

**An Active Organization  
of Divers Committed  
to the Preservation of the  
Marine Environment**

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Scientific Coordinator
- Bryan Dias  
Director of Outreach and Education
- Joseph Cavanaugh  
Field Operations Coordinator

## REEF in 2003: Another Successful Year

Welcome to a special edition of REEFNotes. In these pages, we have highlighted REEF's accomplishments and programs of 2003. As part of this Annual Report we have included summaries of our work in the three primary aspects of REEF's mission: Education, Science, and Outreach, as well as program summaries, financial information and membership. In addition to looking back, we have also provided a glimpse into the future by highlighting our upcoming plans and goals. We hope that you enjoy reading about our successful 10th year!



Participants in the 2003 Belize Field Survey. Photo © REEF.

This issue of REEFNotes also contains our annual Spring Solicitation plea. Rather than sending the letter under separate cover, we have included it here in hopes that you will be inspired by our efforts and achievements in 2003 and you will give as generously as you can. Please take a moment to read the center pages of the newsletter and find out how your continued support of REEF will help ensure another decade of success.

and waste, we are introducing a new monthly e-newsletter for future member communications. This new format will keep you up to date on REEF happenings and opportunities as well as provide great story briefs on interesting marine life sightings. REEF members will continue to receive a bi-annual hardcopy of our accomplishments in the format you are reading now. To sign-up for our electronic newsletter please visit the website [www.reef.org/enews](http://www.reef.org/enews).

Finally, in an effort to provide greater service to our membership as well as to reduce cost



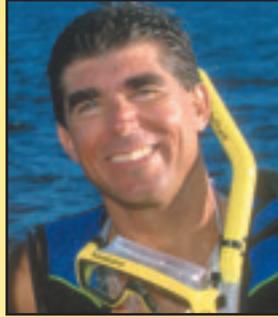
REEF members join Paul Humann in the Turks and Caicos for the 2003 Discovery Tour. Photo © REEF.

**Please check out our  
Spring Solicitation letter  
inside.**

# Director's Corner

Hello REEFers!

The second decade. Sounds impressive doesn't it? Well it is! In ten short years, REEF has grown to be a highly respected organization with a strong track record of producing results in marine conservation. Last summer we were fortunate to have a small reunion with many of our members and supporters who have been a part of our great success. Actually, they are the reason for our success. Since REEF's debut in 1993, over 26,000 members have joined REEF, submitting an amazing 68,000 marine life surveys! Scientists, resource managers, researchers and government officials have lauded our successes and numerous awards have come our way as the result of your efforts.



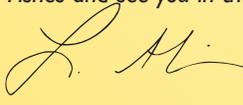
REEF's education, outreach and data gathering programs have made a difference in marine conservation efforts around the world. Support from our local partners has resulted in thousands of surveys at key locations like the Florida Keys National Marine Sanctuary, Edmonds Underwater Park in Washington, Espiritu Santo in the Sea of Cortez, Molokini Marine Life Conservation District in Hawaii, and the Bonaire Marine Park in the Caribbean. Expansion of REEF's education and survey programs to Hawaii, the central American Pacific and the northeast coast of North America and the subsequent data produced has begun to paint a picture of marine fish distribution and abundance on a scale previously unattainable. REEF's special projects have led the way to protecting grouper spawning aggregations; to identifying a hotspot of exotic species in southeast Florida and educating the public about the dangers of releasing non-native species; to understanding the effects of artificial reefs and coral reef restoration efforts; and to evaluating the effects of marine reserves.

Your help and support during our first ten years has been critical in our success and we can't thank you enough. You should be very proud of your contributions to these successful projects and programs because they make a real difference.

Please enjoy reading about what REEF has accomplished over the past year in this newsletter and be sure to see the center section to find out how your continued support of REEF will help ensure another decade of successes. Thanks to all of our members for a wonderful first decade past and here's to another successful decade!

Best Fishes and see you in the water!



  
Lad Akins  
Executive Director, REEF

## REEF Welcomes New Staff

If you take a look at our staff listing, you will notice a few changes. Andrea Fullman and long-time Field Operations Coordinator Leslie Whaylen both bid REEF goodbye earlier this year. Each made valuable contributions. We greatly appreciate their passion and wish them all the best in their future endeavors.



**Bryan Dias**

REEF also welcomed two new staff to the office, Bryan Dias and Joseph Cavanaugh. Bryan comes to us from California, where he worked at the San Francisco Bay Bird Observatory (SFBBO). Similar to REEF, SFBBO is engaged in conservation science research and monitoring as well as education. But Bryan is a fish guy at heart. Bryan's primary duties at REEF will include strategizing and coordinating REEF's outreach and marketing efforts, overseeing the Great Annual Fish Count and developing



**Joseph Cavanaugh**

educational applications of the Fish Survey Project. He will also coordinate the production of the REEFNotes newsletter, both the print version and a new, more frequent e-newsletter. Joseph Cavanaugh is the new Field Operations Coordinator, coming to Key Largo from Woods Hole, Massachusetts where he had been working with Marine Research Inc.. He has extensive knowledge of marine life from the Caribbean, South Pacific and New England and is looking forward to helping REEF achieve new heights. Joseph's duties will include data management and coordinating the Field Survey Program. Welcome Bryan and Joseph!

