Online Data Entry Has Arrived!

The long wait is finally over. In January 2005, a new era in the Fish Survey Project began when we launched the online data entry program for surveys conducted in the Tropical Western Atlantic region (Caribbean, Florida, Bahamas, Gulf of Mexico). With over 2,000 survey forms received at REEF Headquarters each month, this new service will both improve the efficiency and reduce rising costs of processing data. In developing this program, REEF worked with the online division of Pearson National Computing Services, the company that produces our paper scanforms, as well as Michael Coyne, our volunteer database specialist, to ensure that data entered online would mesh seamlessly with our existing data management system. The National Marine Sanctuary Program and the Mahoney Foundation provided funding for the programming, and after months of planning, testing and tweaking, we have developed an easy-to-use Internet tool.

The interface allows volunteers to log on and complete data entry, either during one or multiple sessions (e.g. if a surveyor must logoff before submission is complete or if the Internet connection is lost, the incomplete survey record will be available for completion when they log back in). The program eliminates many of the common clerical errors made on forms (missing information, incorrect geographic codes, etc.) and it also notes potential species errors based on existing REEF data. Data entered online is not immediately input into the REEF database, but instead is first reviewed by REEF staff and run through quality control programs, the same as data submitted with paper forms.

What’s next? REEF is currently working to secure funds to adapt the TWA program for our other regions and we hope to have these completed by the end of 2005. We are also looking for funding to create a companion software program to enable data to be entered while offline that can then be uploaded and submitted during a later Internet session. This will be very useful for members who do not have consistent Internet access and also for entering data on a laptop while on a dive trip. Of course, REEF will continue to provide and process paper scanforms, but we look forward to this next phase in the evolution of the Fish Survey Project.

To access the online data entry program, visit http://www.reef.org/dataentry.
Director’s Corner

Hello REEFers!

Same direction — new roads! This year and beyond is promising to be a very productive and exciting time for REEF. We are continuing to develop and support our long-term programs while expanding into new areas and checking off some long-time project goals.

First, I hope you have all had a chance to visit the new on-line data entry at REEF.org. This is a project we have been working on for the last two years that has finally come to fruition. Much thanks to the Mahoney Foundation and the National Marine Sanctuary System for their support and encouragement in getting the on-line entry up and running. Kudos and thanks too, to Dr. Michael Coyne for his work and assistance in the project. We are excited to offer this option to our members and are already seeing the conservation (less paper) and monetary (less printing and postage) savings.

Another long-term goal that has been moving forward has been the expansion of the Fish Survey Project to the Tropical South Pacific region. We weren’t sure how this would work with so many species, but after three visits to the region, we are confident in the program’s success and are moving forward. The expansion will focus on the National Marine Sanctuary and National Park in American Samoa and will be applicable to other islands in the oceanic Pacific region. Look for the debut of the program in the beginning of 2006.

Our partnership with the National Marine Sanctuaries continues to flourish, with surveys and assessments taking place this year in 7 of the 13 marine sanctuaries. In addition, we are beginning to cultivate a relationship with the National Park System and are undertaking our first survey work with the parks this spring. We look forward to fruitful and lasting relationships and are very excited to be able to work with those in charge of managing our Nation’s marine resources.

Outside the U.S., our foreign partnerships are flourishing as well. Recent work on the grouper aggregation in the Cayman Islands, training and assessments with the marine parks in Mexico and upcoming training workshops in Utila, Costa Rica and Mexico, are all aimed at increasing the public-private partnerships embodied in the REEF program.

New work is also being undertaken on the education and outreach front with the formation of an Educators Advisory Committee and plans to develop classroom-based curricular materials and home-study REEF certification programs. We are very excited to be able to move in this direction after many years of discussion and planning. Also, keep your eyes open for new e-newsletters, and be sure to let us know how you like them. As always we look to stretch our dollars and e-communication is an easy way to reach our members.

Finally, don’t forget about upcoming events to get you in the water. We have a full schedule of exciting Field Surveys on tap for this year as well as a number of events like Earth day in April, the Great Annual Fish Count this July, and Paul Humann’s Discovery tour in Key Largo, also in July.

