

winter 2000

reef notes



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Protecting Marine Life Through Education, Service and Research

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What's Happening Now?

REEF Joins Forces with Florida's Department of Environmental Protection

Since 1980, Florida's Department of Environmental Protection has funded an innovative artificial reef program using manmade materials to attract and replenish fish stocks throughout Florida's coastal waters. DEP, Florida's principal environmental agency, contracts with coastal counties to conduct ongoing monitoring studies on the artificial reefs. Despite its success, the methods used to assess fish populations have been inconsistent and comparing information from around the state can prove difficult.

Following discussions with state officials, REEF saw an immediate way to meet the program's needs proposing to standardize fish data collection for county artificial reef research teams. REEF requested funds to conduct a pilot project and, last spring, was given a chance to work with the Palm Beach County Reef Research Team, one of the state's most effective teams.



Data from species like this Black Grouper help determine effectiveness of artificial reefs.

In May, Deena Feeley and Denise Mizell set off to Palm Beach to conduct REEF's first training and monitoring event in partnership with the DEP. Nineteen volunteers took part in the project including several ardent REEF volunteers and DEP scientist and REEF Advisory Board member Bill Horn. Over a glorious weekend, four dives were conducted at different artificial reefs including Sugar Sands Ledges, Habitat Corridors South, Pep Reef, and the breathtaking Princess Anne.

Results yielded over one hundred species, including a few never before recorded in the area. Following the success of the project, REEF was awarded a contract to complete four regional training events in 2000. REEF's methods and materials will give the state quick access to collected data allowing scientists to compare fish populations at artificial reef sites statewide.

[Note: In July, 1999, DEP's Division of Marine Resources was transferred to the newly formed Florida Fish and Wildlife Conservation Commission.]



**This issue of REEFNotes sponsored by
Cayman Islands Department of Tourism**

Director's Corner



Dear Fish Friends!

First, before I get started with all of the good news and new goings on, I would like to give a huge thank you to Audrey Smith, Hillary Harder, Tom Isgar, Kitty Philips and the other REEF volunteers that keep us going. Not only do volunteers collect data during fish surveys, but they are also helping with office work, grant writing, advanced assessment teams, newsletters, and almost every aspect of REEF projects. We are all grateful for the time and energy they donate to our organization and I know you will agree with me when I say "Thank you" from our 16,000 plus members. What are the new projects and happenings at REEF? Well, first we have changes and additions to the staff. Long time REEF Staff Deena Wells Feeley accepted a position with the Florida Department of Environmental Protection in June. Deena was an integral part of REEF's early years and her dedication and contribution are part of REEF's success today. She will be missed but we wish her luck at the DEP. Deena will continue to work with REEF managing volunteers and as a member of the REEF Advisory Board. With all of the contract assessment and the river of data pouring in, Leslie Whaylen has come on board from Texas to coordinate the field operations and data management. Welcome, Leslie and thank you!

Lately, programs have been coming together very nicely. The expansion to the Gulf of California in partnership with the Sonoran Sea Aquarium is moving full steam ahead. We have also been in detailed talks with the Baltimore Aquarium and University of Rhode Island about expansion to the Northeast. This would allow REEF members the ability to collect data anywhere around the coastal US. Let's not overlook Canada, which deserves special mention. The Living Oceans Society in British Columbia has been moving mountains in our Living REEF Project partnership. We expect over 1,000 surveys from BC this year! Additional partnerships with the Biscayne Bay Foundation, NOAA's Biogeographic team, and the REEF Field Station of NW FL are also doing great things. I'll let you read all about them!

The thread that binds us all is the desire to protect and preserve our marine environment. Through our work in marine protected areas, we see time and again that effective marine management works. REEF Scientific Coordinator Dr. Christy Semmens is using REEF data to document just how effective management can be. However, you are the real key to change. Read the articles about marine sanctuaries in this newsletter. If you feel strongly about managing our marine resources then take just a minute to voice your opinion. A few motivated individuals can move mountains for us all.

See you in the water soon!

A handwritten signature in black ink, appearing to read 'L Akins', written in a cursive style.

Laddie Akins
Executive Director



First Annual Sustainer's Social Sponsored by Cayman Islands a Big Hit



Last March, Paul Humann's Fort Lauderdale home played host to REEF's first annual Sustainers Briefing and Social. From as far away as California, Montana, Texas, and New York, over fifty REEF supporters joined staff for an exciting daylong get together and celebration. The Social brought the Board of Trustees, Advisory Board, Sustainers Club and long-time partners together for the first time, giving staff an opportunity to share program successes and future plans.