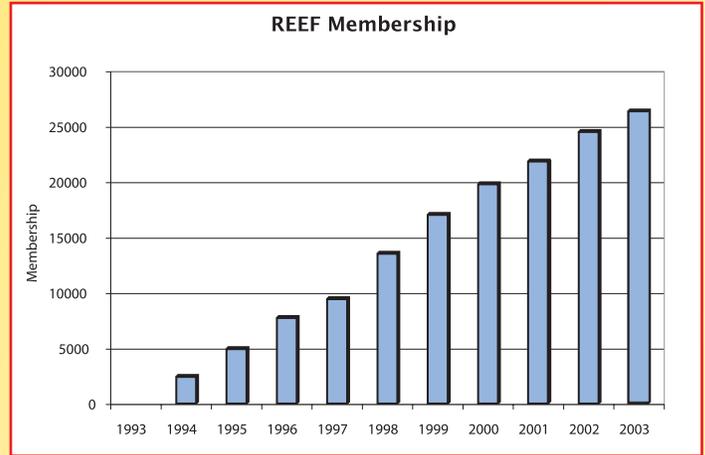
Background photo: Mark R. Boardman, Miami University

# 2003 Membership and Data



## 2003 Programs Membership

Since the first Rodale's Scuba Diving magazine announcement about REEF in 1993, REEF's ranks have swelled with interested and passionate marine conservation supporters. Currently, the organization includes over 26,000 members from all 50 states and 89 different countries. Members provide the backbone of our organization by conducting surveys, teaching ID classes, spreading the word about REEF's programs and contributing financially to ensure the sustainability of our programs. Special members include our Platinum Sustainers, who annually contribute more than \$1,000 and our Advisory Panel who provide expertise on related organizational or scientific issues. Many members also provide REEF staff with extra hands and minds to help fulfill specific project needs, like newsletter editing, grant writing, and IT maintenance.



**Fishes of the Sea of Cortez.**  
REEF expanded to the tropical eastern Pacific in 2000. Photo © Ned DeLoach.

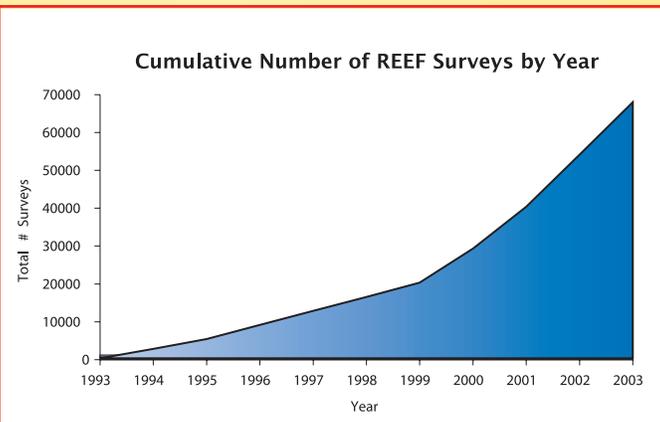


**REEF surveyors start listing species seen as soon as they enter the water.** Photo © REEF.

## Data and the Fish Survey Project

REEF's longest running and most prominent program has been the Fish Survey Project. Since the first Field Survey in Key Largo in July 1993, REEF has overseen and managed data from over 160 data gathering projects. The project has expanded to include the tropical western Atlantic, coastal North America, the tropical eastern Pacific, and the

Hawaiian Islands, and now includes invertebrates in the Pacific Northwest and sea turtles throughout the project regions. REEF's program has been adopted as part of the widespread Atlantic and Gulf Rapid Reef Assessment protocol and used in numerous scientific and contracted studies. The REEF database is widely considered the largest fish-sighting database in the world and provides researchers, scientists, resource managers and the general public free access to a wealth of population data. By the end of 2003, the database contained over 68,000 surveys from throughout REEF's survey regions.



2004 will bring exciting technological improvements to the project. Online data entry will finally

become a reality this year. REEF has also received support from NOAA's Climate Data Modernization Program to create digital images of archived scanforms (those already entered in the database). Images will be indexed on CDs. This will provide a more permanent storage solution for the original data sheets. And finally, REEF will be enhancing our fish identification training materials this year, with the creation of CD-ROM versions of the curricula and advanced modules for several regions. REEF continues to expand its data collection programs and projects and is working with the scientific and resource management communities to provide the information needed to make sound decisions.

**A total of 12,664 surveys were conducted by REEF volunteers in 2003.**

To find out more, visit <http://www.reef.org/data>.



An Advanced Assessment Team heading out to survey the Wellwood restoration site. Photo © REEF.

## Science and Conservation Applications

The large geographic extent of the surveying effort by REEF volunteers has generated a dataset that is second to none for the tropical western Atlantic, and increasing effort in our other regions is rapidly doing the same for Hawaii, the tropical eastern Pacific and the west coast of the US and Canada. Consequently, resource agencies and scientists are increasingly using the data to address a variety of questions, including evaluating the effects of no-take zones, conducting fisheries-independent stock assessments, identifying areas with especially large varieties of fish and monitoring populations of non-native fish species. Scientific uses of REEF data in 2003 included:

- Peter Gaube, a macroecologist from University of Arizona, is using REEF data to explore spatial trends in species richness across the Caribbean,
- Craig Bonn from the NOAA Lab in Beaufort is using REEF data from the Florida Keys NMS to look at connectivity between Florida Bay and the reef track,
- Alfonso Aguilar Perera from the University of Puerto Rico Mayaguez requested REEF data on hamlet species to prepare an update on hamlet distribution in the western Atlantic,
- Joanna Licon, a student from Nova University, is including REEF data in a GIS of requiem sharks in Florida, the Gulf of Mexico and the Bahamas, and
- Jon Maidens and Loretta Burke from the World Resources Institute used REEF's Caribbean database for a GIS-based analysis of ocean threats to be published in the Reefs at Risk Caribbean report.