Best Fishes and see you in the water!

Lad Akins
Executive Director, REEF

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Two Exciting Products Available From REEF’s Online Store

Sensational Seas DVD
Sensational Seas is a ‘must-sea’ DVD for any underwater enthusiast! Twenty-five divers donated some of their most rare and extraordinary video to benefit REEF. Contributors ranged from talented amateurs to Howard and Michele Hall of IMAX and PBS fame. We assure you it’s not DRY viewing, quite the opposite, this DVD will make you want to don your scuba gear and hop in the water right away.

The production was headed up by Anna DeLoach, after capturing many spectacular underwater sights during her diving adventures. The show gets off to a rocking start when Scuba Zoo Images (Borneo) shows off some spontaneous underwater fun accompanied to Elvis’s “A Little Less Conversation.” Narrators Stan Waterman and Cat Holloway escort you through an undersea video anthology ranging from majestic whale sharks and humpback whales to the poignant mating courtship of squid. There is a tender courtship dance between dolphins in the Caribbean and a no-holds-barred turf war between three-inch blennies in the Sea of Cortez and much more. Each video clip is just a few minutes long, leaving the viewer tantalized by many species and locales in a little over an hour. And remember, all proceeds from this wonderful anthology go towards REEF and helping us accomplish our mission.

ReefNet “Fishes of the Caribbean”
If you’re looking for a great digital reference for fishes of the tropical western Atlantic, then you should consider ReefNet’s Fishes of the Caribbean (enhanced 3rd edition) available in both CD and DVD formats. ReefNet provides the most comprehensive scientific electronic reference guide for Caribbean fishes. Detailed descriptions, thousands of images and video clips, and a variety of interactive tools make this a truly unique product. The video component to Fishes of the Caribbean provides a valuable learning tool for underwater identification, seeing the fishes swim from several viewpoints creates a more realistic diving scenario. In addition, this software allows you to create personalized slide shows.

Get your copies of these great resources today through REEF’s online store, [http://www.reef.org/cgi-bin/shop](http://www.reef.org/cgi-bin/shop).

Interested in hearing from us more often? Sign up for our free monthly e-newsletter, REEF-in-Brief. Visit [http://www.reef.org/enews](http://www.reef.org/enews) to find out more.
Field Surveys

REEF Environmental Education Foundation (REEF) trips are your opportunity to take a vacation that counts! These week-long diving adventures are not only lots of fun, but they are educational and environmentally important. And there is no better way to improve your fish identification skills. An additional $200 REEF fee will be added to each trip to cover the cost of the group leader, seminars, and survey materials (*Fee is less on short trips). Prices do not include airfare. Please call Dive Reservations, Inc. at 888-363-3345 or email reef@diveres.com to find out more about a specific trip or to reserve a spot. Sign up early, trips fill up fast! Visit http://www.reef.org/fieldsurv

2005 Trip Schedule

St. Croix, USVI • Ultimate Blue Water Adventures and Hotel Caravelle • April 23-30 2005
$1008, includes 5 days of 2-tank dives and 1 day of 3-tank dives and harbor-view accommodations

Monterey Bay National Marine Sanctuary • Cypress Charters • May 10-15, 2005
$245, includes 2 days of 2-tank diving and 1 day of 3-tank diving; an organized day of shore diving at Pt. Lobos Marine Reserve, and a behind-the-scenes tour of the Monterey Bay Aquarium

Sosua, Dominican Republic • Northern Coast Diving Center and Sosua By the Sea Hotel • June 11-18, 2005
$755, includes 5 days of 2-tank plus 1 day of 1-tank dives, lodging at Sosua By the Sea, and r/t airport transfers

West Palm Beach, Florida • Jim Abernethy’s Scuba Adventures and Singer Island Hilton • July 7-11, 2005
$681, includes 3 days of 2-tank dives and accommodations

Utila, Honduras • Deep Blue Divers • July 16-23, 2005
$1160, includes ocean view accommodations with private balcony, all meals, unlimited shore diving, 3 boat dives per day and airport transfers

Key Largo, Florida • REEF Discovery Tour led by Paul Humann • July 16-23, 2005 • Horizon Divers
$1025 (Ramada Inn Key Largo) or $1,135 (Best Western Suites Key Largo), includes accommodations and 5 days of 2-tank AM dives and 3 1-tank dusk dives
This week is for divers and snorkelers who are interested in learning more about marine life and seeing more in the water. Paul Humann will lead this trip and will teach reef fish and creature identification and behavior.

