for the Biomarine Foundation. Without the extensive help and cooperation of the guides and staff from Sakatia Lodge and Tropical Adventures, this successful trip would not have been possible! All team members enjoyed a nice and very memorable Reef Check trip to a very beautiful and untouched dive area. More trips (moramora.ch/38982/49410.html) will be organized this year for those who are interested- contact Christian at biomarin@bluewin.ch.

A break in training at Masoala National Park
Photo: Simon Harding

Reef Check's local Madagascar team, led by scientists from the Marine Unit of the Wildlife Conservation Society (www.wcs.org/international/Africa/Madagascar), also have been busy on the island. Last year, Reef Check training sessions were held with the marine park agents and local fishermen at the marine reserves in Masoala National Park. For more information on Reef Check Madagascar efforts, please contact Simon Harding (sharding@wcs.org) or Bemahafaly Randriamanantsoa (bemahafaly@yahoo.com).

MONTSERRAT: Active Volcano Affects Local Reefs
Submitted by James Hewlett

Some of the team on the ferry to Montserrat from Antigua *Photo by James Hewlett*

In January, Professor James Hewlett traveled to Montserrat with two students from Finger Lakes Community College in New York to continue work in the Research Integrating Molecular and Environmental Science (RIMES) (www.bumc.bu.edu/rimes) program. This National Science Foundation funded program is a far-reaching, international, environmental research effort for undergraduates to restore the ecosystem of Montserrat from the effects of the Souiffre Hills Volcano. The Souriffre Hills volcano awoke in 1996 and a major eruption occurred in 1997, destroying the capital city of Plymouth and the international airport. The volcano is still active, and the entire south end of the country is in an exclusion zone. The population is currently only about 4,000 people. The RIMES program is under the direction of Dr. Bruce Jackson from Boston University. The team met his group and another group from Alabama A&M in Montserrat. The Reef Check Team included Professor James Hewlett (team scientist), Nola Hause (student), Jessica Halliley (student), Wolf Krebs (dive master), Stephan Kool (dive master) and Sarah Glatt (student).

The reefs of Montserrat are affected in three ways related to the volcano: ash deposition falling directly into the water, ash washed into river basins, and erosion due to the loss of vegetation as a result of acid rain produced when the volcano releases sulfur gases. This natural stress is in addition to the other sources of stress such as fishing, diving and tropical storms. Professor Hewlett decided to team up with Reef Check because the goal of his project fits perfectly with the Reef Check mission. This long-term monitoring program will produce information useful to the Montserrat Department of Agriculture as they try to better understand the impact the volcano has had on their natural resources. Eco-tourism is also projected to become a major player in the restoration of the Montserrat economy.

The team's goal is to complete surveys in January and June for the next several years (and beyond). This information will be useful in establishing a picture of the recovery of the Montserrat ecosystem. In addition to Woodlands Beach Reef, the team hopes to survey a reef that is near one of the largest sources of sediment and ash - the Belham River Delta, south of the current Woodlands site. For more information, contact Professor Hewlett at hewletja@flcc.edu.

ST MAARTEN: Successful Kick-Off For A New Reef Check Program
Submitted by Ocean Care

There was standing room only in the conference room at Divi Resort for the inaugural presentation of the Reef Check programme on St Maarten (NA), held January 28, 2005.


Saturday's participants show off their RC certificates
Photo by Ocean Care

The St Maarten Reef Check programme is being coordinated by Ocean Care, a local environmental group. In order to give information to the general public as well as the Reef Check volunteers, Ocean Care turned the theoretical part of the Reef Check training into a general Workshop on Coral Reef Identification and Reef Monitoring.

The people who attended the workshop ranged from representatives of local dive shops and members of environmental organisations to concerned members of the public, all wanting to learn more, and most were eager to help with the vital business of monitoring their precious local coral reefs.