Executive Director, Laddie Akins, explained the event as a time for friends and supporters to swap REEF experiences, ideas for its future direction and, of course, fish stories! In between afternoon meetings, REEF President and founder, Paul Humann, treated invitees to guided walks through his award-winning gardens occupying over two acres and containing an impressive collection of more than two hundred palms.

Sponsored by the Cayman Islands Department of Tourism, evening festivities included a cocktail party, a dinner catered by Jacksonville-based Happy Chefs, presentations, and give-away dive prizes donated by Seaquest. The evening wound down with Humann entertaining guests with a wonderful show of his photography from around the world, and the presentation of REEF's Volunteer of the Year Award to Linda Schillinger. "I came down from New York to show my support and spend time with friends," commented Schillinger. "I'm thrilled to be honored with this award," she added.

As the party carried on into the night, Humann commented on the success of the day's events, "With this kind of energy and enthusiasm, the future will see REEF charting new ground in marine conservation."

Plans for a millennium celebration are already underway with more activities and a dive event scheduled for the following day. For more information about becoming a REEF Platinum Sustainer and joining this year's event, contact REEF HQ at (305) 451-0312.



Ned DeLoach, Peter Sheils, Laddie Akins



Angel Braestrup, Steve Gittings, Ed Steiner



Emily Schmitt, Ed Steiner, Angel Braestrup, Paul Humann, Christy Semmens



Denise Mizell, Deena Feeley



Ned DeLoach, Ken Deaver, David Preston, Carol Lorenz, Linda Schillinger



Steve Gittings, Ned DeLoach

REEF Collaborates on a Research Expedition to the Cayman Islands

REEF staff and Advanced Assessment Team members Christy Semmens, Brice Semmens, and Leslie Whaylen, were recently part of a research effort to assess the reefs of Little Cayman and Grand Cayman. Organized by the Marine Environmental Research Institute, the expedition was part of the Atlantic and Gulf Reef Rapid Assessment program, an international effort by scientists and managers aimed at determining the regional condition of coral reefs. During three weeks in June, thirty-four sites on the Islands were surveyed. The Cayman Islands were chosen for the expedition because of the interesting comparisons that can be made between the relatively undeveloped Little Cayman and the reefs around the more populous and developed Grand Cayman. Both islands have designated marine conservation zones. Data from this project will provide scientists and the Cayman Islands Department of Environment a valuable look at the status of Cayman's regional resources. A final report will summarize expedition results along with REEF's other surveying activities in Cayman and will be provided to DOE and the AGRRA organizers. We hope this collaboration with MERI is the first of many research expeditions and educational projects.



Special thanks goes to the Cayman Islands Department of Tourism and Cayman Airways for their support of REEF's 1999 Cayman Field Survey and our participation in the Cayman Islands AGRRA Expedition.



photo of expedition team, left to right- Carrie Manfrino Kievman, Jerome Hall, Casey Hermoyian, Belal Hansrod, Christy Semmens, Bernhard Rigel, Marilyn Brandt, Brice Semmens, Rob Graifman, Peter Hillebrand

(not pictured: Leslie Whaylen and Kaho Hoshino)

REEF Field Station of Northwest Florida Off to a Fast-Swimming Start

Danielle Dowdy, a University of West Florida marine biology student, heads the REEF Field Station of Northwest Florida. Since March of last year, the Field Station has achieved a number of notable accomplishments. It has held a series of REEF fish ID classes, offered in locations ranging from the UWF campus to the Aquarium of the Americas in New Orleans. For its first annual Great American Fish Count in July, Danielle worked out sponsorships with local dive shops, who generously offered specials on rentals, free airfills, and even discounted dive charters to GAFC participants during the event. Two ID classes were followed by a day of diving. These education efforts have added 50 new members to REEF's ranks, members who are now providing valuable data from a multitude of new sites.

For all its wealth of natural and artificial reefs, northwestern Florida sorely lacks information on the species living there. These REEF surveys are the very first ever done at the many sites off Pensacola. Agencies ranging from Escambia County to the Department of the Interior's Minerals Management Service are increasingly excited by the prospect of such data becoming available, and have embraced the program wholeheartedly.

The Field Station continues to conduct surveys and classes, and will soon begin regular monthly meetings to share information and experiences.

Danielle is working to add participation in the Field Station to UWF's Field Study program, which would establish it as a one semester credit course at the university. Future goals include censusing some of the many petroleum platforms off the Louisiana coast, a vast and rich environment which has never been surveyed, as well as to constantly expand their Florida efforts.