Kona, Hawaii • Jack’s Diving Locker and Royal Kona Resort • August 6-13, 2005
$1107, includes lodging, 5 days of 2-tank boat dives, and lunch on dive days

Bonaire • Captain Don’s Habitat • September 3-10, 2005
$850, includes accommodations in a Deluxe Junior Suite, 5 days 1 tank boat dives and unlimited shore dives

Sea of Cortez, Mexico • Don Jose • October 2-9, 2005
$1567, this trip will feature a custom itinerary of locations in the southwestern Gulf, includes lodging, food and unlimited diving aboard an 80-ft-long live-aboard, hotel lodging the last night in La Paz and airport transfer

Grand Cayman East End • Ocean Frontiers and Compass Point • November 5-12, 2005
$851, includes luxury condominium accommodation and 5 days of 2 tank boat dives

Cozumel • Aqua Safari and Safari Inn • December 1-10, 2005
$430, includes accommodations and 5 days 2-tank AM dives

What People Say About REEF Field Surveys:

“REEF survey trips are the perfect way for me to take a dive vacation with a great group of people, go places I might not go on my own, improve my fish ID skills, and do something good for the planet.”

— B. Brown, Golden Valley, MN

“It is reassuring to go on a trip alone and know that I will be in the company of fun people with like interests, and often with friends from prior trips.”

— J. Eyre, San Francisco, CA

Participants on REEF’s Field Survey to Lee Stocking Island in the Bahamas in 2004. Photo © REEF

REEF members of all ages enjoy themselves on Field Surveys. Mike Semmens, with granddaughter Gracie, show off their matching shirts. Photo © REEF
Studying the Wanderings of Grouper: 
**Grouper Moon 2005**

What started in 2001 as alarmed discussions during a REEF Field Survey to Little Cayman Island about the large number of Nassau grouper that had been removed by fishermen from a newly discovered spawning aggregation site earlier that year has evolved into a successful research and conservation effort. The Grouper Moon Project is a collaboration between REEF and the Cayman Islands Department of the Environment (CIDOE) to monitor and study the aggregation. In 2002, REEF coordinated a groundbreaking expedition to the Cayman Islands to observe the aggregation and to develop a protocol for monitoring the aggregation.

During that first year, over 5,000 fish were present at the site. The characteristics of the aggregation were documented and the results were published in the scientific journal Environmental Biology of Fishes. Unfortunately that same year, the aggregation was again harvested at very high levels and over 2,000 Nassau grouper were taken during a two-week period. However, results from the project enabled the CIDOE to work with the Cayman Islands Marine Conservation Board to prohibit all harvest from spawning aggregation sites for at least 8-years. Our first success!

The Grouper Moon Project continued in 2003 and 2004, empowered by the first year's success and the passion of project leader Leslie Whaylen. A team of divers visually and photographically monitored the aggregation each year and began to develop an understanding of how the aggregation works. A team of REEF volunteers also began documenting the behavior of migrating grouper seen on the reefs during the aggregation period.

In 2005, a new component was added to begin to address many of the unknowns about fish that visit the aggregation, such as “do fish attend the aggregation every year”, “where do the aggregating fish come from, i.e. where is their home reef”, “what is the sex ratio of the aggregation”, and “what do the fish do during the aggregation cycle”, and more broadly to provide evidence (or lack thereof) that the harvest restrictions are warranted and merit extension beyond the 8-year sunset clause. Thanks to a grant from the NOAA International Coral Reef Conservation Program, REEF, under the direction of researchers Brice Semmens, initiated a multi-year acoustic tagging project on the Little Cayman aggregation.