The guest speaker, Paul Hoetjes, marine biologist and Senior Policy Advisor to the Department of Environment and Nature, was pleased with the response. He said it far exceeded the normal turnout in his home territory of Curacao for similar meetings. An expert on tropical coral reefs and former Curator of fishes at the Curacao Sea Aquarium, Mr.Hoetjes also coordinates the Netherlands Antilles Coral Reef Initiative (NACRI), Reef Check Curacao, and is also working on establishing an Antillean Coral Reef Monitoring Node. He continued with the practical part of the Reef Check Training on Saturday. Due to the overwhelming number of volunteers, the group of 40 divers was split up, so that on Saturday two boats went out for their first training. Dive Safaris, a local dive operator generously offered the use of their boat and equipment and also had 6 crewmembers participating in the training. On Sunday, the second group went with the aid of Divi Watersports. Five crewmembers of Divi are forming their own Reef Check team.

Ocean Care found there were enough volunteers to start 5 Reef Check teams; they are planning to start collecting data this month. For more information, contact Ocean Care (oceancare@caribserve.net).

Site Spotlight- East Timor

In November 2004, Project Começo conducted Reef Check surveys on the northeast side of Atauro Island, Timor-Leste. Atauro Island, formerly known as Pulau Kambing, is a mountainous island located in the Strait of Wetar, just 23 km northwards of the capital, Díli. It is approximately 12 km southwest of the Indonesian island, Pulau Wetar and 75 km east of Pulau Alor, another Indonesian island.

The survey was facilitated through the Singapore International Foundation's (www.sif.org.sg) Youth Expedition Project (YEP)- Project Começo 2004 (www.sif.org.sg/yep/index.asp). This expedition, which took place from 10 November 2004 to 29 November 2004, was organized by a returning YEP volunteer, together with a marine biology researcher from the Department of Biological Sciences, National University of Singapore (www.dbs.nus.edu.sg) who provided the scientific support. The 13 volunteers who participated, aged 25 – 38, are of various nationalities and from all walks of life, including an architect, copywriter, sports administrator, air force military personnel and business people, all of whom are dedicated to conserving Timor-Leste's natural resources.

General reef shot, Atauro Island, Timor-Leste.
Photo by Mei Liew

Sightings of dolphin pods in the morning, on the way to the survey sites, were common. The reefs of northeast Atauro Island support a diverse fish fauna albeit low abundance. The most abundant target invertebrates were the *Tridacna* clam species. While there was no obvious industry for invertebrate tourist curio products, some of the edible target invertebrates such as giant clams could have been harvested by the local fishermen.

The reefs surveyed showed signs of anthropogenic impacts. Hard coral cover ranged from 18.42% to 45.68%. There were signs of blast fishing, such as rubble and a sunken reef bed. No coral damage by anchors or discarded fish nets were observed at any of the reefs. The reefs were generally clean with very little trash except for abandoned fish traps at the reef flat.

The fishermen do not condone blast fishing and would chase away commercial fishing boats, as well as discouraging divers or tourists from taking anything from the reefs.The locals could benefit from capacity building, and training to be dive masters is a potential avenue. Currently, all dive masters and instructors at the dive centres are non-locals. It would be beneficial for the locals to increase their sense of pride and ownership over their reef resources. The team's report is the first documentation of Atauro's reefs and covers only north-eastern reefs of the island. More surveys are required to provide a better understanding of the entire island's reefs.

Team on the boat: Project Começo prepares for a survey on the out-rigger.
Photo by Elsie Wong

This expedition would not have been possible without the facilitation and logistical support provided by Telmo José da Silva Godhino from Timor Aid, Gabrielle Samson from Roman Luan, Bonafacio Soares, the Sub-district head of Atauro Island and Mark Mialszygrosz of Dive Timor Lorosae. We thank the National University of Singapore for its scientific support. Project Começo received additional funding from Singapore International Foundation, Fuji Xerox Singapore Pte Ltd, Citiraya Technology Sdn Bhd, Secure System Recovery Sdn Bhd, Nikon Singapore Pte Ltd and Underwater

World Singapore. Special thanks to Elsie Wong (dbswls@nus.edu.sg) for submitting this report.