If you will be in the area and would like to participate, contact the REEF Field Station of Northwest Florida at: PO. Box 36498 Pensacola, FL 32516
Phone (850) 456-9793
Email: REEFNWFL@aol.com
Website: <http://hometown.aol.com/reefnwfl>

Research Happenings

- NOAA's NOS Biogeography Team is currently overlaying REEF data onto their benthic habitat maps of the Florida Keys to determine regional patterns in reef fish assemblage composition within the Florida Keys National Marine Sanctuary.
- AGRRA- REEF staff and advanced assessment team members are continuing with AGRRA assessments, including those in the Cayman Islands (see related story), the Flower Garden Banks National Marine Sanctuary, and St. Croix.
- SSE - REEF's Executive Director, Laddie Akins, has piloted several sub dives in Gray's Reef National Marine Sanctuary, the Florida Keys NMS, and the Flower Garden Banks NMS (see full story).
- Bonaire Marine Park Volunteers - With weekly seminars and dives, Sand Dollar Resort's Jerry Ligon has been training a group of twenty-five BMP volunteers to become expert fish watchers. These divers will help the BMP do continual monitoring to add to our annual field surveys and other individual member survey efforts. Way to go Jerry! REEF data from the BMP were also recently summarized in a paper, The Fish Assemblages of Bonaire Marine Park- An Analysis of REEF Fish Survey Data, presented by Christy Semmens at the Gulf and Caribbean Fisheries Institute Meeting.
- Santa Monica Baykeepers - This year, the Los Angeles based group will be incorporating REEF surveys into their regular kelp forest monitoring of the Bay. We are excited to be a part of the protection efforts of this landmark area in southern California.
- Bahamas National Trust - Last summer, Laddie trained several BNT staff to conduct fish surveys on a continual basis. This will provide valuable information to the Trust, and assist in their conservation efforts.
- Florida Department of Environmental Protection Artificial Reef Program - REEF will be training several Florida county artificial reef research teams to conduct REEF surveys as part of their monitoring efforts (see full story).
- Biscayne Bay Foundation - REEF has partnered with the Biscayne Bay Foundation to conduct quarterly training sessions and monitoring of key sites in Biscayne National Park. Denise Mizell conducted the first training session and dives in July.



Laddie Akins gets ready to pilot the Deepworker 2000

Sustainable Seas " Onward and Downward!"

After much planning, preparation, and training, the Sustainable Seas Expedition had a great first year! Headed by Dr. Sylvia Earle and funded by the Goldman Family Fund, this partnership program between National Geographic and NOAA explores the deeper regions of the nation's National Marine Sanctuaries by submarine. REEF is intimately involved in many facets of this thrilling exploration.

While Dr. Earle conducted assessments at each sanctuary, the most exciting part of REEF's involvement was Laddie Akins' submarine mission time. After extensive training in submarine operations, he completed three missions made up of eight dives to assess fish populations off the coasts of Georgia, Florida, and Texas. The first mission - at Gray's Reef National Marine Sanctuary yielded considerable important information. Completing three dives, a shallow water (70') dive, night dive, and a deepwater (200') dive, Laddie collected data on fish species composition that will help characterize the different hard bottom sites. The shallow water dive revealed the Slippery Dick wrasse, Round Scad, and Black Sea Bass as the dominant species. Attracted to the sub's camera lights, the night dive provided an opportunity to document and film an aggregation of feeding Black Sea Bass. The deep dive, however, proved to be the most exciting of the mission. As abundant Amberjack and Almaco Jacks circled the sub for the entire three-hour dive, Scamp as well as tropical angelfish, butterflyfish, and even Queen Triggerfish mingled around the rocky outcroppings. The highlight of the dive was an exhilarating meeting with three odd-looking Ocean Sunfish, Mola Mola, swimming by the sub in formation. This large fish, which can grow to ten feet, resembles a swimming head flanked by long dorsal and anal fins. Highlights from other SSE REEF dives will follow in upcoming newsletters. For more information, and to read mission logs visit www.sustainable-seas.noaa.gov



What are Marine Reserves?

"Today, marine sanctuaries are places in the sea, as elusive as a sea breeze, as tangible as a singing whale. They are beautiful, or priceless, or rare bargains, or long-term assets, or fun, or all of these and more."

-Dr. Sylvia Earle, marine scientist

Marine reserves are a geographically defined space in the marine environment where special restrictions are applied to protect some aspect of the marine ecosystem including plants, animals, and natural habitats. They may also be used to protect historical or cultural features of an area, such as the Monitor National Marine Sanctuary. Marine reserves can have several benefits for the local and regional ecosystem.

Reserves can enhance fisheries by protecting life stages of species that are vulnerable to the direct and indirect effects of fishing including by-catch mortality and habitat damage. Protected areas will enhance the number and size of fish species leading to increased egg production which could replenish areas outside of the reserve. This is known as "spillover." By protecting a portion of a fish stock, overfishing becomes more difficult while the rebuilding of overfished stocks can be accelerated. Strategically placed marine reserves can also provide protection of fish that aggregate to spawn such as groupers.

