



Issue 2 - Volume 1 - Winter 2002

Reef Check Teams in Action

- Australia
- Guam
- Socotra
- Jamaica

Reef Check Champions

Spotlight on Reef Check Site - Indonesia

Reef Check Honored with Award from NOAA

Training Workshops/Meetings

- Ocean Sciences, Honolulu, HI
- Trainings in Palau
- Outings in O'ahu
- ITMEMS

Methods Check

- Why do we use a plumb line and point sampling method?

Other Reef Check News

- Join Reef Check!
- Project launch in Philippines
- Students from Alaska conduct Reef Check in Fiji
- Seamester students in St. Lucia
- Field course in Jamaica
- Dive into Earth Day
- Send us your updates!

Coral Reefs in the News

- LANDSAT 7 allows reef watchers to document degradation

Reef Check Teams in Action

AUSTRALIA

Mapping the GBR Using Landsat ETM and Reef Check



IKONOS image of Heron Island Reef

Regional to global scale monitoring of coral reefs can only proceed if existing and long-term field and image data sets can be collected and analyzed consistently. There are now a large variety and time-series of satellite and airborne image data available for coral reef environments. What is the most effective method to extract information from these data for use in monitoring and management programs? A team of

scientists from the University of Queensland (Dr. Karen Joyce, Dr. Stuart Phinn, Dr. Christiaan Roelfsema, Dr. David Neil and Dr. William Dennison) has conducted an extensive field campaign covering ten reefs in the Capricorn Bunker Group, southern Great Barrier Reef, Australia, aiming to characterize the spatial variation of common substrate types, using the Reef Check classification scheme. Reef Check substrate classifications were used to classify and ground-truth Landsat ETM image data. The team concluded that adopting the globally standardized Reef Check classifications for both remotely sensed and field data created a valuable management tool. For more information: <http://www.geosp.uq.edu.au/brg>.

GUAM

New to RC Guam this year is coordinator Dr. Mark Tupper, a faculty member at the University of Guam Marine Lab. With the help of widespread media coverage from Scott Radway of the Pacific Daily News, this year marked the largest volunteer turnout ever for RC Guam. Over 60 enthusiastic divers joined in the activities over a four-day period, making a total of 80 dives. Their commitment resulted in an extremely successful event, thanks to the leadership of former RC Guam coordinator Trina Leberer and several biologists from the Division of Aquatic and Wildlife Resources (DAWR).

During the course of 80 dives, no large groupers or Napoleon wrasse were seen. One large adult bumphead parrotfish was spotted at Facpi Point. Sadly, a DAWR biologist learned that a commercial spear fisherman had shot it a week later. These results once again demonstrate the level of overfishing on Guam's coral reefs.

RC Guam enjoyed strong support from the local dive industry, particularly from Pete Peterson at Micronesian Divers Association and Paul Shida at the Scuba Company. Both of these companies gave-up weekend charters to provide boats and crews. Thanks Pete and Paul! Guam Tropical Dive Station plugged the event several times on their e-zine. Funding for Reef Check was provided by a grant from the All Islands Coral Reef Initiative. More information:

http://www.hawaii.edu/ssri/is_cri.html.

SOCOTRA

Situated at the mouth of the Gulf of Aden, just south of the Arabian Peninsula lies the Socotra Archipelago under the administration of the Aden Governorate of the Republic of Yemen. The islands are globally significant for island biodiversity and species endemism. Many of the endemics are remnants of an ancient flora that long ago disappeared from the African-Arabian mainland.

Unlike many island groups in the world, Socotra has remained virtually untouched by modern development and there is no evidence of recent extinction or large-scale changes in vegetation. The marine environments of Socotra Archipelago remain largely in a pristine state, unaltered by coastal pollution or over-exploitation.

RC Socotra has been working on an UNDP/GEF-funded project studying terrestrial endemism and marine biodiversity, and developing a zoning plan for managing the islands. The Socotra team is supported by the Yemen Environment Protection Authority (EPA), and is coordinated by Malek Abdal- Aziz, B.Sc., and fishermen Fuad Naseb, Mohammed Ismail, and Thabit Khamis. For more information contact Malek at Socotravis@aol.com.

