reef notes



Reef Environmental Education Foundation

Protecting Marine Life Through Education, Service and Research

What's Happening Now

The Nature Conservancy Honors REEF

The Florida Chapter of The Nature Conservancy recently presented REEF with a Grass Roots Leadership Award. The honor singles out an individual or organization that has been a pioneer in volunteerism and the development of broad based support for conservation projects. John Pitcairn, REEF's Director of Administration was in Winter

Park, Florida to receive the award, "It feels wonderful to be recognized by The Nature Conservancy for our work" said Pitcairn. "The success of this program is



Saving the Last Great Places

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John Pitcairn Administrative Director Tampa, Florida

Deena Wells Feeley Director of Operations Key Largo, Florida

due to the commitment and dedication of our volunteers. This award belongs to each and everyone of them". In 1992, TNC began a successful partnership with REEF, assisting in data base development, volunteer recruitment and the generation of scientific and public reports using REEF data.



TNC's Mary Enstrom & Mark Robertson with REEF staff

Members Raise Money For REEF

This year, several individuals have used their fundraising skills to generate money for REEF and deserve recognition. World renowned marine wildlife artist, Guy Harvey, recently made a personal appearance at T-shirt City in the Florida Keys. This event, organized by store owners John and Wendy Cioffi, raised \$250 for REEF. Because of

Harvey's keen interest in the environment, proceeds from the sale of his merchandise at T-shirt City was put aside for a local conservation group. Long time REEF members John and Wendy Cioffi were excited to be involved in the first local fund-raiser to benefit REEF. "All our staff are REEF members. We are glad to show our support for this organization", said Cioffi. Harvey is a self-taught artist and native of Jamaica and holds a doctorate in fisheries management from 'T-shirt City's John & Wendy Ciotti the University of the West Indies. His inspiration



with Guy Harvey

comes from his love of the sea. "I feel a tremendous need to educate the public about the wonders of the ocean so that all will have a significant appreciation for marine life" said Harvey. He expressed admiration for the work of REEF founder Paul Humann. "I carry his marine life guides everywhere". Harvey is keen to see REEF

expand their Fish Survey Project to the Pacific. "Where", he says, "there are plenty

more fish to count".

At the 1998 DEMA show held in Los Angeles, Kar DeGeiso presented REEF with a check for \$75. That doesn't sound like much, but its actually a lot of dough. A biologist and dive instructor, Kar bakes bread as a hobby! She makes enough to sell to her colleagues at DuPont and donates her profits to a non-profit marine organization. This baking session, REEF was the lucky recipient. Thank you to Kar and all the cookie eating workers at DuPont.



Kar DeGeiso presents Paul Humann with fundraising proceeds



Director's Corner

New opportunities. That's what REEF's motto has been for the last six months. Even though there has been a lot of background and behind the scenes work over the last three years, the flowers of our labors are all coming to bloom! Of special excitement, the long hours of John Pitcairn's work are debuting this next month in the form of the new PADI Project AWARE/REEF Fish Identification Specialty. I know we've been talking about this for quite a while, but it finally hits the shelf this fall. The specialty is designed to be about 2 hours and will be a great introduction to both Project AWARE, fish id and surveying.

Depending on the area you'll be diving, there will be separate modules for the Caribbean, Southern California, Northern California, and the Pacific Northwest. Contact your local PADI dive center or PADI headquarters for more info.

Yes, you did hear me right. Pacific Northwest. As in Oregon, Washington and British Columbia. REEF has joined forces with the Olympic Coast National Marine Sanctuary, BC Wild and the San Juan County Bottomfish Recovery Project, to implement a pilot program for fish surveying in the Pacific NW. There is great enthusiasm from the groups involved and a great need for data on the fish assemblages in that area. All we needed was a survey program in place. Now it is!

The Great American Fish Count is blazing ahead. With Christy Pattengill taking the lead role as National Coordinator, the event is running very well. We enjoyed greatly increased participation this year and hope that all of you will take the opportunity to join in a free seminar and do a few surveys as part of next year's event. If you've been waiting to get started with your fish surveying, this is the perfect time to do it. Cool T-shirts too!

Plenty of festivities around the Caribbean took place this fall. Oceanfest '98 provided a great dive atmosphere right on the beach in Lauderdale-by-the-Sea. Music, trade show, free seminars and lots of shore and boat dives to keep you busy. The Bacardi Adventure series teamd up with REEF in Cozumel for the chance to learn about fish, corals, invertebrates, behavior, rebreathers, scooters and to see the mass coral spawning. It was a week of diving and learning and some of the first surveys from the Cozumel reefs. The Bonaire Dive Festival sponsored by the Coral Reef Alliance will again feature great talks and the chance to do some fish surveys as well as u/w cleanups and coral studies. A less demanding schedule is planned for this year and it should turn out to be one of the year's best. Don't forget to visit us at the trade shows in Atlanta, Chicago& Houston. There are always great seminars and its good to see and meet the members of REEF.