The acoustic project involves the installation of 18 hydrophones around Little Cayman Island and acoustically tagging 50 Nassau grouper (30 during the aggregation and 20 this Spring from inshore reefs). The acoustic tags, which are surgically implanted in the belly of the fish, emit a signal that is picked up by a hydrophone if the fish passes within 400 meters. The hydrophones will record the presence of the tagged grouper for up to 3 years (before the tag battery wears out). Acoustically tagged fish are also tagged with an external Floy tag (often called spaghetti tags) so that they can be visually identified underwater. Blood and tissue samples are collected during the tagging process in order to look at hormone levels and genetics. Project collaborator and fish physiologist, Dr. Scott Heppell from Oregon State University, is coordinating the hormone assays.

The hydrophone installation and tagging of aggregating fish were conducted during the January 2005 Grouper Moon expedition, and everything went smoothly. The ongoing aggregation characterization and grouper-migration studies also continued. Another successful year!

REEF would like to extend our appreciation to the entire CIDOE team (Phil Bush, Bradley Johnson, Kirsten Luke, and Croy McCoy), to project team members (Jodie Clee, Scott Heppell, Brenda Hitt, Brice Semmens and Leslie Whaylen), and to Peter Hillebrand for their ongoing support and dedication to this project. The Southern Cross Club, McCoy's Fishing and Diving Lodge, Pirate's Point Resort and the Little Cayman Beach Resort provided generous logistical support. Funding was provided by the NOAA International Coral Reef Conservation Program and the PADI Project AWARE Foundation. We also thank Raymarine Marine Electronics for their donation of a RADAR system to support CIDOE’s enforcement efforts on the Little Cayman spawning aggregation.

To learn more about the Grouper Moon Project and to see videos and images collected during the project, visit [http://www.reef.org/data/groupermoon](http://www.reef.org/data/groupermoon).

If you are interested in supporting the Project, please contact Lad Akins (ladi@reef.org, 305-852-0030). While we've done well at securing funding for equipment, our operational expenses for the Grouper Moon project are chronically under funded. We continue to rely on the kindness of Little Cayman’s citizens and businesses for in-kind support such as lodging and scuba supplies. However, we need funds for mundane (yet crucial) expenses like air travel and ramen noodles, as well as expanding the scope of the tagging project to the other Cayman Islands. Rest assured that any donations would continue to be stretched to the absolute limit of usefulness.
Fish Size and Biodiversity Assessments at Gray’s Reef

In the Fall 2004, REEF took a major step in our continuing effort to provide data that are useful for marine management through a partnership with Gray’s Reef National Marine Sanctuary (GRNMS) off the coast of Georgia. A team of eight REEF experts undertook a 9-day project to document fish species AND FISH SIZES at sites off the Georgia coast. This is the first time REEF has incorporated a size component into monitoring efforts.

The move was predicated on the need of GRNMS staff for data on fish size at different sites within and outside of Sanctuary waters. Much attention has gone into the effect of fishing at some of these sites and the potential closure of some sites for study. However, the only information on size of fish in the area has come from limited creel studies and only for species targeted by fishers.

Working with GRNMS Research Coordinator Greg McFall and NOAA liaison Jim Bohnsack, REEF developed a protocol for collecting size data on 34 species of fish found at Gray’s Reef. The project included a day of size-estimation training and fine-tuning observer estimations, followed by 8 full days in the water at 9 sites. We are currently summarizing and analyzing the data, but initial impressions are that the method will be very valuable in determining status and changes in the fish assemblages and size structure.

Future work is planned for this June and will focus on refining the methodology and collecting more baseline data for comparison to post-closure data to document the closure’s effectiveness. For more information visit http://www.reef.org/sanctuaries/GRNMS.html or visit http://www.grays-reef.nos.noaa.gov.