JAMAICA

RC Jamaica has successfully completed one of the first surveys of 2002 (they tied with [RC Fiji](#))! Conducted in the first week of January, Dr. Norman Quinn and a group of students from the University of the West Indies, Jamaica, were eager to start the year off right with a RC survey. Malden Miller also took an early-bird team out in Negril that included participants from the Negril Scuba Center, Hedonism II, Negril Marine Park Ranger, Negril Tree House Hotel. Thank you for all who participated in these surveys. We would like to recognize the tremendous time and effort that Malden and Norman of Discovery Bay Marine Lab have given to RC. We thank Norman for taking the time to include RC as a priority and offering the lab as a staging area for eager RC volunteers! Visit www.reefcheck.org/team_jamaica_photos.htm for some great photos of the RC Jamaica team in action.

Reef Check Champions

This month, we are featuring a Reef Check 'Champion'. RC Champions are individuals who have displayed a commitment to sustaining the coral reefs in their area, specifically those who have made enormous progress in coral reef conservation and education. We hope to have a RC Champion in every newsletter, which shouldn't be too difficult as everyone who volunteers with Reef Check is a champion in his or her own right. If you know a Reef Check Champion that you feel should be highlighted, please email a brief description of their contribution as well as a photo (if possible) to Kelly at rcheck2@ucla.edu.

Jun Ochea
by Mike Ross, guest author

Jun Ochea is a unique individual who has worked with RC Cebu (Philippines) for five years and now serves as lead boat operator, dive guide and all around great guy. Jun is from Olango Island from a community called Talima. Talima is infamous for being a homebase to "pala-ut", or "long distance" fishermen who, as a result of the degraded/depleted conditions of their own reefs, venture each year all over the Philippines. Paid by their "catch" (which is determined by whatever the trips "sponsor" has ordered, such as marine aquarium species, dried sea cucumbers, shells and the like) they dive these outer reefs for months, either free diving or using improvised "hookah" compressors consisting of an old paint compressor and typically a beer keg as a reserve tank. This is highly dangerous work, which claims many young lives each year and basically "rapes" many reefs. For more information on Olango and this type of fishing, please visit www.oneocean.org.



Jun Ochea along with his teammates on Bantayan Island 2001

Jun has become a well-qualified Reef Checker, and has participated in a dozen surveys and presented the results at the recent Phuket, Thailand regional training. As a former fisherman, Jun has been able to communicate with other fishermen on his island and to educate them on the importance of reef conservation efforts. In addition to his RC work, Jun is a talented marine artist who often spends his free time painting beautiful seascapes. Thank you to RC Cebu and coordinator Mike Ross, who also runs Tropical Island Adventures, and submitted this wonderful account to share with us.

Spotlight on Reef Check Site

Reef Check Indonesia

The world's largest archipelago, Indonesia consists of more than 30,000 islands and is located at the center of the world's coral reef diversity and with some 75,000 km² of reefs, approximately one-eighth of the world's total. Though coral reef health has declined over the years, regular monitoring of reefs in the country has been very limited.



Reef Check Indonesia began in 1997 and since that time, RC Indonesia has been responsible for establishing reef education programs for school children and volunteer training in monitoring and management techniques. The *Capacity Building For Coral Reef Conservation and Management* project, funded by EAPEI/USAID has carried out a large number of Reef Check surveys in Indonesia. The program even attracted private sponsorship of US \$15,000 for a national Reef Check workshop last summer.



Members of RC Indonesia team

In 2001, Indonesia conducted surveys at 46 sites in 11 of 26 provinces, involving more than 300 volunteer divers. The data were used to compile comprehensive reports in Bahasa Indonesia (the local language), which were circulated at the highest levels of Indonesian government. More sites and more volunteers will be added in 2002. RC Indonesia is planning to increase the number of RC locations to an additional ten provinces and gain more volunteers in 2002 in preparation for the establishment of the Reef Check Indonesia Center in Bali, 2003.

With the help of Operation Wallacea <http://www.opwall.com>, Reef Check is being used to help monitor and manage the Wakatobi Marine Park in the Tukang Besi Islands. These islands are an area of rich biological diversity and provide livelihoods for thousands of coastal people. In 2000, Reef Check was used to survey a range of 19 reefs across the archipelago and baseline assessments of coral reefs were conducted concentrating on benthic condition, reef fish families and invertebrate indicators of stress as designed by the Reef Check program.. In 2001 season Operation Wallacea teams again took part in Reef Check and visited a total of 37 sites during the survey period June - October.

The results are being used by the Department of Tourism and the National Park authorities to help make decisions on managing the park. See the UK Horizons Channel, 13 part series about Operation Wallacea, starting on Monday 18 March 2002.

