

REEF**notes**

REEF ENVIRONMENTAL EDUCATION FOUNDATION

PROTECTING MARINE LIFE THROUGH EDUCATION, SERVICE AND RESEARCH

Nature Conservancy Signs Memorandum of Agreement

Earlier this year, REEF and The Nature Conservancy (TNC) signed a Memorandum of Agreement forming a strategic alliance to better monitor the coral reefs of Florida, the Caribbean, and the Bahamas. Many of you may be familiar with TNC's work in protecting terrestrial ecosystems through purchasing ecologically significant tracts of land. TNC is a private, non-profit organization established in 1951 to preserve plants, animals and natural communities representing the diversity of life on earth by protecting the lands and waters needed for survival. With more than 828,000 members, the Arlington, VA based organization has been responsible for protecting more than 8 million acres in Latin America, the Caribbean, and the Pacific.

article continues on page two

A Challenge to Our Members

FROM THE MUNSON FOUNDATION
AND THE HENRY FOUNDATION

This past fall, REEF was the grateful recipient of a \$30,000 matching grant from the Curtis and Edith Munson Foundation and a \$30,000 matching grant from the Henry Foundation. Mr. C. Wolcott Henry III, President of both the Munson and Henry Foundations, made the announcement in December, 1995. These funds will provide general support to REEF's monitoring work over 1996 and 1997.

Note, however, that the Munson and Henry awards are *matching* grants, meaning that REEF will only receive the funds as a one-to-one match for funds raised from our members, businesses in the dive industry, and other foundations over 1996 and 1997 (to a maximum of \$30,000 each year). In other words, *You can now double any contribution you make to REEF!* Every dollar you contribute will be matched by another dollar from the Munson or Henry Foundations.

Philanthropist Edith C. Munson established her namesake foundation in 1982 to support the conservation of natural resources in North America and the Caribbean Basin. Marine conservation, particularly fisheries management, and South Florida ecosystems are two of the Munson Foundation's major program areas. The Henry Foundation is a philanthropic arm of the Henry family of Chicago. For the last few years they have been focusing their efforts on supporting coral reef conservation programs and aquariums. All of us at REEF, staff and volunteers alike, are grateful for and inspired by the financial and moral support of the Munson and Henry Foundations. These Foundations are natural partners for REEF and its volunteers in the monitoring of fish diversity and abundance in Florida, the Caribbean, and the Bahamas. ■

Field Survey: Bonaire



BONAIRE INVITATIONAL FIELD SURVEY WITH SAND DOLLAR DIVE AND PHOTO: LADDIE AKINS, ANN AIKINS, JOHN PITCAIRN, DEENA WELLS, EMILLY SCHMITT, NED AND ANNA DELOACH, BOB AND CONNIE BISHOP, KEN AND TAMMY MARKS, GLEN THIEL, JULIE OVERING, SHERYL SHEA, JERRY LIGON.

**Reef
Environmental
Education
Foundation**

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Director's Note

Laddie Atkins

Executive Director of REEF

Welcome to dive season 1996! REEF is rolling into the new year with many new and innovative programs as well as an expanded itinerary for our 1996 Field Surveys. The most exciting news, however, is the relationships we have been forming and support we have been garnering for the Fish Survey Project.

REEF is extremely proud to announce its Memorandum of Agreement with The Nature Conservancy. Both REEF and TNC are committed to protecting and preserving our marine wilderness and we agree that one of the best methods in accomplishing that goal is to educate and involve the diving community, which is us! Administrative Director, John Pitcairn and TNC's Vice President, Brad Northrup were instrumental in bringing our two groups together. We would be in the stone ages without their support.

John has also been heavily involved in raising the funds necessary to keep REEF operating without asking for membership fees. He has done an incredible job that no other nonprofit environmental group has ever accomplished (or even attempted). The Henry and Munson Foundations, supporters of REEF's Caribbean Field Surveys last year, have agreed to continue their support in the form of a matching grant over the next two years. This is a great opportunity for REEF to solidify its financial situation for the near future, but we will need the support of the membership to do it. Look for a letter outlining details in the near future.

Congratulations to all of the reef members who have put so much time and effort into making this organization work. Ann Atkins (no relation) is REEF's first Volunteer of the Year, but there were many, many people who are equally deserving. Certificates of Outstanding Contribution were given out to 25 individuals whose commitment has been invaluable. (See the list inside.) One of those 25 was Emily Schmitt, of the Nature Conservancy and a graduate student at The University of Miami. She recently had a paper accepted by the Bulletin of Marine Science establishing the validity of REEF's methods of data collection in the Florida Keys. Bull. Mar. is a very prestigious scientific publication and we all want to congratulate Emily.