Biscayne National Park Species Inventory Project

Ever wonder just how many species and what kinds of fish are in a certain area? Well, managers at our National Parks wonder as well. To more effectively manage their resources, the Park Service has developed a plan to inventory their lands and waters. REEF is proud to be part of one of the first minimal impact inventory projects in our marine National Parks.

This Spring, a team of REEF experts will begin a two year effort to sample different habitats throughout Biscayne National Park (BNP) in an effort to compile a detailed inventory of fishes. Working for five days biannually, a team of six divers will conduct more than 280 surveys at over 144 sites in this park off the southeastern coast of Florida to determine who lives there. The team will conduct fish surveys in eight different habitat types, including seagrasses, sand and rubble, mangrove channels, wrecks, and four different types of reefs. Voucher specimens and photographs of those species previously undocumented in the BNP will be collected and included in a museum collection.

For REEF volunteers, this project is a dream come true; getting to dive in all of the different habitat types to find as many different species as possible. The National Park Service will use the data as an inventory to direct future use management actions.

In addition to the data collection, volunteers will also be interacting with visitors to the South Florida area as part of the Everglades Hostel partnership. Team members will stay at the Hostel and conduct informal evening briefings on their day’s work as well as formal presentations to other hostlers on South Florida fishes. The Hostel Partnership is an ongoing effort to include visitors in conservation efforts through non-traditional interactions and learning programs. Besides the inventory project in Biscayne the partnership will also include many alternative programs directed at youth.

For more information on BNP visit http://www.nps.gov/bisc or the Everglades Hostel visit http://www.evergladeshostel.com.

A diversity of fishes can be found in Biscayne National Park, the northern most reefs of the Florida Keys. REEF volunteers will be working on a species inventory project in the Park over the next few years. Photo courtesy Biscayne NP.
South Pacific, here we come! That’s right; REEF is slowly working its way into the western Pacific. Coincident with REEF’s continued success are continual requests for the expansion of the Fish Survey Project to new regions. Broadening our reach always requires careful planning and partnership building, as well as lots of staff time and funds. And so it is with measured steps that we move toward our next geographic region.

As part of our strong relationship with the National Marine Sanctuary Program, REEF has been working with the Fagatele Bay National Marine Sanctuary (FBNMS) to expand our existing program to American Samoa. This tiny cluster of islands just east of Fiji is the southern most US territory and is home to rich coral reefs.

In addition to providing a mechanism to engage the local Samoan communities in the understanding of their coastal resources, the Fish Survey Project will provide valuable and much needed data. The coastal ecosystem around American Samoa is at a critical time; rebounding from multiple natural impacts, and suffering in some locations from anthropogenic stressors such as over-fishing and land-based pollution. Despite the lack of a local dive industry, there are many local divers and snorkelers, and the FBNSMs as well as the community based MPAs and other village and territory management agencies have expressed a significant interest in locally coordinating REEF efforts.

With funding from the FBNSMs, REEF staff and representatives conducted a visit to American Samoa in November 2004 to field test draft training and survey materials, including underwater survey paper, the scanform and an introduction to local fish identification curriculum. In addition to several days of survey dives with FBNSMs and the American Samoa Department of Marine and Wildlife Resources (DMWR) (coordinated with lots of help from past REEF employee Leslie Whaylen, who now works for DMWR), a two-day REEF workshop was held for 25 participants, including staff from FBNSMs, DMWR, the American Samoa Community College and the Coral Reef Advisory Group. The workshop included both classroom time as well as field training with survey dives at two local Samoan villages, Vatia and Alofau. The trip was a great success. Over 60 surveys were conducted (which will be entered into the REEF database when we eventually launch the program), we were able to refine the materials based on the field-testing and key partnerships were formed.

We are currently finalizing the survey and training materials for American Samoa and plan to officially launch the REEF Fish Survey Project there by the end of 2005. We are excited about this move and see it as the first step in developing a South Pacific program, which will include Fiji, the Cook Islands and the Tuamotos.
Veracruz Discovery:
REEF Volunteers Discover New Fish Species In Mexico

REEF takes great pride in working with our many partners. Our relationships with Mexican marine parks have been some of our most active and successful. Beginning with the Cozumel Marine Park in 1999 and expanding our partnership to include the Veracruz Marine Park in 2003, local REEF volunteers have been generating thousands of valuable fish surveys from these regions. However, they have also been gathering more than just population and distribution information.