## Conferences and Symposia

In 2003, REEF presented talks at the following meetings:

- Gray's Reef Fish Monitoring Workshop, *Visual Fish Monitoring in Gray's Reef NMS*
- MacMillan Biodiversity Workshop on Measuring and Monitoring the Biodiversity of Marine Fishes, *Using Volunteers as a Tool for Monitoring Marine Fishes*
- Gulf and Caribbean Fisheries Institute, *A Biogeographic Analysis of Reef Fish Data from Cozumel Island*
- California Islands Symposium, *An Analysis of Fish Assemblages in the Channel Islands*

## REEF Papers and Reports Published in 2003

- Whaylen, L., Pattengill-Semmens, C.V., Semmens, B.X., Bush, P.G. and M.R. Boardman. in press. Observations of a Nassau Grouper (*Epinephelus striatus*) Spawning Aggregation Site In Little Cayman, Including Multi-Species Spawning Information. *Environmental Biology of Fishes*.
- REEF 2003. Reef Fish Monitoring for the Florida Keys National Marine Sanctuary Zone Performance Program: 2002 Report. [http://www.reef.org/data/fknms\\_02.pdf](http://www.reef.org/data/fknms_02.pdf)
- REEF 2003. Wellwood Restoration Fish Monitoring: Year 1 Report. [http://www.reef.org/data/wellwood\\_yr1fishl.pdf](http://www.reef.org/data/wellwood_yr1fishl.pdf)



Pacific Coast AAT members during the 2003 Olympic Coast National Marine Sanctuary AAT Project.

## Special Projects and the Advanced Assessment Team

Surveying members who achieve Expert status are extended an invitation to the Advanced Assessment Team (AAT) and are invited to participate in special surveying opportunities. In 2003, REEF initiated and continued several monitoring and assessment projects that utilized the AAT. These included Zone Performance Monitoring in the FKNMS to evaluate the effectiveness of no-take zones, annual monitoring in the Flower Garden Banks National Marine Sanctuary, an assessment of the Fishes of Gray's Reef National Marine Sanctuary, monitoring of the Wellwood restoration site, monitoring the Spiegel Grove artificial reef in the Florida Keys and a baseline assessment of fish and key invertebrate species in the Olympic Coast National Marine Sanctuary. All of these projects will continue in 2004.



Participants of the 2003 Channel Islands Field Survey. Photo © REEF.



Reef Environmental Education Foundation



Protecting Marine Life Through Education, Service and Research

Dear Valued REEF Member,

**Like what you see? Your support makes a difference!**

REEF has strived hard over the last decade to ensure its marine conservation programs are **innovative, effective and efficient**. We pride ourselves on being a “Do Something” organization that **spends funding wisely** and gets results. However, we are at a time when our programs and projects are under increasing demands and the costs necessary to increase and even maintain existing programs are escalating. **We need your help!**

Your support shows your concern for a healthy marine environment.

Take a moment to review the highlights of your dollars at work through REEF's grassroots, action-oriented programs:

- *Fish Survey Project* – now at over 68,000 surveys and growing. This database is considered one of **the largest and most valuable marine life sightings database in the world** and is utilized by scientists, researchers, managers, students, teachers and the general public.
- *Diver Education and Awareness* – **educating thousands of divers and snorkelers about the marine environment** each year through REEF courses, the Great Annual Fish Count and other outreach efforts.
- *Special Assessment Projects* – **collecting valuable data** on ship grounding restoration efforts, effects of artificial reefs, status of specially managed areas like National Marine Sanctuaries, and more.
- *Exotic Species Campaign* – educating aquarists and the public about the dangers of introducing non-native species into our waters, **gathering and providing data to managers and scientists** on the occurrences of these fishes and organizing collection efforts to remove non-natives from sensitive areas.
- *Grouper Moon* – documenting and studying one of the few remaining grouper spawning sites in the Caribbean, **publishing previously undescribed spawning activities** and behavior and working with the government in the Cayman Islands to **utilize REEF data as a catalyst to implement a no-fishing regulation** on the aggregation site for the next eight years.
- *Scientific Publications and Conferences* – participating in key scientific conferences and committees, presenting research papers at leading conferences, and **publishing journal papers and technical reports on REEF science**.
- *Marine Conservation Committees* – helping to direct marine conservation issues by **servicing on working groups, committees and panels** including seats on Florida's Artificial Reef Advisory Board, the National Marine Sanctuary Science team, The Ocean Conservancy's RECON Advisory Panel, the Gray's Reef National Marine Sanctuary Management Plan Advisory Panel and the National Marine Sanctuary's Blue Star Program.

All of these programs are undertaken by a small staff and a cadre of volunteers. **REEF makes the most out of its dollars**. However, with your help, we can do more. Future plans are in place to **further our mission and represent your belief in effective marine conservation**. We have targeted key areas to address conservation issues and are continuing expansion of our programs and projects. New initiatives include:



## Reef Environmental Education Foundation



Protecting Marine Life Through Education, Service and Research

On-line Data Reporting – increasing efficiency of our data reporting and management process through increased use of Internet technology. This new program will also be **more cost effective, eco- and user- friendly**.

Classroom Educational Curricula and On-line Teacher Resources – implementing innovative programs into the classroom, **using the marine environment to help teach students in math, science, biology** and other skills as well as providing web-based teacher resources and communication venues.

Expansion of the Fish Survey Project – increasing the scope and range of the Fish Survey project including **increased data collection** efforts in existing areas and **expansion of programs to new regions**.

Partnering with the National Park Service – enhancing education and volunteer programs including site-based programs **at marine National Parks**.

Enhanced Training Materials – increasing effectiveness of REEF education courses including **enhanced CD-ROM curricular materials** for classroom and home study use.

