

**REEF****notes**

REEF ENVIRONMENTAL EDUCATION FOUNDATION

PROTECTING MARINE LIFE THROUGH EDUCATION, SERVICE AND RESEARCH

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## TNC Releases Summary of Data from REEF's Fish Surveys

by: Emily Schmitt

Though relatively little work has been done in documentation, scientists need to know details about fish abundance and composition. With this they can determine species ranges, similarities and differences in fish occurrences, and be aware when declines in species composition or abundance occur. Scientists from The Nature Conservancy and the University of Miami have been working with REEF over the last three years and analyzing REEF survey data. A summary report entitled, "Status of Reef Fishes in the Florida Keys National Marine Sanctuary: Regional Project Summary" compiled by Emily Schmitt, PhD candidate supported by The Nature Conservancy, has recently been completed. The report was based on three years of REEF survey data from Key Largo, Islamorada, Marathon, Key West, and the Dry Tortugas. Comparisons were also made among fish abundance and composition between several other regions throughout the Tropical Western Atlantic.

Within the Florida Keys, most species were recorded in the Key Largo area (205 species), followed by Key West (174) and Islamorada (173). The Dry Tortugas (162) and Marathon (151) rounded out the surveys. Grouper spe-

cies were highest in Key Largo and lowest in Islamorada. This could be due to the fact that the Key Largo area has been protected as part of the Key Largo National Marine Sanctuary and John Pennekamp State Park for over 30 years. The reefs off Islamorada have been open to spearfishing.

Other interesting discoveries from the data were that the highest similarity in species composition was found between sites geographically close to one another such as Middle and Western Sambo in Key West. Geographically distant sites such as Key Largo and Key West were

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**BONAIRE FIELD SURVEY 1996**

JIM AND BARBARA MODAFARI, H.C. YOUNG, BILL VANDERGRIFT, DENNY LUTZ, PETE WYMAN, JOAN SUGG, PAM CEFARATTI, CHERI ARNOLD, JERRY LIGON, LADDIE AKINS, DEENA WELLS

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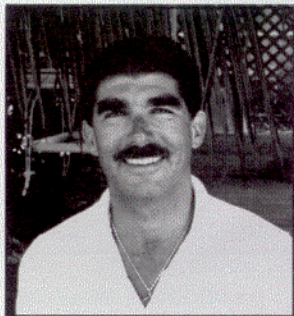
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## Director's Note

*Laddie Atkins*

Executive Director of REEF

Lots of kudos to pass out this issue! We have been fortunate enough to have some fantastic people working with REEF since the very beginning and many of those people are being recognized for their efforts. I'd like to pass a few on to you.

First, two double digit REEF members (that means they started way back when!) have been doing some ground-breaking work monitoring the fish diversity of the Texas Flower Gardens Banks National Marine Sanctuary (FGBNMS). Texas A&M graduates Christy Pattengill and Brice Semmens have been working with NOAA's FGBNMS personnel to determine baseline fish inventories for the Flower Gardens and a proposed sanctuary site at Stetson Bank. Christy and Brice both worked with REEF in 1993 helping to develop the methodology now used in our program. They were recently co-awarded the Flower Gardens Volunteer of the Year Award in a ceremony hosted by the Houston Underwater Club. Congratulations to both of you for outstanding work!

Another of REEF's early members, Jim Morabito and Field Station Aquarius Diving Systems in New York received the Retailer of the Year Award from the National Association of Scuba Diving Schools as their number one facility in the United States. Aquarius is the first Field Station in New York. Jim, who began on the 1994 Bimini Field Survey, teaches Fishwatching Seminars on a regular basis for Aquarius and was instrumental in their becoming a REEF Field Station. He also leads many survey dives on their group trips. I

certainly hope we have helped them in becoming the best as much as they have helped us in gathering REEF survey data and training divers in fishwatching.

I also wanted to say congratulations to REEF members Jean Kirkpatrick who recently logged her 500th dive in Cayman, and Bill Vandergrift, Denny Lutz, and Cheri Arnold who all completed their 100th dive on the Bonaire project surveying fish! Keep up the great diving!

If any of you are thinking about taking a trip to the Roatan area in the near future, contact Jonathon Tromm and the *Isla Mia*. They've been a Field Station for a number of years now, and have made a generous offer to contribute back to REEF a portion of each trip taken by any REEF member. In addition, they will be conducting a week long survey in November on which a portion of every participant's trip price will be contributed back to REEF. Dive Provo has also been doing this for over a year now and Baskin in the Sun is doing the same for a course being held in conjunction with their coral spawning dive this September. This is another way Field Stations are helping to creatively fund REEF's programs and very generous offers on their part. Thank you.