Finally, keep up the great survey work! Your support in the financial realm is helping us to expand to new geographic areas and produce more detailed reports, but its the surveys you send in that allow it all to happen. There are now over 14,000 surveys in the database and you've all been great! If you haven't had a chance to do a survey yet, stop in to your dive shop and ask about the new PADI AWARE/REEF specialty, the GAFC, or come join us on a Field Survey. Its the most fun you'll have in the water and you'll be SOOO glad you finally got started!

See you with the Fish!,

Laddie Akins

Volunteers: We Need YOU!!

Calling all volunteers, REEF needs your help! Not content with having thousands of your surveys flooding into our mail box, we are looking for enthusiastic volunteers to help with some different aspects of the REEF program. Just to give you an idea, we are looking for help with the writing and editing of REEFnotes; data input and management; fundraising and grant writing; presentations and teaching classes; trade show support throughout the country and special projects such as the Great American Fish Count. If you have special skills and would like to donate some of your time to a worthy cause contact Deena at (305) 451-0312 or reef052@aol.com.

Great American Fish Count - "Great in '98"

Results from the July 1-14, 1998 Great American Fish Count (GAFC) were a great success. GAFC partners, REEF, American Oceans Campaign and NOAA'S National Marine Sanctuary Program followed up on their 1997 success with an expanded 1998 program. Over 30 free seminars were conducted in Washington, California,

Texas and Florida as part of the 1998 event. Participation was more than double from last year's event. "GAFC is a great way to start fishwatching." says GAFC coordinator, Christy Pattengill. "GAFC offers divers and snorkelers the opportunity to receive free training in fish identification for their local area as well as a chance to join other marine life enthusiasts on a survey dive". Information gathered during GAFC provides valuable information on fish species diversity, distribution and abundance and raises awareness about the state of local fisheries. It is also a great way to learn how to conduct fish surveys for the ongoing REEF Fish Survey Project. Training sessions are free of charge and take place throughout Washington, California, Texas and Florida and now Georgia too, in June and the first two weeks of July. For more information about next year's GAFC or to register for a training session cal (800) 1-8ocean-0, e-mail gafc@yahoo.com or visit the web site at www.fishcount.org.



For any communications contact REEF at: P.O. Box 246, Key Largo, Florida 33037 305-451-0312 • www.reef.org • e-mail: reef003@aol.com

REEF Intern Wins Prized Scholarship

June, 1997, witnessed the arrival of a second annual intern courtesy of the Our World Underwater Scholarship Society. Kirsten Bassion was set for a five month backpacking trip around Europe when she found out there was a summer of diving and fish counting awaiting her in Key Largo, Florida. A Studio Art Major, Kirsten arrived with only a few dives under her belt, but unmatched enthusiasm for exploring the underwater world. Her introduction to REEF was the responsibility of a newsletter mailing - not



much fun - but Kirtsen soon began a routine of regular survey dives and learning about marine life. Self described as an environmentalist and "adventurer at heart", Kirsten filled REEF HQ with her colors and energy during her internship. She helped organize and teach classes for the 1997 Great American Fish Count; watched the coral spawn (even caught it on film); assisted on REEF Field Surveys in the Florida Keys and the Flower Garden Banks; took part in underwater clean-ups and even decorated the REEF office using her incredible artistic skills! By September she had over 80 dives, a life list of 224 fish species and a desire to further her experiences with the marine environment. Kirsten charted new ground when she re-applied for the full Our World Underwater Scholarship and WON!! She will spend 1998 on the-road actively participating in field studies, underwater research, scientific expeditions and other specialized assignments including a trip to the Arctic! REEF wholly enjoyed having Kirsten as part of the REEF team. She is an inspiration and her willingness and determination affects everyone she meets. We wish her the best of luck and know she will excel in every thing she does.

For more information on the OWU Scholarship Society write to P.O. Box 4428, Chicago IL 60680 or visit their web site at www.owu.ycg.org



Thank You!

The following members and corporations have generously donated \$30 or more between December 1997 and October 1998. 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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MEMORIALS

A Lasting Gift
Our special thanks to Marge Burkett for including REEF in her estate plans. If you have already, or would like to, include REEF in your will or other estate plans please contact REEF's John Pitcairn for further information at (813) 991-5903. Such gifts make a lasting legacy of your commitment to ocean conservation.