Expanding Public Outreach – enabling public and volunteer efforts through **increased communication via e-newsletters, regular media releases and partnership efforts** with local dive operators, affiliates and educational institutions.

**And more....**

Each year REEF maximizes project funding to the fullest extent. REEF staff work hard to **achieve a tremendous amount of work, while remaining within 5% of budgetary guidelines** each year. **We need your help to sustain and increase our successes**. Your membership in REEF says that you support REEF's marine conservation efforts. Your contribution provides the satisfying feeling of knowing you've supported a great organization in its critical work and allows your voice to be counted in support of marine conservation. **Without your generous contributions** we simply would not be able to exist. All of the significant efforts you have supported would be halted and **the marine environment would suffer**. But you can help. Please consider a generous contribution to support REEF's work. **We promise to spend your dollars effectively and efficiently and to put our passion behind your support**. We can and do make a difference and your support will increase our ability to enable effective marine conservation.

If you help us, we will achieve. **Please consider as generous a contribution as you are able to make**. We have provided three easy ways to support REEF's efforts, including a ready-to-mail envelope attached to this newsletter. You can also contribute on-line through our secure server at <http://www.reef.org/contribute> or call us with your contribution information.

We treasure our marine environment and know you do too. Your support will help us continue our successes. **Donate now and your contribution will be doubled!** The Curtis and Edith Munson Foundation and the Henry Foundation have recognized REEF's successes and generously offered to match membership funding up to \$40,000. **For every dollar you are able to contribute, REEF will receive an additional dollar** from these long-time supporters. Be sure to also check with your employer about any matching programs that your contribution would be eligible for. Your dollars make a difference!

Thanks and Best Fishes,

Lad Akins  
REEF Executive Director

## Grouper Moon

What happens when you see a problem and know you can be part of the solution? Well, if you are REEF, you jump right in – literally. When discussions about the decline of grouper spawning aggregations surfaced a few years ago, REEF took the lead in organizing a study to document these aggregations and help determine the fate of these majestic fish. After three years of study on the only remaining Nassau grouper aggregation in the Cayman Islands, REEF is proud to announce that the Cayman Islands Department of Environment has implemented an 8-year closure of fishing on grouper spawning aggregations. This landmark action followed from REEF's work to document the population and sizes of spawning grouper in Little Cayman. REEF's Grouper Moon project also worked with local government officials to determine aggregation catch levels (which exceeded 2,000 fish during the 2-week aggregation period in both 2001 and 2002). Using REEF's data, Cayman officials realized the aggregation could not withstand ongoing fishing pressure and set aside the aggregations to allow the stock to rebuild.



The different spawning colorations seen in Nassau grouper. Photo by Phil Bush.



A wide-angle view of the Little Cayman aggregation in 2003. Photo by Phil Bush.

REEF volunteers took a lead role in not only determining the size of the spawning aggregation, but also the movement of fish to and from the site, spawning behaviors and colorations, and the documentation of other species utilizing the spawning site. Much of this work is groundbreaking research that has never taken place on such a lengthy time scale. A paper describing the results from the Grouper Moon Project was recently accepted for publication in the scientific journal, *Environmental Biology of Fishes*. For all of us at REEF, it is extremely exciting and gratifying to know the work we do has direct results in helping to protect and conserve the groupers of the Cayman Islands and beyond. We would especially like to thank the project's primary financial supporters, Peter Hillebrand, Peter Leahy, Ken Sinibaldi and Stella and Clive Wood.

For more info and to view footage of the spawning aggregation visit <http://www.reef.org/data/groupermoon.html>

## Great Annual Fish Count

The Great Annual Fish Count (GAFC) continues to be the largest special event REEF sponsors each year. The event, formally known as the Great American Fish Count, is now in its 13th year and reflects its change in name by today having become a truly international event. Though the GAFC centers on education and marine life surveying activities during and leading up to the month of July, the principal goal of the event continues to inform and inspire individuals to get involved in surveying year round with the Fish Survey Project.

The GAFC started in 1992 by Dr. Gary Davis at the Channel Islands National Park as a way to encourage sport divers to report fish sightings. By 1999, REEF had become the sole organizer of the GAFC with continued partnership from NOAA's National Marine Sanctuary Program. The event continues to grow, with 2003's GAFC boasting over 80 related events in numerous countries. Additionally, over 2,000 REEF surveys were generated.

The 2004 GAFC represents another chapter in the event's thirteen-year history. Participants will have the opportunity to support REEF and marine conservation, not only by conducting fish surveys, but by also taking the GAFC Fundraising Challenge. Exceptional prizes are being offered to top fundraisers thanks to the generosity of our numerous GAFC Sponsors & Supporters. Funds raised will greatly assist REEF in continuing to offer a no-fee membership to individuals ready to become active stewards of their marine environment by becoming a REEF fish surveyor.

For more information on the GAFC and how you can get involved, please visit the official event website <http://www.fishcount.org>.

### 2004 GAFC Sponsors:

Peter Hughes Diving  
Diver's Direct

### 2004 GAFC Supporters:

Tom Isgar  
Dive-In, Key Largo  
Dive Training Magazine  
New World Publications  
Wilk Family – ReefNet  
Amy Slate's Amoray Dive Center, Key Largo  
Rodale's Scuba Diving Magazine  
Truth Aquatics, California



GAFC volunteers in the Cozumel Marine Park.