For more information on RC Indonesia, please contact Naneng Setiasih at Nsetiasih@wallacea.wwf.or.id. A huge 'thank you' to RC coordinator Ketut Sarjana Putra for his contribution. Visit www.reefcheck.org/team_indo_photos.htm for more photos of RC Indonesia. To learn more about Operation Wallacea please contact Sarah Curren at sarahcurran00@hotmail.com, or visit http://www.opwall.com/2000_research_section10.htm http://www.opwall.com/2001_reefcheck.htm.

Reef Check Honored with Award from NOAA

United States Coral Reef Task Force Honors Reef Check

Reef Check was awarded the 2001 US Coral Reef Task Force Award by NOAA and the Department of the Interior for the successful creation and implementation of a global, community-based coral reef monitoring program that increases public understanding of the value of coral reefs and the need to protect them. This award is a result of all of the hard work that the RC family has participated in over the past five years. See <http://www.noaanews.noaa.gov/stories/s835.htm>.

Trainings and Workshops/Meetings

Ocean Sciences, Honolulu, HI

Jennifer Liebeler, RC Program Manager, presented, "[5 years of Monitoring Reefs: What Reef Check has told us.](#)" a poster on the preliminary analysis of RC 1997-2001 data. A five year report will be published this summer. More information: <http://www.agu.org/meetings/os02top.html>

Trainings in Palau

April 1-3, 2002, Reef Check will be holding a regional training in Palau. Funded by NOAA, participants will be attending from Yap, Kosrae, and Palau. If you are interested in more information, or would like to provide sponsorship for a candidate, please contact rcheck@ucla.edu.

Upcoming Outings in O'ahu

March 16th, Saturday - RC near Waikiki Beach

April 21, Sunday - RC Earth Day Event

More information: Matt Zimmerman, reefcheck@islanddivershawaii.com

ITMEMS, Philippines

October 21-24, 2002, the 2nd International Tropical Marine Ecosystems Management Symposium II (ITMEMS-II) will be held in Manila. For more information, visit www.icriforum.org/router.cfm?show=secretariat/sec_home.html&Item=1

Methods Check

Why do we use a plumb line and point sampling method?



RC volunteers using weight to aid in substrate survey

The main reason that Reef Checkers are asked to use a weighted "plumb line" is to reduce "observer bias." Normally, when a transect line is deployed on the reef, the transect will pass over depressions, cracks or valleys such that it is not in direct contact with the substratum in some sections. Thus, at a given 0.5 m mark, the observer could look from above and, in a mixed substrate area, choose a variety of different substrate types depending on the angle of observation. For example, looking from directly above the 0.5 m mark

might appear to be on "live coral" whereas moving the viewpoint a little to the right might appear to place the mark on "sponge" etc. The worst case occurs when there is wave surge and the line is actually swinging back and forth. By dropping a small weight on the end of a light cotton string, the weight will only land on one substratum type and will stop. An 8mm diameter metal nut (as in nuts and bolts), is a good choice for a weight as it has flat sides so comes to rest quickly and is easily tied on. The use of the plumb line removes any need for the observer to try to choose the "correct" angle of observation. Removing choice reduces the chances for observer bias. By rolling the string up on one or two fingers of the left hand using a twirling motion, the plumb line does not get in the way and is easily dropped each time.

Other Reef Check News

JOIN REEF CHECK!

Join Reef Check and help support of the largest volunteer-driven coral reef monitoring program in the world! Visit www.reefcheck.org/membership.htm for more information.

MAQTRAC LAUNCH IN PHILIPPINES

In January, an exciting new collaborative project was launched called the Marine Aquarium Trade Coral Reef Monitoring Project or MAQTRAC for short. Over the past two years, Reef Check has been developing a specialized set of methods to be used to assess the effects of collecting reef organisms used in the marine aquarium trade on coral reefs. The project is being carried out in cooperation with the Marine Aquarium Council, World Wide Fund for Nature and the International Marinelife Alliance and is funded by the MacArthur Foundation.

Reef Check Fisheries Scientist Dr Domingo Ochavillo and UCLA doctoral student Craig Shuman began testing MAQTRAC in Cebu and are now working in Palawan, Philippines. They are also working with marine aquarium fish and invertebrate collectors to directly measure the catch per unit effort and effects of various collection methods.

REEF CHECK GREETS THE NEW YEAR AT THE DATELINE IN FIJI.....

RC Fiji started their New Year's resolution off right, greeting 2002 with a RC in the Northern Island of Taveuni. Dive Operators from Aquaventure Taveuni and Garden Island Resort/Aquatrek Taveuni pooled resources with a group of volunteer students from Fairbanks Alaska to take part in a Reef Check Training program.