WISHES GRANTED

We gratefully acknowledge the following for their donations of equipment and merchandise to REEF headquarters:

Joseph Froelich (slide projector) Ken Marks (office equipment) Stephen Frink (merchandise)

GIFTS IN KIND

We are thankful for the help of Barbara Doernbach in the layout and design of REEF productions; Ken Marks for the design and maintenance of the REEF web site; Edwin Steiner for the design and production of REEF waterproof paper; Denise Mizell for her help in maintaining the REEF membership data base and also many thanks to Laurie Wilson for her help with REEF press releases.

SPECIAL CONTRIBUTIONS

First Bank of Florida recently donated \$190 to REEF on behalf of nineteen new customers. Each time a customer opens a new account, First Bank of Florida donates \$10 to the conservation organization of their choice. For more information about this program contact First Bank of Florida at (561) 655-8511.

WISH LIST

- •Slide Projector and Screen
- •TV/VCR
- •File Cabinets
- •Laser Printer
- Laptop Computer

We regret any mistakes or omissions and hope you will bring them to our attention.

Reef Rankings

REEF Volunteers top the 10,000 survey mark

SURVEYS RETURNED: 14,030 (Florida, Caribbean) SITES SURVEYED: 1449 (Florida, Caribbean) BOTTOM TIME: 12, 114 hours (Florida, Caribbean) # SPECIES SEEN: 490 (Florida, Caribbean)

435 (Pacific) 108 (Pacific) 314 hours (Pacific) 144 (Pacific)

The following members have completed at least 20 surveys to make the REEF Rankings:

Over 100 Surveys

LADDIE AKINS-503
DEENA FEELEY-383
LINDA SCHILLINGER-286
JOE THOMAS-285
JOHN PITCAIRN-268
EMILY SCHMITT-LAVIN-247
CLIVE PETROVIC-234
JEAN KIRKPATRICK-203
ANN KNOLLENBERG-190
JULIE OVERING-149
CATHY COUGHLIN-147
SHERYL SHEA-136
ELAINE MORDEN-130
CINDY HELM-105

50-99 Surveys

MONTY DOYLE-99 CAROL REICHERT-98 KEN MARKS-97 **EDWIN STEINER-96** KEN DEAVER-91 BARBARA MODAFARI-84 SHELLEY TYRE-81 PAMELA CEFARATTI-80 JIM MODAFARI-79 KIRSTEN BASSION-78 JEAN GASEN-68 LESLIE WHAYLEN-68 JERRY LIGON -67 **DOUG ROREX-66** TONY SEBASTIAN-65 RACHID FERETTI-64 ** BETSY SAUNDERS-63 **BOB BISHOP-63** MONICA VEGA-62 KATHLEEN SCOTT-61 BRUCE PURDY-60 MARJORIE NELSON-56 CAROL LORENZ-56 ANTHONY KAJFEZ-56

DAVID PRESTON-55
JIM MORABITO-54
RANDY KEIL-54
GREG BUNCH-53
DAVID MULVEY-53
CONNIE DOLAN-52
CHUCK JIRKA-52
CHUCK JIRKA-52
CHRISTY PATTENGILL-52
ROBERT ANTONELLI-51
BRICE SEMMENS -51
JONATHON TROMM-51
PATRICIA AYERS-50

20-49 Surveys

ROBERT WINTERS-49 DAVE DOWNS-49 PAMELA BEZUIDEHOUT-49 **EDGAR TOMEI-49 GAIL TOMEI-48** KAREN GARCIA-46 TOM ISGAR-46 GLEN THIEL-46 **CURRIER RANDALL-46** CRISTI KORBECK-44 RICHARD HITT-43 PETER RENNEMANN-43 BRENDA HITT-41 JONATHAN EDWARDS-41 ANNA DELOACH-41 NOREEN DOWNS-40 JAMES BROOKE-40 DARLENE GEHRINGER-39 SHAWN EDWARDS-38 JANET EARNSHAW-38 **DENNY LUTZ-37** WALTER BRINEY-37 **DONNA GERRARD-37** JOHN KELLY-37 JOYCE SCHULKE-36