REEF has also just finished its first Invitational Field Survey in Bonaire. A group of fifteen surveyors from all over the U.S. gathered for a "survey only" project for the Bonaire Marine Park in the Netherlands Antilles. The members of this team were experienced surveyors, having participated in many previous surveys. The team surveyed over 25 sites in Bonaire, recording close to 200 species. Park manager, Kalli De Meyer, was very excited to have our group surveying for her and is looking forward to seeing this large scale inventory of the sites around Bonaire. We are looking forward to even more invitational and "survey only" projects this year. To take part, divers must first participate in one of the scheduled Field Surveys. Take a look at the schedule on page 3. I hope to see you on one of these projects this year. The experience is addicting!

Finally, REEF is moving into the cyber-age! Contact us through e-mail at REEFHQ@delphi.com and visit our homepage at http://131.247.160.200/fl_center/munson/conserves/groups/reef/reef.htm. See you there! 📧

Nature Conservancy

continued from page one

REEF has been working with TNC over the past years through TNC's Marine Conservation Science Center at the University of Miami, in developing both the "Roving Diver" method of taking fish surveys and a database to maintain the gathered information. The Agreement is a formal commitment on the part of REEF and TNC to the long-term development of the Reef Fish Survey Project and database. Commenting on the alliance, Brad Northrup, TNC Vice President and Director of the Latin America and Caribbean Region, said, "Coral reefs are in serious decline around the world. Our partnership with REEF is a way to enlist the public to ensure our reefs do not disappear forever." TNC has been getting more involved with marine conservation as a natural extension of its land based work in areas such as the Florida Keys, Dominican Republic, St Croix, Belize, Jamaica and Palau. Some of these marine conservation efforts are supported through TNC's Rescue the Reef program. TNC's continued area of responsibility will be to house, maintain, and operate the REEF Fish Survey Project database through its Marine Conservation Science Center.

We at REEF Headquarters are very excited about the valuable experience and contributions TNC is bringing, and has already brought, to the REEF Fish Survey Project. The relationship has, in fact, already borne fruit in the form of a Project grant from the Elizabeth Ordway Dunn Foundation, Inc. Fellow REEFers, the future here is looking bigger and brighter every day! If you would like more information about The Nature Conservancy and their *Rescue the Reef* program please contact TNC at (800) 84-ADOPT. 📧

1996 Field Survey Schedule

FISHWATCHING IN PARADISE

1996 Field Surveys continue the tradition of fun, learning and active involvement in the preservation of marine life. Each six day Field Survey is hosted by a highly regarded local resort/dive operator and typically runs from Sunday through Friday. Wednesday is scheduled as a free day for personal exploration of the survey location. Mornings are devoted to program time including colorful slide presentations and interactive discussions on reef fish identification, fish behavior and surveying techniques. Participants undertake two survey dives each afternoon with two optional night dives during the course of the week (for a minimum of twelve dives). 1996 welcomes the introduction of two 'Survey Only' Field Surveys specifically designed for prior Field Survey participants and those experienced in fish identification. Survey space is limited so please reserve early.

Join a REEF Field Survey and take a dive vacation that counts.

For additional information and reservations contact REEF HQ (305) 451-0312 unless otherwise indicated.

May 4 - 11 Sat. - Sat.

BRITISH VIRGIN ISLANDS

\$890.00

Price includes 7 nights accommodation, continental breakfast, transfers, diving and seminars.

May 18 - 25 Sat. - Sat.

GRAND CAYMAN

\$850.00

Price includes 7 nights accommodation, transfers, unlimited diving and seminars.

May 25 - June 1 Sat.- Sat.

ST CROIX, USVI

\$750.00

Price includes 7 nights accommodation, continental breakfast, transfers, diving and seminars.

June 1 - 8 Sat. - Sat.

BONAIRE SURVEY ONLY

\$700.00

Price includes 7 nights accom. (quad occ.), transfers and unlimited diving.

June 15 - 22 Sat. - Sat.

KEY LARGO

\$460.00

Price includes diving & seminars.

June 29 - July 6 Sat.- Sat.

TURKS & CAICOS

\$750.00

Price includes 7 nights accommodation, transfers, diving and seminars.

July 13- 20 Sat. - Sat.

DOMINICAN REPUBLIC

\$795.00

Price includes 7 nights accommodation, transfers, diving & seminars.

July 20 -27 Sat.- Sat.

KEY WEST

\$460.00

Price includes diving & seminars.