# Programs 2003

## Artificial Reefs

The world's largest intentionally sunk artificial reef ship, the *Spiegel Grove*, is a 532' massive steel ship that was placed on the bottom in June 2001, a few miles north of Molasses Reef in Key Largo. Many supported the project as a way to reduce visitation on nearby natural reef areas, but many also opposed the idea of using artificial structures to augment natural systems. REEF was asked to help answer questions about how the *Spiegel Grove* would recruit fish species and what effect it would have on nearby natural reef systems. After the first year of a five-year study, the interesting results show much higher variability in the fish communities found on the *Spiegel Grove* as opposed to those on nearby ledges and shallow reef systems. The project has also documented several commercially targeted species utilizing the wreck in increasing numbers. Interestingly, the highest diversity among eight sites in the study has been found on the nearby *Benwood* wreck, sunk in World War II. As REEF's study continues, we hope to help answer whether the massive ship will function as a home or simply a vacation spot for local fish species.

In a separate five-year study, REEF volunteers also are documenting coral reef restoration efforts at the grounding site of the *Wellwood* on Key Largo's Molasses Reef. Utilizing large concrete and limestone modules, NOAA has implemented a massive restoration effort on what many refer to as the "parking lot", an area that was ground flat by the 238' freighter in 1984. After years of small-scale efforts to stabilize the site, scientists undertook the restoration effort in July 2002. REEF's monitoring study will document the effect of the restoration on local fish populations and compare the changes to two nearby reference sites. So far, data has indicated an increase in the number of species found using the restoration modules, including increased size and biomass of parrotfish and surgeonfish.

In addition to the two new artificial reef projects, in 2003 REEF completed an assessment of 16 older artificial reef structures in Monroe County. The specific objective of the project was to evaluate these sites and conduct fish surveys three times over the course of two years. The 16 sites are composed of bridge spans, concrete rubble, steel pipes, barges and steel boats that were deployed in the 1980s.



A *Wellwood* Monitoring project volunteer conducts a transect to measure fish size and density. Photo © REEF.

For more information on these projects visit <http://www.reef.org/data/speigel.htm>, <http://www.reef.org/data/wellwood.htm>, and <http://www.reef.org/data/FKARM/>.

## REEF Interns Take the Lead in Conservation Efforts

REEF moves mountains with a very small staff. However, we also welcome significant volunteer help on projects throughout the year. Six unheralded volunteers that advance our work each year are the REEF Marine Conservation Interns. The internship program, formally implemented in 1999 with support from the Elizabeth Ordway Dunn Foundation, allows 2 college-level juniors, seniors or graduate students to experience and assist in REEF's marine conservation efforts for a semester. The program has been a significant win-win situation for both REEF and the interns by providing staff assistance in the office and in the field, while exposing up and coming students to marine conservation and non-profit organizations. In 2003, interns took charge of programs such as the Fish ID Challenge for Dive Into Earth Day, the Great Annual Fish Count event and local community talks, as well as participating in Advanced Assessment projects and Field Surveys. Many of our interns continue to work in the field of marine conservation or continue their education at the graduate level. Recent support by the Triad Foundation and the Our World Underwater Society has allowed REEF to continue this great tradition of working with young biologists.

For more info go to <http://www.reef.org/intern.htm>



AAT member, Peter Leahy, swims near the prop of the *Spiegel Grove*. Photo © REEF.



REEF Intern Josh Wittmer checks out some Atlantic Spadefish during a survey in Key Largo.

# Outreach 2003 • Field Surveys 2004



## 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. For more information on REEF trips, please visit <http://www.reef.org/fieldsurv>

### 2004 Trip Schedule

#### Bonaire • REEF Fish Behavior Tour led by Ned and Anna DeLoach • Buddy Dive Resort • September 4-11, 2004 FULL

7 nights/8 days - \$984, includes lodging, daily breakfast, 6 days of 1-tank AM boat dives and unlimited shore dives, pickup truck rental (1 per room, double occupancy), and airport transfers. The week is scheduled to coincide with the annual coral spawning in Bonaire.

This week is for divers and snorkelers who are interested in learning more about marine life and seeing more during their time in the water. Topics will include feeding, predation, and reproduction, as well as the annual Caribbean coral spawn!

#### Barkley Sound/Broken Group Islands, British Columbia • Broken Group Adventures • October 6-10, 2004

4 nights/5 days - \$528 USD, includes accommodations at Broken Group Adventures in Bamfield, all meals, and 3 days of 2 tank diving

#### Southern Gulf of California/Sea of Cortez • Don Jose • October 17-24, 2004

8 days/7 nights - \$1,522, this trip will feature a custom itinerary of locations in the western Gulf, includes lodging, food, and unlimited diving, aboard an 80 foot long liveboard dive boat

#### Nassau, Bahamas • November 6-13, 2004 - Discovery Tour led by Paul Humann • Max 23 Divers

7 nights/8 days - \$793 garden view or \$919 ocean view, includes accommodations at South Ocean Beach Resort,

5 days of 3-tank dives and 1 day of 2-tank diving with Stuart's Cove, and airport transfers. Websites: <http://www.stuartcove.com/> and <http://www.southoceanbahamas.com/> Discovery Tours are for divers and snorkelers who are interested in learning more about marine life and seeing more in the water. Several short slide presentations will be scheduled during the week to teach and discuss reef fish and creature identification and behavior.



Snubnose sculpin, a common but often difficult to spot fish of the California kelp forests, is a master of camouflage. Photo © REEF.