LYNN HUBERT-34 SARA THOMAS-34 ERIC RIESCH-32 **EDDIE GERRARD-32 TODD AIKINS-31 ROBERT SCHAUER-31** JANE ROREX-30 **ROBYN OSBORN-30** WADE BEVIER-30 **EMMA HICKERSON-30** JOSEPH THOMAS-30 **GARY LENNING-29** MARK BAILEY-29 SARAH TAMBLYN-29 ** MARK SPRINGER-28 **BOB BONANNO-28 ROXANNE CHAVANNE-27** KATHY BONANNO-27 **CHRISTY SIMMS-27** PETE WYMAN-26 CLAUDIA CAMPOS-26 **REBEKAH MOORE-26** VAN DUNCAN-26 WOODY BROOKS-26 LANA SMITHSON -26 **CORINNE HALBERG-26** JESSICA LOREK-25 JOSEPH FROELICH-25 ARNOLD WALKER-25 **DON PECK-24 KEVIN FAGER-24 CLINT WHITAKER-24** MARTHA KELLOGG-24 JOHN CASSON-24 **DARREN BRODE-23 BILL SILLIMAN-23 ROBERT GRIST-23** H.C. YOUNG-22 KITTY PHILIPS-22

CHERI ARNOLD-36

ED GERRARD-36

RICK HALPERN-22
CELESTE PRESPERIN-22
ANN OUTLAW -22
CATHY SPRINGER-21
MARIA EDWARDS-21
HILARY HARDER-21
DR GITTINGS -21
FRANK ELIA-20
BEVERLY MORABITO-20
DARCY STOTTLEMYER-20
ROBERT DRAPER-20

** Pacific Surveys

1998 Activities

Every year at REEF is a busy year, but we thought you'd be interested to see just how busy your organization has been in '98. We've taken a "do something" approach in our planning and projects and it shows!

FIELD SURVEY VOLUNTEERS



Bonaire

Charles Turner, Nitin Shenoy, Robert Schauer, Andy Luk, Barbara Kirchner, Jose Kirchner, Laddie Akins, Ken Deaver, Michael Hellum, WJ Penniston, Sylvia Benett, Robert Draper, Eddie Gerrard, Bryan Gerrard, Donna Gerrard, Ed Gerrard, Leslie Whaylen, Cathy Coughlin, Cindy Helm, Tom Isgar, Donna Hellum, Danny Jones, Linda Jones (not shown: Deena Feeley, Rick Halpern, Ed Steiner, Clint Whitaker, Theresa Turner, Jerry Ligon, Ditte Preker)



Grand Cayman

Will Ruggles, Douglas Rankin, Robyn Osborn, Steve Ganon, Cheri Arnold, Linda Shillinger, Laddie Akins



Flower Garden / Stetson Banks

Candy Thomas, Robert Draper, Todd Aikins, Donella Wilson, Leroy Walker, Christy Semmens, Brice Semmens, Leslie Whaylen, Laddie Akins, Rachid Ferreti

FEATURED FIELD SURVEY by Laddie Akins

Flower Garden and Stetson Banks National Marine Sanctuary

Mantas, Whale Sharks, Hammerheads, Massive schools of Jacks, African Pompano, Golden Trunkfish, Wrasse Bass and Tusk Gobies. Have I gotten your attention yet? All of this and much, much more are common to the Gulf of Mexico sites protected as part of the Flower Garden Banks and Stetson Bank. And we gather every August!

The FGBNMS REEF Field Survey has become one of the highlights of my year. Every August, since 1995, REEF members have congregated in Freeport, Texas to board the M/V Spree for a one week trip to one of the most spectacular and unique reef systems in North America.

The Flower Gardens lie about 100 miles south of the Texas/Louisiana border in the warm, clear waters of the Gulf of Mexico. Temperatures are in the mid 80's and visibility is seldom less than 100 feet! And what marine life and coral coverage! You would never expect to see so much in the middle of nowhere, but its there. The coral reef system has grown over many thousands of years on geologic salt dome uprisings from the ocean floor. The reefs have some of the highest percent coral cover in the Caribbean (I say Caribbean, because that's what it's like). Huge Star, Brain, and plate corals dominate the bottom with as much as 50% live coral coverage. And the fish life is staggering as well. Not as species rich as some Caribbean sites, it has what much of the Caribbean doesn't - a combination of the big and the little. Mantas are commonplace (1out of every 10 surveys), Whale sharks not uncommon, large pelagic Jacks in incredible numbers midwater and then lots of colorful Angels, Butterflys, Damsels, Groupers and other tropicals covering the bottom. Most dives, I don't know where to look first. We even found and photographed the first record of a Greenbanded Wrasse last trip!