Mark Your Calendars

NEW MTV SHOW "TRIPPIN" FEATURES REEF CHECK
RC Scientist Ruben Torres (ruben@reefcheck.org) is featured in an episode of Trippin (www.mtv.com/onair/dyn/trippin/series.jhtml), a new MTV travel/environment reality show starring Cameron Diaz and her friends. Filmed in Honduras earlier this year, the edu-tainment show is aimed at providing an environmental message that is digestible to kids raised on MTV. The show airs Mondays at 10:30 pm ET/PT.

EXCLUSIVE RC LIVEABOARD WITH SINAI DIVERS IN NORTHERN RED SEA: MAY 12-19TH
Experience the Red Sea in the best way possible- a one-week liveaboard safari on the dive vessel Ghazala I. Enjoy the colorful soft-corals, fascinating variety of fishes and with some luck, even sharks and manta rays. As a special extra on this safari, you will be accompanied by RC marine biologists and divers will learn how to measure reef health, fish populations and their connection to the reef. There will be one to two Reef Check dives each day, leaving plenty of time for leisure dives and relaxation. Sinai Divers will donate 10% of the earnings to Reef Check. For more information, check out www.reefcheck.de or book directly at www.sinaidivers.com.

KONA CLASSIC: MAY 14-21ST
Some of the world's top underwater photo bugs are going to get a crash course in reef ecosystems and conservation at this year's Kona Classic on the Big Island of Hawai'i. In our second year of participation, Body Glove has invited Reef Check to bring a sustainable environmental program to this prestigious week-long photography celebration.

Over 50 aspiring photographers, including photo pros Marty Snyderman, David Fleetham, Ty Sawyer, and Jim Watt will be working with Reef Check staff members, who will offer training and conduct surveys with the event participants.

Highlights of the week will include Body Glove Kids' Day at the Kailua-Kona Pier. Last year, over 100 local kids, ages 6-17, showed up to collect their free set of snorkel gear from Body Glove and go on a treasure snorkel hunt while learning some basics about protecting their local reefs.

Reef Check will be offering special prizes to photographers who take the best shots of RC indicator fish and invertebrates, as well as our divers conducting a survey. These photos will be used to develop an RC Hawaii indicator card set similar to those we have for the Atlantic and Indo-Pacific region.

Reef Check is very proud to partner in this annual event and we owe special thanks to Body Glove and its President and RC Board Member Russ Lesser for making our presence at this year's Kona Classic a huge success. Visit www.sportdiver.com/article.jsp?ID=35455 for more information on the event and how to join us.

REEF RESCUE HAWAI'I FUNDRAISER: MAY 22TH
Reef Check is holding a special event on May 22, 2005 to help the Reef Check Hawai'i program. Join us in Honolulu for pupus, drinks and entertainment as we honor special celebrity Ambassadors of the Reefs, Barbi Benton and Carol Connors.

Hawai'i is defined by its beautiful ocean environment and coral reefs. Sadly, some of Hawai'i's coral

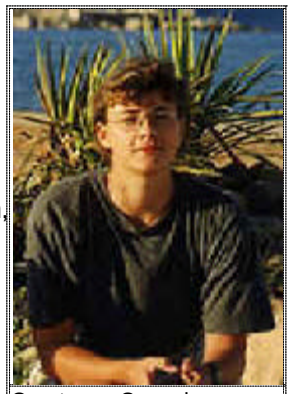
reefs are in serious decline and need our help to survive. Since 1997, over 200 volunteers have participated in regular Reef Check activities in Hawai'i such as beach clean-ups, algal removals, and coral reef health surveys. The all-volunteer Hawai'i group has grown steadily, and it is now time to establish a formal local organization with its own Board of Directors and a paid coordinator.

Please join Reef Check for an intimate evening to learn more about how you can help conserve Hawai'i's coral reefs. Mark this exclusive event on your calendar today. Tickets are $100 per person.