August 3 -10 Sat.- Sat.

ISLAMORADA

\$460.00

Price includes diving & seminars.

August 17 - 24 Sat.- Sat.

MARATHON

\$460.00

Price includes diving & seminars.

August 25 - 31 Sun.- Sat.

TEXAS FLOWER GARDENS

\$590.00

Liveaboard M/V Spree
Price includes accommodations on board, meals, diving & seminars.

August 31- Sept. 7 Sat.- Sat.

BELIZE

\$TBA

Liveaboard Wave Dancer
Price includes accommodations on board, meals, diving and seminars.

Contact Lisa Diaz,
American Express
(800) 752-9438.

Sept. 14 - 21 Sat. - Sat.

KEY LARGO SURVEY ONLY

\$510.00

Price includes 5 days unlimited diving.

October 12- 19 Sat. - Sat.

BIMINI

\$800.00

Price includes 7 nights accommodation, airfare from Ft. Lauderdale, diving and seminars.



NASSAU, BAHAMAS
WITH NASSAU SCUBA CENTRE

FALL 1995 Field Surveys

LEFT: CHRISTOPHER PALASKY,
CAROL REICHERT,
BOB WINTERS, JEAN KIRKPATRICK,
JOHN PITCAIRN, BILL SILLIMAN.

RIGHT: JESSICA LOREK,
EDGAR TOMEI, MEGAN TOMEI,
CAROL REICHERT, ANN AIKINS,
ELAINE MORDEN, EMILY SCHMITT,
ROXANNE CHAVANNE, HANNIE
SMIT-VAN VALEN, GAIL TOMEI,
MALDEN MILLER, LADDIE AKINS.



KEY LARGO ADVANCED FIELD SURVEY
WITH ATLANTIS DIVE CENTER

GROUPERS

by Laddie Akins



BLACK GROUPER *Mycteroperca bonaci*



YELLOWFIN GROUPER *M. venenosa*

Sometimes colors aren't always what they seem. Two of the most common Groupers on Caribbean reefs are the Black and Yellowfin Groupers. Both are large, sometimes exceeding four feet in length and have the very stout, rotund body characteristic of the grouper family. They are also an extremely valuable food fish and consequently susceptible to overfishing. The difficulty in identification is that color is not always the best indicator.

Black Groupers are not always black. Like most Groupers they can lighten, darken, or change their colors to blend in with their surroundings. The keys in identification are the faint patterns on their sides. Black Groupers have a *block* or rectangular pattern. Think of an Aussie telling you that it's "a *Block* grouper, mate!" Yellowfin Groupers, on the other hand, do have yellow trim on the outer edge of their pectoral fins, but are most readily identified by a *rounded* pattern of markings across their sides and back. Both groupers are sequential hermaphrodites, meaning they start life as females and after a number of years, change sex, becoming males for the latter part of their lives. This poses interesting problems for fisheries management, since minimum size limits can selectively harvest only the larger dominant males, upsetting nature's intended sex distribution. "Keeping the big ones" is not always the wisest move. 🐠

Volunteer of the Year

Congratulations to Ann Aikins, REEF's first Volunteer of the Year! Growing up 1800 miles from the ocean in Kansas, Ann finally decided to move, change jobs, and start surveying fish, to satisfy her yearning for the sea. That was just two years ago in 1994. She has now made over 280 dives and completed more than 200 surveys with a life list of over 250 species! Ann first hooked up with REEF two years ago during Key Largo's June Field Survey with only 6 dives in her log book. "Like most people, I have always had an interest in nature, and with diving that lead naturally to learning about fish." She had such a great time, she signed up for the Dry Tortugas Survey later that month, Key West in July, Islamorada in August, Belize in September, Bimini and the first Advanced Seminar in Cayman in October!

Since last year, Ann has become one of REEF's most prolific surveyors. Every week she and other REEF



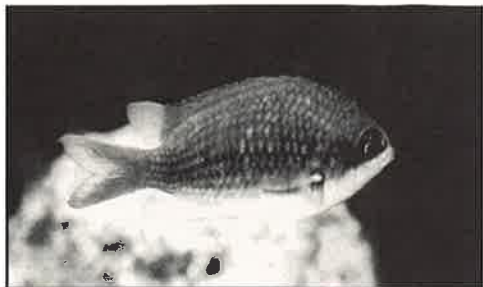
Ann Aikins

members in the South Florida Area get together for at least one survey dive. "It's a great opportunity", she says, "for learning more about identification and pointing things out to other divers who are just getting started." Ann helped lead the Key Largo and Islamorada Field Surveys last year and participated in the first REEF Invitational Survey in Bonaire where she was presented with the Volunteer of the Year award.