If diving the Flower Gardens aren't enough, we normally get a dive or two on a nearby oil rig, and then move to another incredible site called Stetson Bank. Added to the protection of the Flower Gardens just last year, Stetson is not a coral reef, but rather a shale rock uprising with coral growth on it. And even more fish! Many species found at Stetson are completely different than those at the FGB. Schools of juvenile African Pompano have been found on most of our trips here as well as Wrasse Bass, Deepwater Squirrelfish, Unicorn Filefish and more. Though the vis can be less, Stetson is many team members favorite dive. Diving off the M/V Spree is a joy. The boat is set up specifically for divers, and the food is always good and plentiful. Accommodations on the boat are what I call "group style". Don't take that wrong! Below decks are four bunk curtained off rooms with each bunk having its own privacy curtain. I've never heard a complaint about the arrangements and the camaraderie and team atmosphere makes it much more fun than private staterooms. Especially when its time to say "Goodnight, John Boy...". August is the prime month to dive the Banks and normally very calm and clear, but divers wanting to join the Field Survey or



Turks & Caicos

Kathleen Gunderson, Philip Steiner, Cathy Coughlin, David Preston, Cindy Helm, Ed Steiner, Deena Feeley visit the Flower Gardens should have experience diving offshore. I would recommend 20 dives or more and an advanced certification. The depths are 60-80 feet and being in the middle of the Gulf you never know exactly what the conditions are going to be like. Sometimes current, sometimes none, sometimes seas and sometimes flatter than the coffee in your mug. But if you are ready to get in awe-inspiring diving, join us in August, you'll never think of Texas the same again!

1999 FIELD SURVEY SCHEDULE



May 1 - 8	Dominican Republic Punta Cana Beach Resort Package rate = \$753.00 per diver / double occupancy
May 22 - 29	Los Roques National Park with Paul Humann M/V Antares III
June 12 - 19	Bonaire, Netherland Antilles Sand Dollar Condominiums, Package rate = \$814.00 per diver / double occupancy (1 bedroom unit)
July 17 - 24	Grand Cayman, BWI Sunset House Resort, Package rate = \$969.00 per diver / double occupancy
August 15 -21	Texas Flower Gardens M/V SPREE, Package rate = \$600.00 per passenger
Sept. 4 - 11	Florida Keys (upper) by invitation
Sept. 11 - 18	Florida Keys (lower) by invitation
Oct. 9 - 16 -	St. Croix, USVI Ultimate Bluewater Adventures Package rate = \$718.00 per person / double occupancy
Nov. 6 -13	Saba M/V Caribbean Explorer, Package rate = \$1195.00 per passenger
Dec 4 - 11	Cozumel Allegro Diamond Resort/Dive Palancar

Special Projects

August 6 - 11 Catalina Island (4 days)

Prices listed are for accommodations and diving only and do not include the \$200.00 REEF Program Fee.

Call for details and airfares from your gateway city!

Full cost of this trip may be tax-deductible.

Tours

We have partnered with WaterHouse Photo Tours to arrange and handle all of the 1999 REEF Projects.

For more information and reservations call 1-800-272-9122

Spotted Dolphins in the Bahamas -June 18-25, 1999

Join REEF on a special marine mammal expedition to the Bahama Bank to swim with the Spotted Dolphins. Free, wild pods of Spotted Dolphins have become accustomed to humans and interactions occur on a regular and prolonged basis off West End, Bahamas. We'll have time to dive the local reefs in the morning and look for the dolphins each afternoon. Learn about their unique intelligence, behavior and physiology during seminars with award winning marine mammal expert Laura Urian, Executive Director of the Dolphin Project. Price includes a week of liveaboard diving, accommodations, meals and seminars. \$1,595.00/person

REEF is pleased to announce the eagerly anticipated release of PADI's newest specialty course, the Project AWARE Fish Identification Specialty.

REEF worked with PADI over the past year to create this introductory course so as to greatly increase access to basic fish identification and surveying skills for interested divers and snorkelers. PADI will offer the course through its network of more than 3,500 dive centers and resorts and more than 85,000 dive professionals worldwide.

The course goals are to (1) familiarize students with the role that Project AWARE plays in preserving the aquatic environment, (2) introduce students to the most common families and species of fishes that they are likely to encounter in tropical and temperate ocean waters and (3) to provide students with the basic knowledge and skills to participate in the REEF Fish Survey Project.

As you know, the Fish Survey Project enlists volunteer divers and snorkelers to gather reliable marine fish biodiversity data on a continuing basis in the coastal waters of the Tropical Western Atlantic (Florida, Gulf of Mexico, Caribbean and Bahamas) and California. In 1999, the Project will expand to include survey data from the Pacific Northwest (Oregon, Washington and British Columbia) and the South Atlantic (Northern Florida through the Carolinas).