Marine reserves also play an important role in maintaining a natural level of biodiversity, an important factor in overall ecosystem health and performance. In addition to increased number of species, a more natural trophic structure can be maintained because of increases in top predators (those usually harvested). Eliminating habitat damage from fishing gear such as trawls can significantly increase the healthy function of an area. This is an increasingly important issue because of the new amendments to the Sustainable Fisheries Act that recognize fishery habitats and prey species as crucial elements for effectively managing our nation's fisheries. Therefore, management is shifting from a single species approach to an ecosystem-based approach, one that takes into account a target species, its required habitat, and the plants or prey animals it feeds on.

What You Can Do ?

In 1972, in response to a growing awareness of the intrinsic environmental and cultural value of our coastal waters, Congress passed the Marine Protection, Research, and Sanctuaries Act. The Act authorizes the Secretary of Commerce to designate discrete areas as national marine sanctuaries to promote management of their special resources. To date the Nation has designated twelve national marine sanctuaries. They include near-shore coral reefs and open-ocean, and range in size from one to over 5,300 square miles. These protected waters provide a secure habitat for a fascinating array of plants and animals, are cherished recreational spots and support valuable commercial industries.

REEF has, for many years, enjoyed a cooperative partnership with NMSP. Annually, REEF field projects are conducted within sanctuary sites and managers use the data collected to make crucial management decisions. In order to keep this cooperative effort funded in the year 2000 and beyond, members of Congress with jurisdiction over the Sanctuary Program need to hear our voices lending support for increased funding.

As pressure increases on our coastal resources, marine reserves are becoming an important management tool. As REEF members, you have shown commitment to the preservation of the marine environment. The REEF staff and Board of Directors urge you to support effective marine management. Get involved! Write to your representatives and to the appropriations committee encouraging them to support increased funding for the existing National Marine Sanctuaries, and to provide avenues for more protected areas. Letters of support should include your interest (diver, fisherman, conservationist, etc.), affiliation (REEF member), name and address, and a request for a response.

For contact information on your house and senate representatives, visit www.senate.gov or www.house.gov. For more information on the NMSP check out their web site at www.sanctuaries.nos.noaa.gov.




2000 Field Survey Schedule

Each six-day Field Survey is hosted by highly regarded local resorts and dive operators and typically runs from Sunday through Friday. As a survey volunteer you will gather data at locations especially important to marine wildlife management and conservation officials. You will make a minimum of two survey dives each day and often additional dives are offered. Between survey dives you will enjoy colorful and interactive fish identification presentations by REEF personnel. You'll learn the most successful surveying strategies, participate in informative discussions, and get plenty of exciting fish behavior tips. You will be amazed at how much more enjoyable diving will be with your expanded knowledge of marine wildlife.

Take a dive vacation that counts !

JOIN REEF FOR A WEEK-LONG FIELD SURVEY AT A FAVORITE DIVE DESTINATION.

Walkers Cay - Walkers Cay	April 16-22
Tobago - Blue Water	May 27-June 03
Los Roques - Antares Dancer	June 03-10
Dominica- Castaways Beach Hotel	June 24-July 01
Little Cayman - Southern Cross	July 01-07
Grand Turk - MV WindDancer	August 12 - 19
Flower Gardens - Spree	August 20-25
St John - Westin Resort	September 02-09
Bonaire - Sand Dollar	November 04-11
Cozumel - Aqua Safari	December 02-09



To learn more about REEF Field Surveys contact REEF at 305-451-0312 or email: reefldw@aol.com

Special Projects for REEF's Advanced Assessment Team Members

Culebra Marine Reserve, Puerto Rico - TBA

Florida Keys National Marine Sanctuary - Zone Monitoring

Upper Keys- Lady Cyana, Island Ventures, Paradise Divers - September 30 - October 07

Lower Keys and Dry Tortugas - Shearwater - October 07-14

REEF's Advanced Assessment Team (AAT) is made up of its most experienced fish watchers. To join the team, you need to complete at least 35 surveys and pass the Advanced Identification Test.

Contact Leslie Whaylen for more information.



Bonaire Field Survey, June 1999.
left to right- Richard Hitt, Renee Meyer, Linda Schillinger, John Bridges, Brenda Hitt, Cathy Coughlin, Cheri Arnold, Ken Deaver, Christy Semmens, Pat Bridges, Jerry Ligon, Julia Gee, Doug Harder, Jesse Meyer, Douglass Rankin, Will Ruggles and Brice Semmens



Join the Great American Fish Count
July 1 -14 at a location near you!