In July of 2003, at the invitation of Park Director, Elvira Carvajal, REEF conducted training and assessment programs for staff and volunteers of the Veracruz Marine Park, the oldest in Mexico. During the survey dives, volunteers discovered fish assemblages that were extremely unusual. Of course there were the standard sergeant majors, bicolor damsels and foureye butterflyfish, but there were also more dramatic finds. Two new species of goby were discovered during the project and the known range of one species of wrasse was extended over 1,000 miles and into a new body of water.

After gathering images and conducting detailed research on the fishes, REEF staff returned to Veracruz in 2004 to conduct further training. Working with the Veracruz Marine Park and the Veracruz Aquarium, the species were collected and brought back to the US for genetic and meristic analysis.

REEF is currently working with Dr. Mike Taylor at Notre Dame University and Dr. Jim Van Tassel at Hoffstra University to complete formal descriptions of the fish species. It appears that the gobies are indeed unique and are a significant addition to the knowledge of tropical western Atlantic and Gulf of Mexico fish taxonomy. In celebration of the Veracruz Marine Park and the regional uniqueness of the species, the first goby to be described will be named _Elacatinus jarochus_, or the Jarocho goby, for the colloquial name of Veracruz locals.

The Jarocho goby is a hovering goby, found intermixed with masked/glass gobies (which are a hovering species of a different genus, _Coryphopterus_). One of the most interesting finds from Dr. Taylor’s genetic work is that while the Jarocho goby is a hovering species, it is more genetically related to the sponge-dwelling species yellowprow goby (_E. xanthipora_), then to the other hovering species in the _Elacatinus_ genus (_E. atronasus_, which is endemic to Exuma Sound in the Bahamas). This means that hovering has evolved separately in the two hovering _Elacatinus_ species.

REEF looks forward to continuing our strong relationship with the Mexican Marine Parks and to exploring more of the Western Gulf coast in 2005.

Another exciting find by REEF volunteers in Veracruz was this rare wrasse, _Halichoeres socialis_, previously only known from Belize and was just described in 2003. Photo by Lad Akins.

The red arrow on this map shows the location of Veracruz Marine Park, in the southwest corner of the Gulf of Mexico. Map courtesy of Iowa State University

REEF Data – Now Safer Than Ever!

Did you ever wonder where all those scanforms go after REEF staff process them and the data are uploaded to the database? For years, they were filed away at REEF HQ to archive the original datasheets. But as you can imagine, with over 2,000 scanforms received per month, we were rapidly running out of space. At the same time, there was concern that these paper documents would not stand the test of time and that storing them in Key Largo (a hurricane zone) was probably not wise. So what is the solution?

Thanks to a grant from NOAA’s Climate Data Modernization Program (CDMP), awarded to us through the National Marine Sanctuary Program, REEF is in the process of having all of our historical dataforms archived in an image database. Each page of each scanform (4 pages to a form) is scanned to create a digital image. These images are then indexed and stored in a searchable database, and the original dataforms will be stored in a long-term storage facility. Not only are the forms in a more secure medium, REEF staff can easily query the database to review images of a form (searchable by form number) when questions arise rather than having to rifle through thousands of forms in a file cabinet.

We are very excited about this technological upgrade and extend a big thanks to CDMP and their contractor, Sourcecorp, for making this possible.
REEF Survey Effort: Hotspots of activity and need

REEF volunteers can conduct fish surveys anytime and anywhere within our project regions. This successful model of flexibility has led to wide geographic coverage and an extremely valuable long-term data set. To date, over 80,000 surveys have been submitted from thousands of sites. While data from anywhere is valuable, we are often asked by REEF surveyors, “Where do you need surveys from?” The maps below show the total number of REEF surveys in different areas. We have listed a few areas in each region with data gaps.