#### Bequia • December 4-11, 2004 • Max 9 Divers FULL • December 11-18, 2004 • Max 9 Divers FULL

7 nights/8 days - \$790, includes accommodations at Julie's Guest House, breakfast daily (dinner package available), 5 days of 2-tank dives with Bequia Dive Adventures, and transfers. Additional 2-tank dives can be added for \$76/ day. Website: <http://www.bequiadiveadventures.com>

#### Cozumel • Aqua Safari and Safari Inn • December 11-18, 2004

7 nights/8 days - \$585, includes accommodations at Safari Inn and 5 days of 2-tank AM dives

### 2005 Trip Schedule

Coming Soon! Please watch the website – <http://www.reef.org/fieldsurv/index.htm>. Destinations will include Culebra, Puerto Rico; St. Croix, USVI; Bonaire; Bimini, Bahamas; and Kona, Hawaii.

## REEF.org and REEFNotes Newsletter

REEFNotes is mailed free of charge to over 18,000 U.S. and Canadian REEF households each year. This full color newsletter features stories on recent REEF projects and achievements as well as serving as a regular means of communication with our members. The Nielsen Company in Florence, Kentucky makes this publication possible through an in-kind donation of printing.

REEF's Website, [www.reef.org](http://www.reef.org), is a key component of our program. In addition to providing summaries of fish survey data for geographic areas, species distribution reports, and personal life lists for REEF members, the Website contains galleries and quizzes, an expanded Member Forum site with articles and mystery fish identification, an online store to purchase survey materials and guidebooks, and a section on the research and monitoring applications of the database. In 2003, the site received an average of 86,867 visits per month with more than 11,000 page views daily.



The white-lined dirona nudibranch is one of the invertebrates that REEF volunteers survey in the Pacific Northwest. Photo © REEF.



Barbados Field Survey Team.

THE REEF ENVIRONMENTAL EDUCATION FOUNDATION

"AN ACTIVE ORGANIZATION OF DIVERS COMMITTED TO THE PRESERVATION OF THE MARINE ENVIRONMENT"

Join our team of divers conducting marine life surveys as part of the Fish Survey Project!  
Surveys to Date: 67944 - [More Stats Here!](#)

ONLINE STORE | FAQ  
PARTNERS AND SPONSORS  
HOW TO CONTRIBUTE

MEMBER SERVICES

- Field Stations
- Events, Seminars, Dives
- Experience Level Info
- Member Forum
- Member Fish of the Month

REEF DATA

- About the Survey Project
- The REEF Database
- View YOUR Data
- Projects, Research and Papers
- Geographic Zone Codes

WEB RESOURCES

- Fish Gallery and Quizzes
- Discussion Board
- REEF Notes (Newsletter)
- Related Links
- Press Room

ABOUT REEF

SPECIAL FEATURES

- Electronic Species Presentation
- Species Distribution Project
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FIELD SURVEYS 2004

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# Field Stations and Affiliates

## Partnership Programs: Field Stations and Affiliates

REEF's partnership programs trace their origins to the organization's early days, when REEF received industry-wide support through the Field Station concept. The Field Station Program focused on dive shops and resorts, and served to highlight locations familiar with REEF's program and places where our members could "speak fish". Today, the program includes a network of 59 field stations in numerous countries throughout REEF's survey regions. Over the years, the program has grown and Field Stations now play key roles in outreach events such as the Great Annual Fish Count and as training facilities for REEF fish identification curricula. REEF is currently strengthening the program and making it

easier for dive operators and others to get involved including new levels of participation and increased communication and business related support.

Two new categories of Field Stations will be introduced in 2004. The Affiliate level is designed as an introductory category that appeals to those not quite ready to make a full Field Station commitment. This is a cost-effective, yet powerful relationship that introduces Affiliates to REEF surveys and fishwatching divers. The Non-Profit or Academic Field Station (NAFS) level is a special category for academic institutions, appropriate non-profit organizations, and other similar groups. These groups are eligi-

ble for a scholarship from REEF to cover the cost of membership fees. NAFS apply for their scholarship standing and integrate REEF programs into their activities.

2004 will also bring increased emphasis on regular communication and support with Field Stations. This will be accomplished through a regular business e-newsletter and on-line chats designed for program members, including tips on teaching fish ID, marketing fishwatching, and other ideas and resources. We hope these new changes will continue to develop and improve this long-standing and critical REEF program for years to come.

## Field Stations

REEF is proud to have added ten new Field Stations to the list of dive operators, organizations, and dive clubs that make up this program since last fall. Field Stations demonstrate a commitment to supporting marine conservation and REEF through financial contributions, teaching fish identification courses, organizing survey dives, and the distribution and sales of REEF survey materials. Please show your support for REEF and marine conservation by patronizing our Field Stations.

REEF welcomes:

- Aquatic Obsessions – St. Petersburg, FL
- Bamfield Dive Shop – Port Alberni, British Columbia
- Bubbles Below – Woodinville, WA
- Cocoa Beach Scuba Odyssey – Cocoa Beach, FL
- Deep Blue Utila – Utila, Bay Islands, Honduras
- Flamingo Divers – Provo, Turks and Caicos
- Ocean Frontiers LTD – Grand Cayman, Cayman Islands
- Peter Hughes Diving – Miami Lakes, FL
- Pirates Point Resort – Little Cayman, Cayman Islands
- Wild Side Specialty Tours – Waianae, HI