For more information please contact Reef Check Hawai'i Event Coordinator: Melissa Mac Garrett (mmacgarrett@yahoo.com)

COLLEGE AT SEA: JULY 2005
The College At Sea program still has places available for their July 2005 course. The four-week course lets students experience different ecosystems on the Great Barrier Reef in Australia aboard the tall ship 'Solway Lass,' as well as living on the pristine sand islands of Moreton Bay, near Brisbane. During the course, students will learn the Reef Check method. Scholarships are available to cover the tuition component of the course. Students will be responsible for food and accommodation charges. Please see the brochure for more information or visit the new College At Sea website at www.collegeatsea.org.

Reef Check Champion - Constanze Conrad


Constanze Conrad

Biologist Constanze Conrad had her first contact with Reef Check in 1997 in Egypt, when RC coordinator Moshira Hassan and Constanze's future husband Ayman Taher organized the first Reef Check surveys in Safaga and Hurghada. Then in 2001, Constanze, together with Team Scientist Liz Cotterell, organized her first Reef Check as a Team Leader in Marsa Alam in Southern Egypt for 2 weeks and trained 11 volunteers. Since then, she has continued to organize Reef Check surveys each year in the Marsa Alam region, acting both as team leader and team scientist, with an increasing number of reefs, volunteers, and time. In 2004 Constanze also organized RC surveys in Sudan and Dahab (Sinai). She led teams over 7 weeks and trained 78 volunteers, surveying a total of 28 reefs.

The Dahab trip was a special opportunity for the 28 Reef Check volunteers who participated. Volunteer divers from Australia, Denmark, France, Germany, Switzerland, The Netherlands and Egypt joined the event. Dahab, located on the Sinai Peninsula, is not only known for spectacular dive sites such as "Blue Hole" and "The Canyon", but also for Bedouins and camels. Besides jeeps and boats, camels were the main transportation for the very enthusiastic Reef Check divers. In total, 10 different dive sites around Dahab, from the northern Ras Abu Ghaloum National Park to the southern Protectorate of Gabr el Bint were surveyed. A big success!

Camels take the team to remote reefs near Dahab
Photo: Constanze Conrad

One of the highlights of the trip was a three-day camel diving safari to the most remote dive sites and pristine coral reefs of the National Park Ras Abu Ghaloum. The park is managed by EEAA (Egyptian Environmental Affairs Agency) and is famous for its untouched reefs, as well as its 12 endemic plants. The group was welcomed and hosted by Bedouin chief Sheikh Ahmed and his family and experienced real Egyptian Bedouin hospitality. Other excursions included two boat trips to the Protectorate Gabr el Bint, south of Dahab. This place can only be reached by boat or camel. The Reef Check team got special permission from the Egyptian coast guard to visit these isolated reefs.

All volunteers who participate with Constanze are recreational divers and pay normal fees for their diving (with a discount for RC dives at Blue Heaven Holidays). Many of them have been returning to participate in RC surveys for three years in a row now. For 2005, Constanze has already scheduled 6 weeks of surveys in Marsa Alam and another trip to Dahab, with more in preparation- among these is a Reef Check Safari to the St. Johns reefs in August.

Find out more about Constanze's activities and all upcoming dates at www.blueheavenholidays.com and the RC Europe homepage (www.riffe.de/reefcheck/new_en.shtml). You can also contact Constanze directly at reefcheck@blueheavenholidays.com. Thank you to Georg Heiss and Constanze Conrad for their contributions to this section.

If you know a Reef Check Champion you feel should be highlighted, please email a brief description of his/her contribution as well as a photo to rcinfo@reefcheck.org.

Methods Check

In 2000, Reef Check/GCRMN was asked by the Marine Aquarium Council (MAC) of Honolulu to design a monitoring protocol specifically to track stocks of organisms collected from coral reefs for the marine aquarium trade. MAC was developing a certification program for the marine aquarium trade. The MAQTRAC protocol was developed and tested over the past five years in several Pacific countries. The protocol is species specific and involves manta tow for site selection, timed swims to locate rare species, belt transects for common reef fish and invertebrates and a point-sampled line transect to determine percentage cover. The MAQTRAC results are used by RC scientists to assess reef fish and invertebrate stocks, using fisheries models and other techniques. Ultimately, the results help our scientists to develop Total Allowable Catch recommendations for each species collected.