As you are all aware, our Administrative Director, John Pitcairn has been working feverishly to come up with a plan to keep us operating on a no-fee membership structure. You will soon be receiving a letter from Paul Humann asking for your

voluntary contributions and I want to thank those of you who are able to contribute. Look for an impressive list in the next REEFNotes. Please be as generous as you can, every contribution helps. If you aren't able to contribute financially, keep up your support by sending in your surveys and taking part in REEF Field Survey projects. Everyone has their own way of contributing and we want to encourage you all to keep on surveying.

Membership is now over 7000 and over 6000 scansheets have been entered into the computer database. Time for correction #1. The address for our homepage was changed after the last REEFNotes had already gone to press. We now have a much more stable web site at <http://www.reef.org>. It will be under constant development for the foreseeable future but many areas are exciting to visit now. The data will soon become accessible on-line and I look forward to answering questions and discussing fish topics with you all in our new discussion area. Look up any report information from previous Field Surveys under the Scientific Data section and get information on Field Survey Projects and links to Field Stations with homepages as well. You can even send us e-mail from the REEF web site.

Finally, I wanted to save some great news for last. The Nature Conservancy has just published the first report on Status of Reef Fishes in the Florida Keys National Marine Sanctuary using REEF data. The 124 page report is a baseline inventory and characterization of reef sites and geographic areas both within the Keys and between the Keys and other geographic regions. See the story by Emily Schmitt on pages one and six. Your data made this report possible!

I hope you are all having a great diving summer.

— Laddie

# SHARPTAIL EEL

by Laddie Akins

I looked at Clive Petrovic a little strangely as he related the story for the second time. An amazing behavior, and just as important to me, an explanation for yet another name. As a biology professor for the BVI Community College in Tortola, Clive has a number of marine projects going and still finds the time to send in over a hundred REEF surveys each year. His story of the Sharptail Eel was one he had witnessed first hand while diving in the BVI.



**Sharptail Eel**

Often referred to incorrectly as a spotted snake eel, the appearance of the Sharptail Eel is not well associated with its name. The body is a light sand to cream color and about the same circumference as maybe a spotted moray. It also has light to yellowish diffuse body spots covering its body from blunt head to not so blunt tail. Which brings us to its name and a great story. Rather than rounded off and blunt like most other eels, the tail of this particular eel comes to a long and slender stiletto point. Purpose? After watching one particular Sharptail Eel grab a meal much too large to swallow in a comfortable bite, Clive watched in fascination as the eel nosed around to find the proper area in the sand and light rubble. It pushed its nose just a fraction of the way into the bottom and then brought its long pointed tail around to its head as if it were forming an endless loop. The tail then sliced its way into the bottom and the eel began disappearing tail first until finally the last to go was the head and mouth with pieces of crab still sticking out. The maneuver was smooth and graceful. Even though the colors don't coordinate with the name the open nighttime and occasional daylight foraging of the Sharptail Eel should give you a chance to view its namesake tail on your next dive. 📌

## New Products Review

by Laddie Akins

Many new marine life texts and identification products have come out lately and we thought it might be nice to pass on information about them and where you can get your next good reading material! Newest on the shelf is Marty Snyderman's and Clay Wiseman's *Guide to Marine Life: Caribbean, Bahamas, Florida*, published through Aquaquest Publications (800) 933-8989. The book is close to 300 pages and includes over 330 full color photos, many stunning enough for a coffee table book. This is a book meant to be read though. Its format includes many boxes on photo tips, interesting behaviors, and even the authors' personal accounts of many marine life encounters. The book includes information from the entire spectrum of reef inhabitants (not just fish), although not a complete reference, I found it hard to put down. Great reading at home and a great addition to any library.

Also new is an innovative book by Keith Ellenbogen. Have you ever made a great I.D. on a survey dive and as you were swimming to show your buddy its name on your slate it mysteriously disappeared? If only you could have a simple hand signal to tell your buddy what you had found. *Scuba Talk* is a book dedicated to hand signals for marine life. The 72 page spiral bound book is designed to teach divers the

identity and accompanying hand signals of 22 common reef inhabitants. Many of our fish I.D. seminars include the use of hand signals as an additional method of remembering a fish's name and we all know how to signal shark, but how about Queen Angel or Barracuda? *Scuba Talk* lays it all out in a very usable format, with great photos and clear diagrams. Also included are interesting facts about each featured fish, a dive planning section, post dive log sheets and more. Blue Reef Publications has more info at (617) 332 7965.