National Wildlife Federation and PADI Project AWARE Join in Expansion

As expansion of the REEF Fish Survey Project moves south, the project continues to build new and exciting partnerships. Teaming up with Tucson's Sonoran Sea Aquarium, REEF is developing a fish survey program encompassing the Gulf of California and Galapagos Islands. Francis Gilbert, director of development and programs at the aquarium, is gathering input and support from the Mexican government and regional environmental organizations. REEF member Atziri Ibanez of the National Wildlife Federation, has also been very instrumental in generating partnership support for the expansion. Both NWF, through their climate change program, and PADI Project Aware Foundation have committed financial support in the development of this expansion. An exploratory expedition took place in early October to help identify key species, survey locations, and to conduct initial fish surveys. Joining the expedition was Advisory Board member Chris Ostrom, special projects director for NOAA's National Marine Sanctuary Program. Considerable interest exists within NOAA to establish partnerships with other marine sanctuary programs outside the US. REEF will be playing a vital role in the evolution of these partnerships. Following the October expedition, materials are being developed for unveiling at the Spring 2000 Desert Dolphins dive symposium in Tucson, March 24-26. Look for more information in future editions of REEFNotes or contact Francis Gilbert at 520-888-9400.

Pacific Northwest Living REEF Program Takes Fish Surveying to the Next Level

The partnership between REEF and Canada's Living Oceans Society has been instrumental in evolving the Living REEF Program for fish surveying in British Columbia and the Pacific Northwest. LOS, a Vancouver non-profit, has devoted two staff members to conduct ongoing training seminars and organize group dives throughout British Columbia. Susan Francis and Dana Haggerty, training coordinators for LOS, have already conducted seven seminars for more than one hundred and thirty divers. As surveys pour in, and with numerous census dives organized for the group, more than one thousand surveys are expected from the Pacific Northwest before the end of this dive season. Additional groups in Washington and Oregon have also been working hard to conduct seminars and survey dives in this region. Kirby Johnson has been working with a focused group in Seattle to monitor the Edmonds Underwater Park on a regular basis, while Dana Africa is coordinating a hearty group diving the Port Orford area of the Oregon coast. For more information contact Jennifer Lash at LOS at jenlash@island.net, Kirby Johnson in Seattle at kirbjill@gte.net or Dana Africa at Afridiver@aol.com.



...Invertebrates Welcome!!

Following on the heels of such interest, the Pacific Northwest will play host to the first REEF/LOS invertebrate monitoring program. While seeing over a hundred fish species on a single dive is standard for many Caribbean divers, the waters of the Pacific Northwest are heavily populated by an incredible diversity of invertebrates. Modeling an invertebrate survey protocol after the highly successful fish survey methodology, Dana Haggerty of the LOS spearheaded development of a pilot program to be tested this winter. Incorporating a list of forty-four indicator species, developed in close coordination with Dr. Andy Lamb and other scientists working in the Pacific, surveys will record presence/absence in close association with other fish survey parameters. An invertebrate identification curriculum is also being developed. Following the pilot project, a revised Pacific Northwest survey form, including both regional fish and invertebrates, is anticipated. Review of the program may also serve as a model for other regions in the REEF network.

Divers Outlet Gears Up For Fish ID



Divers Outlet, a long-time supporter of REEF's programs and conservation goals, recently announced plans to devote a section of their Key Largo store to reef fish identification. The newly designed customer service area will house numerous identification references, survey materials, books, and CDs for visitors. Divers wishing to pick up or drop off fish survey forms can do so seven days a week from 9:00am - 8:00pm. In addition, eight staff instructors have now gone through special training to conduct the PADI Project AWARE Fish Identification specialty course. The two-hour seminars will be available any day of the week.

For more information or to schedule a seminar, contact Divers Outlet at 305-451-0815.

Fenn Valley Supports REEF



If your next glass of Pinot Noir is tagged with the new Fenn Valley Reef series label, it just may be the best wine you have ever sipped. In an effort to raise awareness and increase support for the preservation of the marine environment, vineyard president Doug Welsch is gracing his vintage wines with underwater images and contributing a portion of their sales to REEF. The family-owned vineyard, located on Lake Michigan's Eastern Shore, has been producing award-winning blends of fine wine since 1973. During his dive travels, Welsch has personally witnessed the degradation of some reefs and regeneration of others. As a keen underwater photographer, he has seen that the sky is not always falling and that proactive data collection, education, and management can have positive effects on the marine environment. To that end, and because of its fact-based hands-on approach to marine conservation, Welsch chose REEF as the recipient of his philanthropy. For more information or to purchase the Reef series wines, contact Fenn Valley Vineyards at (616) 561-2396, email at winery@fennvalley.co or visit www.fennvalley.com

REEF Interns Gain Valuable Experience

Since our beginning, interns have played a valuable role at REEF. Some have gone on to enjoy successful careers in education and marine conservation. REEF's first interns, Emily Schmitt-Lavin, Brice Semmens, and Christy Semmens, have completed or are currently working on doctorates in marine science. Kirsten Bassion followed her spell at REEF by winning the respected Our World Underwater Scholarship.