As part of MAC certification, collectors are required to establish a Marine Protected Area. Thus the trade is giving value to reefs and providing resources to maintain the MPAs. MAC certification of collection areas based on MAQTRAC offers a wonderful opportunity to create actively managed MPAs. For more information please see: www.aquariumcouncil.org

Reef Check News

REEF CHECK LAUNCHES CALIFORNIA ROCKY REEF MONITORING PROGRAM
Reef Check Executive Director Gregor Hodgson recently announced the launch of a major citizen's ocean monitoring initiative along California's Central Coast.

The Reef Check California program will train volunteer teams of local divers, fishermen, surfers and scientists to survey marine life on underwater rocky reefs and to develop an accurate picture of the health of California's nearshore marine environment from Santa Barbara to Monterey. Eventually, the program will develop statewide. The new Reef Check California program seeks to bring together existing groups and to standardize volunteer efforts so that changes in ecological health can be tracked from year to year.

A major goal of the program is to build up a network of citizens who support California marine conservation. Starting this summer, program scientists along the Central Coast will train and supervise teams of volunteers to carry out surveys of sub-tidal reefs. The teams will then submit the data to Reef Check. All data will be available to the public on a web-based Geographic Information System with charts, health rating and text analyses. This work is being made possible in part through a two-year, $350,000 grant from the California Coastal and Marine Initiative of the Resources Legacy Fund Foundation.

Following the program announcement, an article ran in the San Luis Opisbo Tribune on March 13th.

The new California program will also provide opportunities for California divers to get involved in coral reef monitoring around the globe. If you are interested in becoming an RC California volunteer, please send an email with the following information to rcinfo@reefcheck.org Name, Address, Phone Number, Email, Dive Experience and Special Interests (boat owner, dive shop etc.). Non-divers who care about ocean health are being sought to fill support roles. For more information about Reef Check California, please contact Chris Knight at chrisknight@reefcheck.org

HONDURAS FISHERMEN READY TO MONITOR FISH STOCKS WITH REEF CHECK
Submitted by Ruben Torres

Reef Check Foundation, the International Coral Reef Action Network (ICRAN) and partners, through generous support from the United Nations Foundation (UNF), and the US Agency for International Development (USAID) have started a collaborative effort to reverse the decline in health of the world's coral reefs. ICRAN partners will conduct a set of inter-linked, complementary activities to enable the proliferation of good practices for coral reef management and conservation.

Counting fish in the sand- Cayos Cochinos trainees during their dry land training *Photo by Ruben Torres*

Reef Check, a key ICRAN partner, will play a role in the sustainable fisheries and tourism components by providing training in community-based resource monitoring and by conducting monitoring surveys using the Reef Check protocol. Reef Check will also carry out pilot testing and revision of tourism codes-of-conduct produced by ICRAN partners.

In December 2004, Reef Check conducted the first fishermen's training and surveys at Cayos Cochinos, Honduras bringing in fishermen from the surrounding communities affected by local management activities. Our local partner, the Honduras Coral Reef Fund, provided SCUBA training to these fishermen to open the doors to finding alternative employment other than fishing.

The Mesoamerican Coral Reef Alliance Project (www.icran.org/MAR/icran_mar.html) will continue in Honduras, Guatemala, Belize and Mexico through 2005 and 2006. For more information about this project, please visit www.icran.org or contact RC Scientist Ruben Torres (ruben@reefcheck.org).

COZUMEL RESORT RECEIVES REEF CHECK CERTIFICATION

RC's Gregor Hodgson and Robert Cudney Bueno of Arrecifes de Cozumel Marine Park present Presidente Intercontinental Hotel GM Sandra Rangel and Jorge de la Fuente, GM/Owner of Scuba Du, with their RC Certification plaques following successful completion of the RC Certification Course

The Presidente InterContinental Cozumel Resort & Spa, Cozumel's only AAA Four Diamond resort, has received certification by Reef Check as an official Reef Check resort. Dr. Gregor Hodgson, Reef Check's Executive Director, and Robert Cudney Bueno, Director of the Marine Park of Cozumel recently presented the official Reef Check certification to Sandra Rangel, Acting General Manager of Presidente InterContinental Cozumel Resort & Spa and Jorge de la Fuente, General Manager and Owner of Scuba Du Dive Center. Last year, dive masters and staff from the Arrecifes de Cozumel Marine Park were trained in the RC protocol.