Finally, a great new CD for the kids... or is it? I couldn't help being fascinated by the morphs in *Fish With Names Like...* Dan Wagner's latest release has captured a great new technology and used it in an entertaining educational tool for fish people of all ages. *Fish With Names Like...* takes 36 common reef inhabitants with common names and morphs them with a Quick Time video clip. It is truly amazing to watch a hog change into a Hogfish or a trumpet change to a Trumpetfish. Additional information is included about each species including keys to its identity, life stages, habitat, and relatives in the ocean. It is certainly not a complete guide like Dan's videos, but it is a great present for the kids (and yourself. I want one Dan!) Call P&B Productions at (800) 741 5335. 📌

# 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.

**August 17 - 24 Sat. - Sat.**

## MARATHON

\$460.00  
Price includes diving  
and 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

\$1,750.00  
*Liveaboard Wave Dancer*  
Price includes accommodations on  
board, meals, diving and seminars.  
Contact Lisa Diaz,  
American Express  
(800) 752-9438.

**August 4,5,6**

## Coral Spawning Event! KEY LARGO

\$150.00  
Price includes 3 late night 2-tank  
dives with REEF personnel

Coral Spawning, witnessed only recently for the first time, normally occurs late at night 7-8 days after the August full moon. Massive Star corals expel gamete sacks simultaneously in an unprecedented underwater show. Join REEF staff, in coordination with Oceanographic Expeditions, on a series of special late night dives to document spawning occurrences.

Contact *Atlantis Dive Center* and let them know you are going to be with the REEF group:

**(800) 331-3483**

**Sept. 14 - 21 Sat. - Sat.**

## KEY LARGO SURVEY ONLY

\$510.00  
Price includes  
5 days unlimited diving.



**October 26 - November 2  
Sat. - Sat.**

## BIMINI

\$800.00  
Price includes 7 nights  
accommodations, airfare  
from Ft. Lauderdale,  
diving and seminars.

*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.



### TURKS & CAICOS 1996

JONATHAN AND SHAWN EDWARDS, DAVE DOWNS, MARGE BURKETT, CATHY COUGHLIN, JOHN CASSON, SHELLY TYRE, DAVID PRESTON, CAROL LORENZ, GREG HOPKINS, MARGARET COWIN, EDWIN STEINER AND LADDIE AKINS



### BRITISH VIRGIN ISLANDS 1996

ED AND BARBARA BUTENHOF, LINDA SCHILLINGER, CATHY COUGHLIN, ROBERT & BARBARA BOHAN, CINDY, HELM, NEIL MIYASHITA, CLAIRE BRONSON, ROBERT SCHAUER, CURRIER RANDALL, PATRICIA AYERS, BOB STRAUSS, JULIE OVERING, LADDIE AKINS

# The Marlin

by Deena Wells

On a calm day in Key Largo, Captain Sean from Atlantis Dive Center pulls up to the Elbow to drop the REEF group into the water for another perfect day of diving. There is a wave of excitement as each of the 14 volunteers pulls on their dive gear, checks their slate and hops enthusiastically off the boat dreaming of new sightings. This is the third day of a week long Field Survey and REEF's fourth annual visit to Key Largo.

As I drop through the water column, I pull my worn slate from my BCD and begin to jot down the familiar plankton picking species: Blue and Brown Chromis, Bar Jacks, Chubs and, of course, Yellowtail Snapper. I look over to my buddy, an experienced diver but new to the world of fish identification. He looks from fish to slate and back again and realizes he is entering a whole new realm.

After ten minutes of checking off those most common of grunts, snappers and parrotfish, we head over a coral ledge and the fun commences. Visibility is good, as is usual for the time of year, and from my viewpoint I scan the changing habitats of coral reef, sand and grass beds, my imagination running wild, thinking of all the different species lurking in wait for me. To my left, an aggregation of Pecks, so fascinated by the desert of Yellowfin Mojarra before them they pay no mind as a turtle glides overhead.

I move over the coral rubble with my buddy, away from the dive site to a series of overhangs beyond. A mean grin catches my attention. Below in the darkness two Snook lay side by side, their defined lateral line making them easy to identify. Their threatening teeth protrude from a flattened snout and both remain motionless, unperturbed by the nearby Green Moray. I make my way along the overhangs, poking my head into the deeper crevices. Something moves across the beam from my flashlight. I lean in closer, there, two Peppermint bass given away by their distinct pink and gold candy stripes encircle a lone red Flamefish. A Reef Croaker, somewhat indifferent, sits below but then a fleeting glimpse of a Spotted Soapfish hiding quietly in the shadows. So rare to see and yet

so timid. I have no time to show my buddy before he runs from the light deep into the reef.

Impulsively, I back away from the reef and look out into the light, an Eagle Ray is flying majestically over the reef and just as I swim towards my buddy, a hurried permit crosses our paths. I cannot believe our luck.