Realizing the valuable contributions they are making in marine science, REEF recently decided to formalize the educational experience. Working closely with The Nature Conservancy's Volunteer Exchange program, REEF established the Marine Conservation Internship Program. This multi-faceted program sets the stage for two interns each semester to gain valuable experience collecting data and conducting outreach programs at REEF HQ. Interns conduct educational talks, take part in field activities with school and dive groups, and gain exposure to the in-office workings at REEF HQ. Two days each week are set aside to further the intern's experience offering opportunities to work with other non-profits and a mandatory dive day at Islamorada's Lady Cyana Divers to sharpen fish identification skills and survey techniques.

Courtney Heaps, a Penn State undergraduate, was the first recipient of REEF's Marine Conservation Internship. This past summer, Courtney took over the management of incoming survey data, gave presentations, and dived with visiting school and dive groups. Along with all of her hard work, Courtney managed to make more than two dozen dives during her ten weeks in Key Largo. Through her time with REEF, she has found a new passion in fishwatching and is looking forward to working with groups at the Baltimore Aquarium and throughout the northeast as the REEF program expands along the East Coast. For more information on the Marine Conservation Internship visit The Nature Conservancy's volunteer website at http://www.fknms.nos.noaa.gov/volunteer_opportunities/welcome.html.



Conservation Intern, Courtney Heaps



Thank you...

The following members and corporations have generously donated \$100 or more between January & November 1999. Space does not allow the listing of all gifts to REEF but each contribution made plays a crucial role in the continuance and expansion of our work. Thank you all for your support.

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NANCY SEFTON
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MINDY COOPER- SMITH
WILLIAM STROUGH
ANNE WALTON

GOLD SUSTAINERS

PATRICIA AYERS
NANCY BETTS
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EDWIN STEINER
JOHN STRAND

Wish list and special thanks for wishes granted

A very special thanks to Tom Isgar for his recent donations of a Xerox copier, fax and other office equipment to REEF HQ. Much road warrior thanks to Carol Lorenz and David Preston for supplying REEF with laptop computers. Thanks to Matt Lynn for donation of camera equipment. A sincere thank you to the following who have generously contributed to the Elizabeth Meyle Memorial. Elizabeth was an avid diver and marine conservation enthusiast. Her memory will be well served through your contributions.

Many thanks to Pat Ayers, Bob Bishop, Jeanne New, JoAnn Nucifora, Robyn Osborn, and Dennis Schneider for their help in editing this edition of REEFnotes. Special thanks to those volunteers persevering with the collection of GPS coordinates.

Wishes - slide projector, light table, nautical charts.

Welcome Leslie!

Leslie Whaylen is REEF's newest employee. In early August, she moved the 1400 miles from Galveston, Texas to REEF's office in Key Largo. Leslie graduated from Texas A&M University at Galveston and received a B.S. in marine biology. For more than five years, she was employed by Texas Natural Resource Conservation Commission as an aquatic scientist. Her job responsibilities were water quality monitoring with specialties in fish and benthos (worms, molluscs, crabs) identification. In 1994, Leslie became a REEF member while working as a volunteer diver for Christy Semmen's PhD research at the Flower Garden Banks National Marine Sanctuary (FGNMS). Since then she has also volunteered with the Advanced Assessment Team in the Florida Keys, presented GAFC seminars in Texas, participated in the 1998 Bonaire REEF Field Survey, served as an AGRRA research diver in Little Cayman, and led the 1999 Teachers' Cruise to FGNMS and the 1999 Grand Cayman REEF Field Survey. Among her roles at REEF, she will coordinate the Field Operations and manage all incoming survey data. Next time you call be sure to say "Howdy!" to Leslie!