The Alaskan group, once getting over the temperature shock, were led by group leader Steve Levey and Team Scientists Susan Schonberg and Dr Ken Dunton of the University of Texas to the Yasawa Islands and Rainbow Reef in Taveuni where they conducted their surveys.

It was this great display of enthusiasm that led 5 staff at Aquatrek and 3 at Aquaventure to participate in a Reef Check training with Fiji Co-coordinator Helen Sykes. The new Reef Check volunteers are committed to setting up additional survey sites at every dive location on the Rainbow Reef in addition to the 4 permanent survey sites established on the reef in Taveuni, which they intend to monitor regularly.



The Reef Check survey team (and assistants!) from West Valley High School, Fairbanks, Alaska.

Group Leader Steve Levey centre, kneeling, Team Scientists Susan Schonberg and Ken Dunton back row, and Fiji Co-ordinator Helen Sykes standing far right. Photo Courtesy of Helen Sykes.



Locally trained New Reef Check Volunteers, Tewake, Sem, Paulo, Kata and Wani, from Aquatrek Taveuni at Garden Island Resort.

garden@is.com.fj (www.aquatrek.com).

Apart from the sheer value of conservation awareness that RC continues to raise, the involvement of local dive operators and their commitment to coral reef health will ensure that management tools will be more available to the local people. We are also proud to be early contributors to Reef Check 2002!

Reef Check Volunteers wishing to visit Taveuni and take part in Reef Surveys can contact Aquaventure Taveuni (www.aquaventure.com) at aquaventure@is.com.fj and Aquatrek Taveuni at Garden Island Resort at

SEAMESTER STUDENTS IN ST. LUCIA PARTICIPATE IN REEF CHECK



Seamester's Oceanstar

Reef Check St. Lucia just completed the training of 23 students from the Seamester group, who visit the SMMA on their schooner *Oceanstar* twice a year. After the training the students conducted Reef Check surveys at the Coral Gardens and Malgretoute sites within the St Lucia Marine Management Area (SMMA). The training and the surveys were conducted on 31st October and 1st November 2001 respectively. Since their Reef Check experience, Seamester, www.seamester.com has expressed its interest in conducting more surveys during their trips through the Caribbean. Seamester will return to the SMMA with 19 students in March 2002 to

conduct the next surveys. Reef Check and SMMA collaboration is an excellent example of how monitoring serves management and education.

PARTICIPATE IN FIELD COURSE, JAMAICA

For more information on the Tropical Marine Invertebrate course being offered from June 30-July 14, 2002 at the Discovery Bay Marine Lab, Discovery Bay, Jamaica please contact Norman Quinn at nquinn@uwimona.edu.jm.

DIVE INTO EARTH DAY

For the past two years, Reef Check has supported CORAL in "Dive In To Earth Day", an international event that encourages divers, snorkelers and all ocean lovers to participate in marine activities during Earth Day week (April 15-22). "Dive In" events give participants an opportunity to have fun while raising awareness and taking action to protect oceans, lakes, rivers, beaches and coral reefs. Dive In activities include beach and underwater cleanups, mooring buoy installations, coral reef festivals, dive competitions, art contests, and more. Last year 32,500 people participated in 200 Dive In activities. 34,000 pounds of trash was removed (15,455 kg.) from oceans, coral reefs, beaches, lakes and bays. Please show your support and participate this year! Visit <http://www.divein.coralreefalliance.org/> for more information.



SEND US YOUR UPDATES!

If you would like to submit a story or photographs for the spring issue, please contact Kelly at rcheck2@ucla.edu. To be highlighted in the Spring Edition of The Transect Line, all submissions must be received by April 15th, 2002. This year RC volunteers gathered data on over 300 sites which will be included into our global database on coral reef health. Over 50 additional sites were surveyed for educational purposes. Thanks to all our coordinators who put in the extra effort to get in the water in 2001. Let's make 2002 the best year yet!

Coral Reefs in the News

LANDSAT 7 ALLOWS REEF WATCHERS TO DOCUMENT DEGRADATION

Only 5 percent of the coral in the Carysfort Reef, the largest reef in the Florida Keys, is left alive, according to new research based on images from NASA's Landsat 7 spacecraft. In 1975, more than half the Carysfort Reef was live coral.

http://enn.com/news/enn-stories/2001/11/11082001/s_45503.asp.



The global coral reef education, monitoring and management program.

>> [Make a Donation](#) <<

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