As for future plans, Ann has just finished her Divemaster rating and is looking for a way to participate in more Field Surveys in 1996. "They are the most fun I could ever imagine on a dive trip. I can't believe how many people just swim around and don't even know what they're looking at. The more I learn, it seems the more I see."

Congratulations Ann! You are a wonderful example to divers everywhere.

Chromises: The Sunshine Fish



SUNSHINE FISH *Chromis insolata*

"Sunshine on my shoulder ♪♪♪", John Denver could have been singing about the small Chromis we call a Sunshinefish. Living usually in deeper waters below 60 feet they typically inhabit edges of dropoffs or ledges and outcroppings along walls. Sunshinefish and other Chromises are members of the Damselsfish family. When looking for species in this sub-family, you would not look for the territorial bottom hugging behavior of other Damsels. Instead of harvesting algae like territorial Damsels, the Sunshinefish are what we like to term as "plankton pickers". Chromises in general, feed on

small planktonic particles up in the water column, usually facing into the current and slowly moving up and down in the water column as they pick the minute organisms out of the current. The juvenile Sunshinefish is most aptly named, with a bright yellow wash covering its back from behind the eyes to the base of the tail. We

say it has *sun shining on its back!* The 2 1/2" adult is much more drab, but can still be remembered from its light gray upper body and completely white underbelly. You might say that the adult has spent so much time in the sun that its back became dark, but the belly, being shaded, remained a pale white. 🌞



JUVENILE SUNSHINE FISH

1995 Recipients of REEF Certificates of Outstanding Contribution

The following members have been recognized by the board of directors for the outstanding contributions they have made throughout 1995:

Emily Schmitt
Jerry Ligon
Glen Thiel
Anna DeLoach
Bob Bishop
Julie Overing
Ken Marks
Sheryl Shea
Robert Antonelli
Jean Gasen
Jim Morabito
Walter Briney
Lisa Mitchell
Elaine Morden
Carol Riechert
Eric Riesch
Claudia Campos
David Mulvey
Kathleen Scott
Lisa Diaz
Jeff Schmitt
Christy Pattengill
Brice Semmens
Spencer Slate
Laurie Wilson

FIELD STATIONS

The dive centers, resorts, boat operators, and instructors listed below demonstrate their support for REEF by volunteering as Field Stations. Each serves as a distribution point for survey forms, and actively recruits new members. Most offer beginning and advanced fish identification courses, organize survey dives, and sell related fishwatching materials. Stop in, say hello, and let them know how much you appreciate their service.

USA

ALABAMA

Montgomery Adventure Sports II Inc.
Belmont Kunichi Divers
Danville The Marine Conservation Network

COLORADO

Boulder Rocky Mountain Diving Center

FLORIDA

Fl. Lauderdale Nekton Cruises, Inc.
Islamorada Lady Cyona Divers
Jacksonville Scubadivers Reef Re-
search Team
Juno Beach Marinelife Center of Juno Beach

Key Largo

Lake Worth

Atlantis Dive Center
Splashdown Divers
Michael Dougherty, Instructor

Marathon

Florida Keys National Marine Sanctuary

Miami

Austins Diving Center Inc.
Gary Hughes Dive Charters
Miami Beach Team Divers South Beach
Miami Spring Blackbeard's Cruises
Riviera Beach Dive USA

GEORGIA

Atlanta Divers Connection
Stockbridge Wet Set Scuba

ILLINOIS

Arlington Heights Glen E. Thiel, Survey Volunteer
Chicago Underwater Safaris
John G. Shedd Aquarium
Lake Zurich Lake Michigan Scuba Center

LOUISIANA

Shreveport Scuba Ventures

MINNESOTA

Rochester Minnesota Dive Center

NEBRASKA

Omaha Midcoast Scuba Center, Inc.

NEW JERSEY

Lawrenceville The Lawrenceville School

NEW YORK

Williamsville Aquarius Diving Systems

OHIO

Akron Deep Six Specialists, Inc.