Special thanks goes to REEF Intern Kate Guerena for generating these maps.
Survey Numbers and REEF Store

ID Books and CD-Roms

Caribbean & North Atlantic Guides
Reef Fish Identification – Florida, Caribbean, Bahamas - 3rd Edition - $39.95
Paul Humann and Ned DeLoach

Caribbean Reef Creature ID - 2nd Edition - $39.95
Paul Humann and Ned DeLoach

Caribbean Reef Coral ID - 2nd Edition - $34.95
Paul Humann and Ned DeLoach

The Reef Set - $125
Paul Humann and Ned DeLoach

Stokes Fishes of the Caribbean - $12.95
F. Joseph Stokes

Reef Fish Behavior - $39.95
Ned DeLoach

Marine Life of the North Atlantic - $30.00
Andrew Martinez

Temperate & Tropical Pacific Guides
Coastal Fish ID (California - Alaska) - $32.95
Paul Humann, with Howard Hall and Neil McDaniel

Pacific Coast Inshore Fishes, 4th Ed - $24.95
Daniel Gotshall

Rockfishes of the Northeast Pacific - $24.95
Milton Love, Mary Yoklavich, and Lyman Thorsteinson

Whelks to Whales: Coastal Marine Life of the Pacific Northwest - $19.95
Rick Harbo

Shore Fishes of Hawai’i - $19.95
John Randall

Plus dozens of other marine life guide books, CD-ROMs, and children’s books.

Survey Materials

Survey Forms (Scanforms) - free
The basis of the REEF monitoring program, you can get these by either calling REEF HQ, sending an email, or using the online store. Please specify which region. (Remember that you can also enter TWA data online.)

REEF Starter Kit
The basic kit for all fishwatchers. Contains REEF underwater slate, underwater survey paper, 2 REEF scanforms, and a REEF BC tag. A waterproof color ID card is also included in all regions except the tropical western Atlantic kit, which contains the waterproof Fish-in-a-Pocket.
Available for all of REEF’s regions, from $15-25.

Survey Slates & Waterproof Paper - Two slates are available, the standard yellow slate and a larger cold water slate that is specifically designed for conducting a survey in high currents and cold water. Both are designed to work with REEF waterproof survey paper. Waterproof survey paper is available for all REEF regions. Slates $10-15 and waterproof paper $0.60 each.

Project AWARE Identification Courses - $105.
Courses include curriculum, slides, CD-ROM of slides (currently available for the TWA and TEP courses), and sample starter kit. Courses are available for the following regions: Tropical Western Atlantic (also available in Spanish), Mid-Atlantic, Northeast US, Flower Garden Banks NMS, Northern Gulf of Mexico, Gulf of California, Southern California, Northern California, Pacific Northwest Fish, Pacific Northwest Invertebrates, and Hawaii.
Course without slides - $85.
(Still includes CD-ROM of slides, currently only available for TWA & TEP)

For more details, or to place an order, visit REEF’s online store at www.reef.org or call REEF HQ at 305-852-0030.

2004 REEF Volunteer of the Year: Jessie Armacost

REEF is very proud to award the 2004 Volunteer of the Year honor to Jessie Armacost. Jessie has been an active REEF member since 1999 and has completed over 500 surveys. Until recently, Jessie lived in Bonaire and was locally known as the REEF “ring-leader”. She is an enthusiastic supporter of REEF and has done an incredible amount of work to generate a consistent stream of high-quality data from Bonaire. She coordinated periodic fish identification training classes for the Bonaire Marine Park volunteer divers, as well as through many of the local dive shops. Through the years, Jessie’s training introduced hundreds of local and visiting divers to the joy of fishwatching and she enabled 7 local divers to progress up to REEF’s Expert Level. Jessie is a member of REEF’s Advanced Assessment Team and she participated in, as well as helped coordinate, several of the REEF-Ocean Conservancy training workshops held throughout the Caribbean in 2001 and 2002. She also served as a REEF representative during the annual Bonaire Dive Festival as well as the Great Annual Fish Count. The REEF staff and Board of Trustees extend a big thanks to Jessie and to the many other volunteers who help REEF achieve success.
Education and Outreach