The basic Project AWARE Fish Identification Specialty instructor outline is now available from PADI. Instructors will then contact REEF to purchase the appropriate geographic fish module (including fish identification outline and slides) for the region to be covered, student kits (including underwater fish i.d. card, survey slate, decal, etc.) and other fish identification training materials. Regional fish modules are now available for the Tropical Western Atlantic, the South Atlantic, Southern California, Northern California and the Pacific Northwest.

So, sign up for the Project AWARE Fish Identification Specialty at your local PADI dive center and take a course that really counts!

The Dance of the Lizardfish by Deena Feeley

If you've ever spent much time diving at dusk you may have witnessed the normally motionless Sand Diver (*Synodus intermedius*) at it's most active. These voracious predators tend to spend much of their day lounging on the reef or resting buried in the sand with head protruding awaiting unsuspecting prey to come into view. Their camouflage and stillness can leave them almost invisible against the right backdrop. But at dusk the entertainment



a restina Sand Diver



Sand Diver, Synodus intermedius

begins. You can usually find some love birds out in the sandy areas just off the reef. There is no visible difference between the sexes but it is likely that the smaller individual is the male. The male will vigorously chase his lady, swimming around to lay in front with gills flared. Feigning a lack of interest, the female will swim off in another direction hotly pursued by the eager male. After about fifteen minutes of chase, the female finally gives in, rising up into the water column with the male positioned on her back. At the right moment a cloud of gametes is released and the fish fall to the sand only to repeat the sequence moments later.

The Sand Diver is a member of the Lizardfish family, Synodontidae, meaning 'teeth together'. The Latin name describes a mouth full of teeth that are present even on the tongue and allow the Lizardfish to grasp and swallow its prey. The Lizardfish family are identified by their large upturned mouths, pointed snouts and long cylindrical bodies. They rest motionless on long ventral fins and forked tail with the body pointed slightly up into the water column. The pectoral fins are not well developed making the torpedo-like body ready for firing. When dinner arrives, the lizardfish lunges upward into the water looping around backward to its take-off position, hopefully with a tasty morsel entrapped. So how can you tell a Sand Diver from it's counterparts? There are at least five known species of Lizardfish in the Caribbean, including the Sand Diver, Bluestriped, Inshore, Red Lizardfish and

Snakefish. The Sand Diver is by far the most common and has been reported from all regions of the Caribbean. It is most often confused with the Bluestriped Lizardfish which is less prevalent and most commonly seen in the northwest Caribbean according to REEF data. The two are distinguished by the color of their body stripes. Those of the Bluestriped Lizardfish are, as the name would suggest, blue (or turquoise) whereas those of the Sand Diver are gold (you can think of 'golden sand'). The Sand Diver also has a dark spot on the top of its gill cover which is very obvious when it reaches it's maximum size of over a foot! The Red Lizardfish is less common and quite different. Four or five darker bars run across its' back and a tiny black triangle decorates the tip of the snout. As for the rest of the family. according to information in the REEF data base the Inshore Lizardfish has seldom been seen and there are no reports of the Snakefish. So, fish friends, start hunting for those reptilian look-a-likes soon!

Fall festivities

The second annual Bonaire Dive Festival is shaping up to be better than ever. Last year the event brought divers from around the world to hear talks from marine experts such as Dr Sylvia Earle, and Dr Robert Ginsburg, while diving Bonaire's awesome reefs. Deena Feeley was there for REEF conducting fish seminars all week long and joining in the underwater cleanups and coral studies. This year will be even more fun. Deena will again be hosting fish talks and diving with participants to conduct surveys on the local dive sites. The festival takes place November 7-14. Contact Caradonna Tours for more information at 800-328-2288

Ocean Fest '98 took place September 17-20 at Lauderdale -by-the Sea, Florida. This is the second year for Oceanfest and even with downpours of rain the attendance was 6,500. There were 184 booths with six bands playing on the beach throughout the three day festival.

REEF founder, Paul Humann, conducted 2 fish identification seminars with an overflowing attendance of 110 people. Following the second seminar, a fish survey dive was conducted by REEF members. A great variety of fish species were recorded from the near shore reef system, though it was disappointing that no Groupers or Snappers were seen by the group. "This is the second year of surveying the reef at Lauderdale-by-the-Sea, and we have yet to see a grouper", says Deena Feeley, REEF's Director of Operations and survey group leader. "There has been considerable talk of establishing this site as a protected area. The data we are gathering shows the need for it."

Proceeds from the Ocean Fest Silent Auction were donated to REEF and Oceanwatch, a local conservation organization focusing on establishing mooring buoys for Lauderdale area dive sites and protection of the local reefs. For information on next year's Oceanfest celebration contact the Lauderdale-by-the-Sea Chamber of Commerce at (800) 699-6764.