### USA and Canada Field Stations

#### California

Oceanside - Under Water Schools of America 7607227826 www.usascuba.com

#### Florida

Cocoa Beach - Cocoa Beach Scuba Odyssey	3215379751	www.cbscubaodyssey.com
Gainesville - Water World	3523772822	www.h2oworld.com
Key Largo - Kelly's on the Bay/Aqua-Nut's	3054511622	www.aqua-nuts.com
Key Largo - Amy Slate's Amoray Dive Center	3054513595	www.amoray.com
Key Largo - Divers Direct Outlet	3054518034	www.diversoutlet.com
Key Largo - Horizon Divers	3054533535	www.horizondivers.com
Key Largo - It's A Dive	3054539881	www.itsadive.com
Key Largo - Dive Inn	3058521919	www.diveinkeys.com
Key West - Florida Keys Community College	3052969081	www.fkcc.cc
Lighthouse Point - Oceanwatch Foundat'n	9544671366	www.oceanwatch.org
Marathon - FKNMS	3057432437	www.fknms.nos.noaa.gov
Miami Lakes - Peter Hughes Diving		www.diveeasy.com
Orlando - Northwest Divers	4076589464	www.nwdivers.com
St Pete - Aquatic Obsessions	7273443483	www.aquaticobsessions.com
Tampa - Depth Perception Dive Center	8136893483	www.depthperception.com
Tavernier - Conch Republic Divers, Inc.	3058521655	www.conchrepublic.com
Winter Garden - Florida Scuba Connection	4076541177	www.floridascubaconnection.com

#### Georgia

Lawrenceville - Dive.Dive..Dive... 6784072442 www.diveatlanta.com

#### Hawaii

Honolulu - Island Divers Hawaii	8089476583	www.islanddivershawaii.com
Kailua - Kona - Jacks Diving Locker	8083297585	www.jacksdivinglocker.com
Kihei - Ao'ao O Na Loko I'a O Maui	8089759059	www.mauifishponds.info
Waianae - Wild Side Specialty Tours	8083067273	http://sailhawaii.com

#### Gulf Coast States (LA, AL, FL)

New Orleans - REEF Field Station of NGOM www.reefngom.org

#### Maryland

Baltimore - National Aquarium in Baltimore 4435730165 www.aqua.org

#### Michigan

Ann Arbor - Huron Scuba Adventures, Inc. 7349943483 www.huronscuba.com

#### New Jersey

Belle Mead - The Scuba Connection 9083591250 www.tsccuba.com

#### New York

Rome - Delta Divers 3153372300 www.deltadivers.com

#### Texas

Houston - SCUBA Houston	8007817821	www.scubahouston.com
Houston - Texas Gulf Coast Council	2816511277	www.tghcdiveclubs.org
Humble - W.W. Diving	2815401616	info@wwdive.com

#### Washington

Woodinville - Bubbles Below 4254872822 www.bubblesbelow.com

#### Canada

Port Alberni, BC - Bamfield Dive Shop	2507233483	www.dive-shed.com
Sointula, BC - Living Oceans Society	2509736580	www.livingoceans.org
Mississauga, ON - ReefNet Inc.	9056089373	www.reefnet.ca

### Overseas Field Stations

#### Aruba

Paradera - Windies Watersports www.windieswatersport.com

#### Bahamas

Cat Island - Dive CAT Island/Hawk's Nest	2423427050	www.hawks-nest.com
Nassau - Custom Aquatics	2423621492	www.divecustomaquatics.com

#### Belize

Belize City - Seasports Belize www.seasportsbelize.com

#### Bermuda

Flatts - Bermuda Aquarium, Museum & Zoo 4412932727 www.bamz.org

#### Cayman Islands

Little Cayman - Pirates Point Resort	345948-1010	www.piratespointresort.com
Little Cayman - Southern Cross Club	3459481099	www.southerncrossclub.com
Grand Cayman - Ocean Frontiers LTD	3459477600	www.oceanfrontiers.com
Grand Cayman - Wall to Wall Diving	3459456608	www.walltowalldiving.com

#### Dominica

Roseau - Scots Head Soufriere Marine Rsv. 7674480140 www.avirtualdominica/ssmr

#### Honduras

Utila - Deep Blue Utila	5044253211	www.deepblueutila.com
Utila - Laguna Beach Resort	3378930013	www.utila.com

#### Mexico

Akumal - Akumal Dive Adventures	5059923333	www.akumaladventures.com
Cancun - Oceanus/Lascar sa de cv	9988920501	www.oceanus.com.mx
Cozumel - Aqua Safari	5298720101	www.aquasafari.com
Cozumel - "El Gran Azul" Education Subarina	529878723223	www.isla-cozumel.net
Puerto Aventura - Dive Aventuras	5299373512	www.diveaventuras.com

#### Bonaire

Kralendyk - Bonaire Dive and Adventure	5997172229	
Kralendyk - Photo Tours Bonaire	5997173460	www.bonphototours.com

#### Curacao

Curacao Sea Aquarium 5994616666 www.curacao-sea-aquarium.com

#### Puerto Rico

Guaynabo - SCUBA DOGS	7877836377	www.scubadogs.net
Rincon - Oceans Unlimited	7878237436	www.oceans-unlimited.com

#### St.Vincent

St. Vincent - Dive St. Vincent 7844574928 www.divestvincent.com

#### Turks and Caicos

Provo - Flamingo Divers 6499464193 www.flamingodivers.com

#### Virgin Islands

St. Thomas - Peter Isl.-Paradise Watersports 2844949941 www.bviwatersports.com

# 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.

### 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 course only), 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)

**For more details, or  
to place an order, visit  
REEF's online store at  
[www.reef.org](http://www.reef.org) or call  
REEF HQ at 305-852-0030.**

## Survey Numbers

### TWA Top 25 Surveyors

Laddie Akins (944)  
Leslie Whaylen (781)  
Judie Clee (779)  
Linda Schillinger (766)  
Linda Baker (747)  
Peter Leahy (734)  
Sheryl Shea (627)  
Joe Thomas (548)  
Deena Wells (542)  
Cathy Coughlin (537)  
Jean Kirkpatrick (522)  
Christy Semmens (451)  
Jessica Armacost (449)  
Monty Doyle (371)  
Patricia Ayers (350)  
Bruce Purdy (350)  
Kris Wilk (348)  
Robert Doyle (341)  
Elaine Morden (332)  
Joyce Schulke (328)  
Ken Deaver (327)  
Edwin Steiner (320)  
Brice Semmens (319)  
Emily Schmitt-Lavin (316)  
Darlene Gehringer (310)