Reef rankings

REEF Volunteers top the 20,000 survey mark

	Florida/Caribbean	Pacific
SURVEYS RETURNED:	19,677	657
SITES SURVEYED :	1,527	138
# SPECIES SEEN :	500	160

The following members have completed at least 30 surveys to make the REEF Rankings:

Over 300 Surveys

LADDIE AKINS	588
DEENA FEELEY	439
JOE THOMAS	420
LJOE THOMAS	420
LINDA SCHILLINGER	408
EMILY SCHMITT-LAVIN	300

OVER 200 SURVEYS

JOHN PITCAIRN	293
JEAN KIRKPATRICK	270
CLIVE PETROVIC	234
CATHY COUGHLIN	209

OVER 100 SURVEYS

CHRISTY PATTENGILL	196
ANN KNOLLENBERG	190
MONTY DOYLE	180
EDWIN STEINER	177
KEN MARKS	157
ELAINE MORDEN	156
KEN DEAVER	153
JULIE OVERING	149
BRICE SEMMENS	149
SHERYL SHEA	149
LESLIE WHAYLEN	137
JERRY LIGON	122
BRUCE PURDY	117
CAROL LORENZ	108
DAVID PRESTON	106
CINDY SNELL	105
PAMELA BEZUIDEHOUT	102

OVER 50 SURVEYS

CAROL REICHERT	98
WILL RUGGLES	97
DOUGLASS RANKIN	96
BARBARA MODAFARI	93
DOUG ROREX	93
PATRICIA AYERS	92
RANDY KEIL	89
BOB BISHOP	86

BETSY SAUNDERS	86
SHELLEY TYRE	85
RACHID FERETTI	81
KIRSTEN BASSION	80
PAMELA CEFARATTI	80
JIM MODAFARI	79
JEAN GASEN	76
TOM ISGAR	73
KATHLEEN SCOTT	73
JOYCE SCHULKE	68
DARLENE GEHRINGER	67
TONY SEBASTIAN	66
DAVE DOWNS	64
JAMES BROOKE	63
JIM MORABITO	62
MONICA VEGA	62
CONNIE BISHOP	60
ROBERT ANTONELLI	59
MARJORIE NELSON	59
RICHARD HITT	58
DITTE PREKER	57
BRENDA HITT	56
ANTHONY KAJFEZ	56
GREG BUNCH	54
CURRIER RANDALL	54
DAVID MULVEY	53
EDGAR TOMEI	53
CONNIE DOLAN	52
NOREEN DOWNS	52
PAUL HUMANN	52
CHUCK JIRKA	52
JANET EARNSHAW	51
JONATHON TROMM	51
CHERI ARNOLD	50
KAREN GARCIA	50
DENISE MIZELL	50
GAIL TOMEI	50

OVER 30 SURVEYS

ROBERT WINTERS	49
JONATHAN EDWARDS	48
DONELLA WILSON	47
TODD AIKINS	46
ROBYN OSBORN	46

GLEN THIEL	46
DON BUCK	44
CRISTI KORBECK	44
WALTER BRINEY	43
ANNA DELOACH	43
DR. STEPHEN GITTINGS	43
CHRIS KOEPFER	43
PETER RENNEMANN	43
JOSEPH FROELICH	42
PETER LEAHY	42
SARAH TAMBLYN	41
DOUGLAS HARDER	40
HILARY HARDER	40
SARA THOMAS	40
TRACY SIANI	39
SHAWN EDWARDS	38
MIKE CHAMBERS	37
DONNA GERRARD	37
JOHN KELLY	37
DENNY LUTZ	37
JANE ROREX	37
ROBERT DRAPER	36
ED GERRARD	36
RICK HALPERN	36
MARGARET COWIN	34
LYNN HUBERT	34
CLINT WHITAKER	34
EDDIE GERRARD	32
MELISSA KEYES	32
ERIC RIESCH	32
KATHIE COMERFORD	31
CHARLES (BOB) HERSEY	31
EMMA HICKERSON	31
ROBERT SCHAUER	31
MARK SPRINGER	31
ARNOLD WALKER	31
WADE BEVIER	30
STEVE GANON	30
CORINNE HALBERG	30
KATIA PRONZATI	30
JOSEPH THOMAS	30

REEF Field Stations

The dive centers, resorts, boat operators and instructors listed below have demonstrated their support for REEF by becoming corporate sponsors and volunteering as REEF Field Stations. Each serves as a distribution point for survey forms and actively recruits new members. Most offer fish identification courses, organize survey dives and sell related fishwatching materials.