As we make our way back to the dive site we cross grass beds enveloped by sand patches and find Green Razorfish, the females curled coyly around blades and the odd male boldly displaying his green and red colors. Like a goatfish I bury my head in the sand searching for more unusual sand-dwelling critters. The Yellow-Head Jawfish hover above their homes and back shyly into their burrows as I approach. Suddenly a desperate tank-banging from my buddy disturbs my observation. I look up quickly half in anticipation and half in dread for fear that I may have already missed something wonderful. Above me, just below the waters surface, moving with such noble ease, I see two shimmering Marlin. It feels like time is standing still as my wide eyes follow them. Muttering astonishment through my regulator, I meet the grinning eyes of my buddy as the marlin finally pass out of sight. We smile, knowing we have just witnessed something truly spectacular, a once-in-a-lifetime

Continued on page 6

## KEY LARGO FIELD SURVEY 1996



DON PECK, KEVIN PECK, KERRIE PECK-KING, PAUL KING, DAVID GOLLIHER, KATHY GOLLIHER, MANDY GOLLIHER, TED HELM, CRAIG NELSON, KYLE LANE, EMILY SCHMITT, ELAINE MORDEN, LINDA SCHILLINGER, DEENA WELLS

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

#### CALIFORNIA

San Ramon Undersea Adventures

#### COLORADO

Boulder Rocky Mountain Diving Center

#### FLORIDA

Ft. Lauderdale Glen E. Thiel, Survey Volunteer  
Nekton Diving Cruises  
Lady Cyana Divers  
Islamorada Scubanauts Reef Research Team  
Juno Beach MarineLife Center of Juno Beach  
Key Largo Atlantis Dive Center  
Marathon Florida Keys National Marine Sanctuary  
Miami Gary Hughes Dive Charters  
Miami Springs Blackbeard's Cruises  
Tallahassee Organization For Artificial Reefs

#### ILLINOIS

Chicago Underwater Safaris  
John G. Sheed Aquarium  
Lake Zurich Lake Michigan ScubaCenter

#### LOUISIANA

New Orleans Oceanographic Expeditions L.L.C.  
Shreveport Scuba Ventures

#### MINNESOTA

Rochester Minnesota Dive Center

#### NEW YORK

Williamsville Aquarius Diving Systems

#### NORTH CAROLINA

Fayetteville Aqua-Nut Dive Service Inc.

#### RHODE ISLAND

Jamestown Ocean State Scuba

#### TEXAS

Humble WW Diving Co.

## FIELD STATIONS

### OVERSEAS

#### BAHAMAS

Andros Isl. Small Hope Bay Lodge  
Bimini Scuba Bimini  
Grand Bahama Underwater Explorers Society  
Nassau Sunskiff 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 - Cuan Law  
Virgin Gorda Dive BVI

#### HONDURAS

Roatan M.V. Isla Mia  
Utila Utila Reef Adventures

#### JAMAICA

Reading Poseidon Divers  
St. James

#### PANAMA

Albrook AFS Balboa Dive Club

#### TURKS & CAICOS

Providenciales Art Pickering's  
Provo Turtle Divers  
Caicos Adventures  
Diving  
Dive Provo  
Flamingo Divers

#### U.S. VIRGIN ISLANDS

St. Croix VI Divers Ltd.

SUMMARY from page 1

less similar. Within REEF's survey geography, the most species recorded were from the Florida Keys (242), followed by Bonaire, Belize, Dominican Republic and Grand Cayman. The number of grouper species was highest in the Florida Keys and lowest in the Dominican Republic.

Sites surveyed in this regional report will be continuously re-sampled and as additional data becomes available, reports such as this can be generated for other regions as well. Thanks to the continuing efforts and enthusiasm of participating REEF members. 🐠

MARLIN from page 5

sighting. Hanging dazed and confused high in the water column, a huge mass of blue Boga snaps me out of my stupor, moving to surround us, twisting and turning in a polarized school.

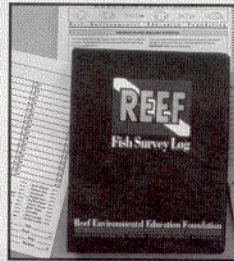
We swim back towards the bow of the boat, the perfect dive, I think, complete, but as I remove my fins, my face still in the water, a Cero Mackerel flashes underneath me. I catch myself, amazed at how much diving has to offer. I cannot wait to board the boat and tell all of an incredible dive and I grab the ladder, my list of 90 species clutched tightly in hand. 🐠



## REEF Gear

**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 log-book, 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 log-book 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:	\$ _____
_____ Sales Tax 7.5%:	\$ _____
<b>Total:</b>	<b>\$ _____</b>

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

Name: \_\_\_\_\_

Address: \_\_\_\_\_

## 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.

- BELL, Rebecca
- BETTS, Nancy
- BISHOP, Bob & Connie
- BOHNSACK, Jim
- BRICKER, Kathy
- D'ALESSIO, Sal
- DEAN, Judith
- DEAN, Nettie
- DEAVER, Ken
- DIAZ, Lisa
- DODSON, Ellan
- DRAGUS, Walter
- FIORENTINO, Bob
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