This year, all resorts and dive shops that sponsor a Dive Master for Reef Check Certification will receive a plaque and will automatically qualify for Blue Flag accreditation. Contact Jennifer Mihaly for the next training schedule.

REEF CHECK ATTENDS SHARKS 3D PREMIERE IN LAS VEGAS

On December 16, 2004 in Las Vegas, Reef Check Spokesperson and Actress, Kelly Hu, helped open "Sharks 3D", an amazing IMAX film. Kelly was joined by two other Reef Check partners, Jean-Michel Cousteau of Ocean Futures Society (www.oceanfutures.org) and Brennen Van Dyke, Regional Director of United Nations Environment Programme (www.unep.org), as well as fellow celebrity supporters, Carol Connors and Kimberly Burke. The film has a strong conservation message, including the overfishing of sharks worldwide. It is hoped that viewers will come away from the film with a greater appreciation of these often misunderstood creatures. Coral reefs are the home to many of the over 200 shark species. Check to see if Sharks 3D is playing in an IMAX theater near you! Visit the official website at www.sharks3d.com

From Left: RC's Gregor Hodgson, "Sharks 3D" Executive Producer Francois Mantello, Academy Award-winning Songwriter & RC supporter Carol Connors, "Sharks 3D" Director Jean-Jacques Mantello, Actor Kimberly Burke, Director of Photography Gavin McKinney, and Actor & RC spokesperson Kelly Hu at the "Sharks 3D" premiere in Las Vegas *Photo by 3D Entertainment Ltd.*

AMADIS PROJECT FINISHES UP CARIBBEAN LEG
The Amadis Project has finished up the Caribbean leg of its voyage. Starting in Barbados on December 29, 2004, the crew traveled to St Lucia, St Vincent, Bequia and Mustique before finishing up in Tobago Cays (Union Island) in late February. Caribbean Project Scientist Kim Baldwin oversaw the training of new Reef Check teams in the Grenadines- special thanks go to Bequia Dive Adventures (www.bequiadiveadventures.com), Mustique Watersports (watersports@mustique.vc), and Tobago Cays Marine Park for their participation. Look for a full report from Kim in a future edition of The Transect Line. Find out more at the Amadis Project website, www.theamadisproject.co.uk.

RC FIELD GUIDES AVAILABLE
This easy-to-use 8-page underwater guide, featuring full-color photos of key indicator species and survey techniques, is made of professionally-bound, waterproof plastic for durability. Available individually or in bundles of five and ten, these guides are ready to ship today. Order yours now for the Atlantic or Indo-Pacific. Visit www.reefcheck.org/methods/fieldguides.asp to order.

SEND US YOUR UPDATES
If you would like to submit a story or photographs for the next issue, please contact Jenny at rcinfo@reefcheck.org

Coral Reefs in the News

NEW TSUNAMI MONITORING PROTOCOL AVAILABLE
A team of experts from GCRMN, CORDIO, IUCN, Reef Base, Reef Check, and ICRAN, working under the umbrella of the International Coral Reef Initiative (ICRI) and the International Society for Reef Studies (ISRS), recently developed a new protocol entitled Tsunami Damage to Coral Reefs: Guidelines for Rapid Assessment and Monitoring. The protocol was released by International Coral Reef Initiative/International Society for Reef Studies as a guideline for rapid assessments and monitoring programmes in the countries affected by the tsunami, to be used by interested divers, marine managers and scientists. Visit www.reefcheck.org/news_cml/tsunami_coral_assessment.asp to download the instruction manual and data sheets.