REEF’s New Educators Advisory Committee

The third letter of the REEF acronym is “Education” and we take that very seriously. REEF has a great story to tell. And we don’t just mean the history of the organization, but rather the story that comes from our data. Fish are great “bio-indicators;” they can tell us a lot about the marine environment that they inhabit. The data our volunteers have collected over the years can not only be used to make effective marine management decisions but can also be a highly effective tool for education. This can include both formal and informal education, in the classroom and out, to children and adults.

We are working to build an exciting education program based firmly on the work that we do. This year we are taking a big step to further this part of our mission through the formation of REEF’s first-ever Educators Advisory Committee (EAC). We have assembled an excellent group of educators from diverse backgrounds and areas of expertise. They will serve as advisors for the program, sharing their knowledge, experience and feedback. One of the first things we will be doing with our newly formed EAC is holding a committee meeting this June in Key Largo. Thanks to support from NOAA’s Coral Reef Conservation Program, we will be able to stage this conference and underwrite the participants’ expenses. We look forward to this event where we will discuss the role of the EAC, designate priority areas and tasks, and set goals for our education plans. Attending committee members will have the opportunity to learn fish identification, conduct surveys, and meet in person to move our exciting program forward. (See Page 1 for a list of EAC members)

The 14th Great Annual Fish Count

REEF’s signature yearly event is coming this July. The 14th Great Annual Fish Count (GAFC) looks to be bigger and better than ever! Last year’s GAFC continued the success of this important marine conservation and education event. Nearly 2,000 surveys were generated during the month of July 2004 and the GAFC boasted 82 individual events throughout our survey regions.

The GAFC is an event that raises awareness about marine conservation and what REEF actually does year-round: the Fish Survey Project. Every year, more and more individuals get involved with REEF after being introduced to the critical work we do through the GAFC. It is also a time where our numerous partners, such as REEF Field Stations and non-profit organizations, have the opportunity to use this internationally recognized event to get their message out and attract new people. This year’s event will be no different and we are looking to increase participation and the awareness that the event generates.

Two new challenges that we will be undertaking with this year’s GAFC have us really excited. The first challenge is to more effectively utilize the event to reach out to a wider audience. Traditionally, REEF has done a great job connecting with the divers and snorkelers that form the backbone of the organization by conducting marine life surveys. However, we have a great message that can appeal to armchair explorers as well. Many of our partners work with this type of constituency, and we are working to develop a program that will reach these groups and engage them in marine conservation in ways beyond surveying. We feel strongly that everyone can benefit from the REEF message and contribute to our efforts in numerous ways.

The second challenge is called just that – “The GAFC Fundraising Challenge.” As you probably know, membership for individuals in REEF is free. The concept of this fundraising challenge was introduced on a trial basis last year as a way to raise much-needed funds for the organization while taking advantage of the attention the GAFC receives each year. It’s a pretty simple idea that can be likened to a “fish-a-thon.” Individuals participating in the GAFC are encouraged to go out and get friends, family, colleagues, or whomever, to sponsor their efforts. These sponsors can give a flat donation or sponsor based on a per species amount where the participant totals up the number of individual species sighted throughout their surveying efforts during the month of July. This year, we hope to inspire greater participation in this part of the GAFC and we welcome your participation!

If you are interested in learning more about the GAFC – how you can participate, find out where events will be held near you, or discover how easy it is to organize one yourself – please visit www.fishcount.org. We hope that you will get involved in the 14th Great Annual Fish Count and see what all the excitement is about!
CONTRIBUTIONS

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Our valuable BRONZE SUSTAINERS are listed on [http://www.reef.org/webres/notes/spring05.htm](http://www.reef.org/webres/notes/spring05.htm).

To become a REEF Sustainer, please contact Lad at REEF HQ: (305) 852-0030; Lad@REEF.org.

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