REEF Gear

REEF T-SHIRTS

Proudly show your support of the underwater world every time you wear one of our REEF shirts. The back of each 100% cotton shirt displays the REEF logo underscored by the "We Speak Fish" banner, the front reads "Reef Environmental Education Foundation." Sizes: M, L, XL - \$15.00

REEF DELUXE SURVEY KIT

Be prepared! The 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, 24 underwater I.D. sheets, and 12 REEF Marine Wildlife Survey Scansheets. Printed with the names of 30 of the most common fishes found in Florida. the Bahamas, and the Caribbean Basin, 70 spaces for write in identifications, and complete survey site and dive information, the underwater I.D. sheets are specifically designed to fit over the underwater slate for surveying. Post-dive they fit into the log book to provide a permanent record of each dive. A dream come true for every REEF member. - \$30.00

REEF CAP

Keep the sun out of your eyes between dives with our REEF cap. The red, gold and black REEF logo is embroidered on a black baseball hat with black braid detail. One size fits all. - \$15.00

LICENSE PLATE

Show the world you are not only a diver, but a supporter of REEF with the new REEF logo license plate. All metal with the raised red, white, black and yellow REEF logo.— only \$10.00!

NOW AVAILABLE THROUGH REEF

Numerous identification books, including Fish, Coral, Invertebrate, Plant and Behavior books. Give us a call and let us help you find the reference you are looking for. Prices are at standard retail.

THE NEWEST, HOTTEST ID TOOL AROUND IS THE REEF FISH ID CD-ROM.

Over 1600 images including every species from the Humann Reef Fish Identification book. The CD-ROM also includes virtual dives, four separate quiz programs, fish finder, and more. - \$39.95

FOR THOSE OF YOU WANTING TO TEACH IDENTIFICATION... PROJECT AWARE FISH IDENTIFICATION SPECIALTY

Four brand new modules for the Project AWARE Fish Identification Specialty are now available through REEF. Courses which include over 60 colorful slides and a full teaching curriculum are available for the Tropical Western Atlantic, South Atlantic, Southern California, Northern California and the Pacific Northwest - \$85,00 plus shipping Student packs are ready to accompany your fish identification course. Each pack includes a fish survey slate, underwater fish identification card, waterproof survey paper, REEF decal and BC tag and the newly published "Fish-in-a-pocket"! Call for more details!









	T-shirts @ \$15.00	\$
	Survey Kits @ \$30.00	\$
	Hats @ \$15.00	\$
	License @ \$10.00	\$
	CD-ROM@\$39.95	\$
Florida resident Add \$3.50 shipp	\$	
(plus \$1. each of	\$	
TOTAL		\$
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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.

"Visit the REEF web site at www.reef.org for direct links to REEF Field Station web sites"