PENNSYLVANIA

Birdsboro Forgotten Fin Scuba Center

RHODE ISLAND

Jamestown Ocean State Scuba

TEXAS

Conroe Golden Mermaid Scuba
Houston Houston U/W Club
Sea Sports Scuba
WW Diving Co. Scuba Center
Humble
Tyler

VIRGINIA

Richmond Virginia Institute of Diving

OVERSEAS

BAHAMAS

Andros Isl. Dream Too (Liveaboard)
Small Hope Bay Lodge
Bimini Scuba Bimini
Nassau Bahama Divers
Nassau Scuba Centre
Sunkiff Divers
Walker's Cay Walker's Cay Undersea Adventure

BELIZE

Placencia Rum Point Divers

BONAIRE

Bon Bini Diver
Sand Dollar Dive & Photo

BRITISH VIRGIN ISLANDS

Tortola Baskin in the Sun
Blue Water Divers
Trimarine
Dive BVI
Kilbride Underwater Tours

GRENADA

Dive Grenada

HONDURAS

Roatan M.V. Isla Mia
Sueno Del Mar Dive Resort

JAMAICA

Poseidon Divers

PANAMA

Albrook AFS Balboa Dive Club

ST. LUCIA

Anse Chastanel Dive St. Lucia

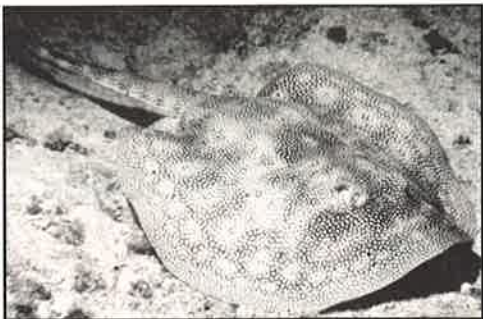
TURKS & CAICOS

Providenciales Caicos Adventures Diving
Dive Provo
Flamingo Divers

U.S. VIRGIN ISLANDS

St. Croix Melissa Keyes,
Indep. Instructor
VI Divers Ltd.

Quick Identification: The Yellow Stingray



YELLOW STINGRAY: *Urolophus jamaicensis*

The smallest of the Caribbean Rays, the Yellow Stingray acts more like the small minibus Jitney than its majestic and charismatic cousins. Though Yellow Stingrays are not obviously yellow, the name is not completely misleading. Close inspection will reveal a tinge of yellow mixed in with the light tan and dark brown speckles scattered across its

body. Moving a short distance across a sand and rubble bottom, the Yellow Stingray makes frequent stops to slurp in the sand, looking for tasty morsels. Though it will usually allow a close approach, a short spine near the end of its tail is reason enough not to molest. If all else fails in remembering the name, the 1-ft. size of the Yellow Stingray is the same as that old yellow dinner plate in the cupboard. The male of this species can be distinguished from the female by the presence of two short claspers (male organs) at the base of the tail. The pair of claspers are used to transfer sperm during reproduction and thus are absent in females. You can take a look at the picture to the left to determine the sex of this ray. ♀



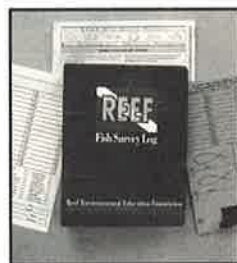
REEF Gear

NEW REEF TEE SHIRTS AND SWEATSHIRTS: 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 red, gold, and black REEF logo, the front reads "Reef Environmental Education Foundation". Tees: M, L, XL \$18.50 • Sweatshirts: \$29.95.

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 specially designed to fit over the underwater slate for surveying. Post-dive they fit into the logbook to provide a permanent record of each dive. A dream come true for every REEF member. \$33.50



REEF CAP: Keep the sun out of your eyes in 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. \$18.50



ORDER INFORMATION

____ T-shirts @ \$18.50: \$ _____
 ____ Sweatshirts @ \$29.95: \$ _____
 ____ Survey Kits @ \$33.50: \$ _____
 ____ Hats @ \$18.50: \$ _____

Total: \$ _____

Name: _____

Address: _____

MAIL TO: R.E.E.F. P.O. Box 246 Key Largo, FL 33037

CONTRIBUTING MEMBERS

The following members have not only generously contributed a portion of their dive vacations to conduct marine life surveys, but have also donated \$30 or more. REEF continues to maintain a "no fee" membership policy, in large part, because of the voluntary financial support from the members listed below.

REEF is a 501 (c)(3) nonprofit corporation. As such, all contributions are tax deductible. Any contribution you make will be greatly appreciated and go a long way toward continuing our work. Please mail your contribution to REEF, P.O. Box 246, Key Largo, FL 33037.

AFRICA, Dana
 ARCHIBALD, Skip
 BETTS, Nancy
 BISHOP, Bob & Connie
 CHRISTIANA, David
 DEAN, Nettie
 DEAVER, Ken
 DODSON, Ellan
 DOWNS, Dave & Noreen
 DRAGUS, Walter
 ENDE, Edward
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