### PAC Top 25 Surveyors

Rachid Feretti (206)  
Janna Nichols (192)  
Tom Dakin (156)  
John Wolfe (143)  
Kawika Chetron (137)  
Kirby Johnson (131)  
Mike Delaney (127)  
Alan Dower (121)  
Wes Nicholson (117)  
Matthew Dowell (116)  
John Williams (115)  
Claude Nichols (113)  
Georgia Arrow (97)  
Bryan Nichols (72)  
Alex Khain (67)  
Olga Khainova (67)  
Christy Semmens (59)  
Jack Mackay (58)  
Dana Haggarty (58)  
Brice Semmens (56)  
Paul Weakliem (53)  
Doug Biffard (52)  
Mark Dixon (51)  
Pamela Wade (51)  
Kim DeCrane (47)

### TEP Top Surveyors

Richard Baker (321)  
Kandie Vactor (151)  
Beth Bruton (87)  
Walter Briney (51)  
Paul Humann (49)  
Sandra Percell (47)  
Alvaro Segura (38)  
Neil Ericsson (37)  
Karen Florini (36)  
Karen Garcia (36)  
Jeff Holmes (33)  
Warren Hinks III (32)  
Janet Earnshaw (29)  
Clive R. Wood (25)

### HAW Top Surveyors

Michele Vaughn (82)  
James Vaughn (82)  
Robin Newbold (78)  
Lynn Hodgson (73)  
Liz Foote (72)  
Fred Litt (70)  
Chatten Hayes (54)  
Janet Eyre (50)  
Nanette Harter (48)  
Douglas Harder (43)  
Dave Grenda (36)  
Kayla Serotte (36)  
Patricia Richardson (34)  
Christy Semmens (34)  
Donna Brown (29)  
Sandra Percell (28)  
Neil Rhoads (27)  
Kathy Aguilar (26)  
Wayne Batzer (25)

To view the full list, go to <http://www.reef.org/webres/notes/summer04.htm>.

## 2003 VOLUNTEERS OF THE YEAR:

### Janna Nichols and Wes Nicholson

This year we awarded the REEF Volunteer of the Year Award to two individuals who have dedicated themselves to creating a REEF community in the Pacific Northwest. Janna Nichols and Wes Nicholson, both longtime REEF members and active surveyors (both are members of the Pacific Advanced Assessment Team and Wes is also a member of the tropical western Atlantic AAT), created the REEF Pacific Northwest Critter Watchers group in 2002 as a way to bring together area REEF members and to inspire other divers to join in the fun of critter watching. They organize Quarterly Survey Dives, encourage REEF surveying at a core set of 4 sites throughout the year, teach seminars during GAFC and year round, make REEF presentations to area dive clubs, and maintain a listserv and a website - <http://www.pnwscuba.com/critterwatchers>. With limited time and resources, REEF relies on volunteers to organize and support regional REEF activities and the Critter Watchers is a great example. Janna and Wes were presented their award at the summer Critter Watchers Quarterly dive. The REEF staff and Board of Trustees extend a big thanks to them and to the many other volunteers who help REEF achieve success.



**2003 REEF Volunteers of the Year,  
Janna Nichols and Wes Nicholson,  
with the youngest Critter Watcher,  
Gracie Semmens.**

## CONTRIBUTIONS

We greatly appreciate the generosity of our core group of REEF contributors. (Based on donations received July 1, 2003 - June 22, 2004)

### Platinum Sustainers (\$1,000 +)

Timothy Aldrich  
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Rosemary Duke  
Neil Ericsson and Karen Florini  
Chatten Hayes  
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Jose Kirchner  
Ann Kugel  
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Ed and Doris Steiner  
John and Bonnie Strand  
Anne Walton  
Clive and Stella Wood  
Stuart Wunsch

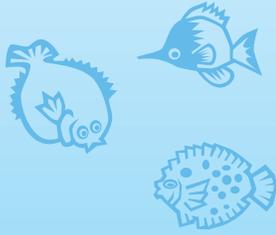
### Gold Sustainers (\$500+)

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Steve Gittings  
George Houlditch  
Fred and Susan Ingham  
Tom and Susan Isgar  
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David Preston and Carol Lorenz  
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Stephen J. Vinitsky  
Stuart Wunsch

### Silver Sustainer (\$250+)

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Elizabeth Weintraub  
William Westman  
Tom and Lavonne Wicks  
Robert P. Zimmerman



Our valuable BRONZE SUSTAINERS are listed on <http://www.reef.org/webres/notes/summer04.htm>.

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

### Thanks to:

- Audrey and Ken Smith for their continuing volunteer help in REEF's office and yard.
- Dr. Michael Coyne for his continuing assistance with REEF's database programs.
- All those who donated in memory of Marjorie Burkett and James R. Weber.
- Ken Marks for all of the great photos we have used for the newsletter backgrounds.

## REEF Giving...

### Philanthropy points:

- If you know any organization or corporation (employer, doctor, grocery store, etc.) who may have an interest in supporting REEF or collaborating with REEF in some way, please feel free to contact Lad in the Key Largo office, 305-852-0030.
- You can always give to REEF at: <https://www.reef.org/contribform.htm>
- When planning your contributions, always ask your employer if they offer a matching gift program.

For a full list of Donor's Rights, go to <http://www.projectconcern.org/donorrts.html>

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