USA				INTERNATION	ONAL	
ALABAMA				BAHAMAS		
Montgomery	Breakaway Scuba	334-281-9208		Andros Island Bimini	Small Hope Bay Lodge Scuba Bimini	809 368-2618 954-359-2705
CALIFORNIA San Carlos	Kinichi Au Chau Divers	415 591-9489	•		Custom Aquatics Valker's Cay Undersea Adventure	809-362-1979 809-352-5252
San Ramon COLORADO	Undersea Adventures	510 838-2348		BELIZE Placencia	Rum Point Divers Soulshine Resort	011-501-6-23239
Boulder	Rocky Mountain Dive Center	303 449-8606		BRITISH VIRG		800-890-6082
FLORIDA				Tortola	Baskin-In-The-Sun Blue Water Divers	800-233-7938 284-494-2847
Ft. Lauderdale	Glen E. Thiel, Volunteer Nekton Diving Cruises	800-UW-WORLD		Virgin Gorda CAYMAN ISL	Dive BVI	800-848-7078
Islamorada	Lady Cyana Divers Capt Scuba Charters	800 221-8717		Cayman Brac	Brac Reef Beach Resort	800-327-3835
Jacksonville	Meridian Divers Inc. Mermaid Dive Guides	305-664-DIVE 904 262-1606 904 268-2417		Grand Cayman Little Cayman	Ocean Frontiers Little Cayman Beach Resort	800-544-6576 800-327-3835
Juno Beach	Marinelife Center of Juno Beach Sea-Jís Scuba & Travel			DOMINICAN	Southern Cross Club	345 948-1099
Largo	Tanks-A-Lot Dive Charters	813 585-DIVE 813-531-9101		DOMINICAN		
Marathon - FI Keys N Miami	lational Marine Sanctuary Dalliance	305 743-2437 954-684-8678		Punta Cana HONDURAS	Punta Cana Dive Center	809-221-2262
Miami Springs	Blackbeard Cruises	800 327-9600		Roatan	M.V. Isla Mia	800-874-7636
Winter Park	Great American Dive Center	407-673-4777		Utila	Salty Dog Productions (111-504-45 3363
Tampa Tallahassee	Depth Perception Dive Center Organization for Artificial Reefs			JAMAICA		
	Organization for Affilicial Reefs	904 000-2114		Reading St. Jame Runaway Bay	es Poseidon Divers Superclubs Breezes Golf and B	809-952-3624
ILLINOIS				Runaway bay	Superclubs bleezes Golf and E	876-973-2436
Chicago	John G. Shedd Aquarium	312 939-8069		LEEWARD ISL	ANDS	
LOUISIANA			auto Contracto	St. Eustatius	Golden Rock Dive Center	800-311-6658
Shreveport	Scuba Ventures	313 222-DIVE		NETHERLAND		
MINNESOTA			Aleb Alebach	Bonaire	Sand Dollar Dive & Photo	800 288-4773
Rochester	Minnesota Dive Center	507 288-8802		Curacao	Habitat Curacao 011-	599-9-864-8800
NEW YORK				PUERTO RICC		
Buffalo	Dip n' Dive	716 837-DIVE		Culebra	Reeflink Divers	787 742-0581
	Center of Rochester Inc	716-334-1670		TURKS & CAI	COS	
RHODE ISLAND				Providenciales	Dive Provo	809-946-5029
Jamestown	Ocean State Scuba	800 933-DIVE			Fish Frames	649-946-5719
	Ocedit state scuba	000 933-DIVE		U.S. VIRGIN	Provo Turtle Divers	649-946-4232
TEXAS				St. Croix	V I Divers Ltd.	000 544 5011
Humble	W W Diving Company	713 540-1616		WINDWARD I	ISLANDS	800-544-5911
				St. Lucia	Anse Chastanet Hotel/Scuba	
						758-459-7000
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		vation program! Please put my tax- deductible am to more areas to save the reefs we love.
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Please charge my VISA	M/C Discover	
acct#	exp date	
signature	р	phone #

REEF Manual Now Available

REEF and The Nature Conservancy are pleased to introduce a brand new publication - a manual that describes all aspects of data collection, processing, and interpretation of fish survey information from the REEF Fish Survey Project. This manual is a useful tool for any volunteer and a must for those interested in organizing groups to regularly survey sites and contribute to the reef fish distribution and abundance

database. "Surveying Coral Reef Fishes" assists the informed amateur and professional alike in contributing to the study of marine life especially in the wider Caribbean and tropical Atlantic region. It describes what you need to do to report the species you see when you go snorkeling or diving anywhere in the region. The manual contains contributions from a wide variety of experts in the field of marine research, and represents a remarkable collaboration between two major conservation bodies, the Reef Environmental Education Foundation (REEF) and The Nature Conservacy

Any group or individual that would like to contribute data or access information from the reef fish database should consult this manual. It is available directly from REEF for \$12 (plus \$3.50 shipping and handling),

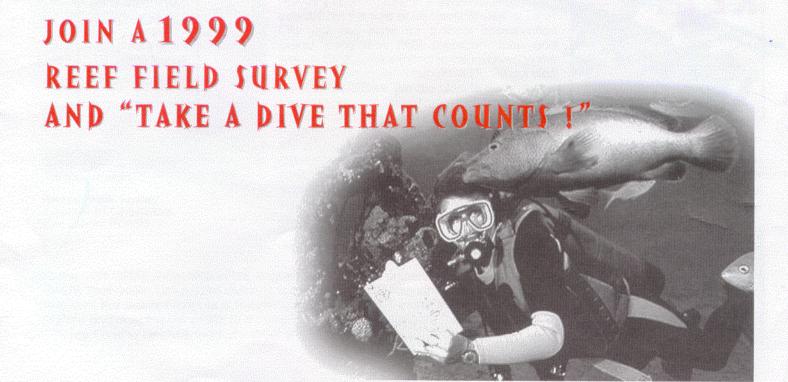


Schmitt, E.F., D. Wells Feeley, and K.M. Sullivan Sealey, 1998.

Surveying Coral Reef Fishes: A Manual for Data Collection, Processing, and Interpretation of Fish Survey Information for the Tropical Northwest Atlantic.

Media Enterprises, Ltd. P.O. Box N-9240 Nassau, Bahamas. 84pp.

Call (305) 451-0312 or order by e-mail at reef052@aol.com.



Reef Environmental Education Foundation Protecting Marine Life Through Education, Service and Research



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