ASSESSMENT OF THE GULF OF MANNAR CORALS AFTER TSUNAMI
A week after the tsunami, the Suganthi Devadason Marine Research Institute - Reef Research Team (SDMRI-RRT) started its assessment of corals in the Gulf of Mannar to determine what effect, if any, the tsunami had on corals in the region. The Gulf of Mannar, which is the first Marine Biosphere Reserve established in India, lies between India and Sri Lanka and covers an area of about 10,500 sq km. The team aimed to compare the data with earlier available baseline information to assess the impacts of the tsunami on the degree of cover, composition of live corals and associated benthic organisms, and selected physico-chemical parameters. After their assessment, it was determined that there was no significant impact on corals, associated habitat and resources in the Gulf of Mannar. Director of SDMRI, Team Leader of the Research Team, and Reef Check India coordinator Dr. JK Patterson Edward prepared a final report; click here to read it.

EARTHQUAKE RAISES REEFS IN SUMATRA
Dozens of square miles of living coral reefs on the remote Indonesian island of Simeulue were thrown out of the water and killed by the December 26, 2004 earthquake. The reefs were exposed when the entire island was tilted by the massive earthquake, with the north end rising as much as six feet (2 meters). According to Reef Check scientist Dr. Craig Shuman, "It was amazing to see an entire reef with thousands of coral skeletons uplifted and dead as far as the horizon."

Thousands of living corals were thrust out of the sea and killed by the December 26 earthquake- white skeletons are all that remain *Photo by Craig Shuman*

Early reports from the medical aid organization SurfAid International prompted the request for a coral reef scientist to get involved in the humanitarian expedition that delivered food, survival supplies and health care to the villagers. With their boats destroyed by the earthquake and 15 m high tsunami, local villagers worried that their long-term food supply from the reef would be affected by this reef damage. Luckily, the coral reefs remaining underwater were not as badly damaged as the villagers had feared. Dr. Shuman carried out underwater surveys and found that aside from some large, overturned colonies, the reefs are in remarkably healthy condition with up to 50% of the corals still alive and fish populations abundant. Simeulue Island, located off the northwest coast of Sumatra, was closest to the epicenter of the massive 9.0 earthquake that struck in December. Amazingly, most local villagers on the island of Simeulue escaped the tsunami that followed because they had passed down stories from previous generations regarding earthquake-tsunami combinations going back as far as the Krakatoa eruption in 1883. They knew to run to the hills after the earthquake, and less than a dozen were killed. The powerful shaker, which lasted for almost 15 minutes, destroyed or damaged about half the homes and most official buildings on the island.

For scientists, the discovery of large areas of coral reefs uplifted to this degree is unprecedented. For ecologists, the uplifted reefs present an unusual opportunity to study coral reef ecology without having to don wet suits and scuba tanks, and they provide a lesson in coral reef geology by showing how quickly reef terraces can be formed or destroyed.

The mission was organized by non-profit organization SurfAid International (www.surfaidinternational.org) and global boardriding apparel company Quiksilver (www.quiksilver.com).

STUDY FINDS ALGAL CONTACT AS A TRIGGER FOR CORAL DISEASE

Abstract from *Algal contact as a trigger for coral disease* (Nugues, Smith, van Hooidonk, Seabra, and Bak, 2004)

Diseases are causing alarming declines in reef-building coral species, the foundation blocks of coral reefs. The emergence of these diseases has occurred simultaneously with large increases in the abundance of benthic macroalgae. Here, we show that physical contact with the macroalga *Halimeda opuntia* can trigger a virulent disease known as white plague type II that has caused widespread mortality in most Caribbean coral species. Colonies of the dominant coral *Montastraea faveolata* exposed to algal transplants developed the disease whereas unexposed colonies did not. The bacterium *Aurantimonas coralicida*, causative agent of the disease, was present on *H. opuntia* sampled close to, and away from diseased corals, indicating that the alga serves as a reservoir for this pathogen. Our results suggest that the spread of macroalgae on coral reefs could account for the elevated incidence of coral diseases over past decades and that reduction of macroalgal abundance could help control coral epizootics. Click here to read the full paper.

Reef Check: Saving Reefs Worldwide

>> Make a Donation <<

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