USA Field Stations

FLORIDA

Islamorada	Lady Cyana Divers	(800) 221-8717
Key Largo	Divers Outlet	(305) 451-8034
Marathon	Florida Keys National Marine Sanctuary	(305) 743-2437
Miami	Dalliance	(954) 684-8678
	Biscayne Bay Foundation	(305) 447-4566
Miami Springs	Blackbeard's Cruises	(800) 327-9600
Orlando	Orlando Reef Divers	(407) 365-2410
Pensacola	Reef Field Station of Northwest Florida	(850) 456-9793
Tallahassee	Organization for Artificial Reefs	(904) 656-2114
Tampa	Depth Perception Dive Center	(813) 689-3483
Winter Park	Great American Dive Center	(407) 673-4777

NEW YORK

Buffalo	Dip n' Dive	(716) 837-3483
Croton-on-Hudson	Metro Scuba Inc.	(800) 436-3483

RHODE ISLAND

Jamestown	Ocean State Scuba	(800) 933-3483
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TEXAS

Colleyville	Aqua World	(817) 788-8956
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Caribbean Field Stations

BAHAMAS

Nassau	Custom Aquatics	(242) 362-1492
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BELIZE

Placencia	Rum Point Divers	011-501-6-23239
	Second Nature Divers	011-501-5-37038

BRITISH VIRGIN ISLANDS

Tortola	Blue Water Divers	(284) 494-2847
Virgin Gorda	Dive BVI	(800) 848-7078

HONDURAS

Roatan	M/V Isla Mia	(800) 874-7636
Utila	Utila Lodge Resort	011-504-425-3143

TURKS & CAICOS

Providenciales	Provo Turtle Divers	(649) 946-4232
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U.S. VIRGIN ISLANDS

St. Croix	St Croix Ultimate Bluewater Adventure	(340) 773-5994
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Visit the REEF website at www.reef.org for direct links to REEF Field Stations.

Los Roques, Venezuela Yields 203 species in 1 week!

The first REEF expedition to Venezuela was a resounding success immediately followed by a second week of the same. Each week, sixteen divers joined in gathering some of the first fish survey data ever collected in the vast Los Roques archipelago. Established as one of the first marine protected areas in the Caribbean, Los Roques is made up of three hundred small islands nearly a hundred miles from the Venezuelan northern coast. Week one saw an advanced REEF group set out to explore the islands on board Peter Hughes' liveaboard Antares Dancer. Large schools of Comb Grouper and Cubera Snapper started off the week and the fish never let up. By week's end a record two hundred and three species had been sighted. The following week another REEF group stood up to the challenge by recording one hundred and ninety-eight species of their own. Such unique species as Spotfin Gobies and Palometas made the trip especially memorable. Probably the most obvious characteristic of the Los Roques reefs is the abundance of fish and large healthy coral colonies. Brown Chromis were like clouds over the big star corals and everything was unusually large. Following the second week of surveying, Peter Hughes joined REEF's Paul Humann, Laddie Akins and Tom Isgar, along with Rodale's Keith Phillips, on a side trip to the islands of Los Testigos, Los Frailles and Cubagua. A number of previously undocumented species were photographed and surveyed during the trip. A Field Survey trip to Los Roques is in the plans for the early summer of next year.



Week 1

Paul Humann, Rick Halpern, Emily Schmitt-Lavin, Linda Schillinger, Cathy Coughlin, David Preston, Carol Lorenz, Patricia Pachuta, Kathleen Gunderson, William Sheppard, Peter Harley, Paul Blecha



Week 2

Paul Humann, Laddie Akins, Tom Isgar, Sean Phelan, Melissa Keyes, Margaret Cowin, Ron Tenney, Elaine Wachtel, Micheal Phelan, Marilyn Tenney, Keith Phillips

REEF Gear

REEF SHIRTS: Back of each 100% cotton T-shirt displays the REEF logo underscored by the "We Speak Fish" banner. Sizes: M, L, XL \$15. Teal collared golf shirts with embroidered logo now available. Sizes L, XL, XXL \$35



REEF DELUXE SURVEY KIT: Contains everything you need to conduct and record fish surveys: three ring logbook, REEF underwater slate, waterproof fish I.D. card, 12 waterproof log sheets, and 24 REEF data sheets. \$30. Refill contains 12 waterproof log sheets and 24 data sheets. \$8.50



REEF CAP: REEF logo embroidered on black baseball cap. One size fits all. \$15

REEF EMBOSSED LICENSE PLATE: High quality aluminum embossed custom license plate displaying REEF logo. \$10



REEF/TNC Survey Manual:
"Surveying Coral Reef Fishes: A Manual for Data Collection, Processing and interpretation of Fish Survey Information for the Tropical Northwest Atlantic" \$12

Reef Fish Identification CD-ROM: The ultimate fish identification tool with over 1600 images, fish quizzes, fish finder, virtual dives and more. \$40

Coral and Creature Identification CD-ROM: Learn about more than 500 critters, corals and plants, includes more than 2300 images. \$40



"In-A-Pocket" Guides: New waterproof identification guides for the Caribbean with over 100 color photos, fit right into your BCD pocket. "Fish-in-a-Pocket" and "Creature-in-a-Pocket" available. \$10

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