

REEF

notes

REEF ENVIRONMENTAL EDUCATION FOUNDATION
PROTECTING MARINE LIFE THROUGH EDUCATION, SERVICE AND RESEARCH

REEF

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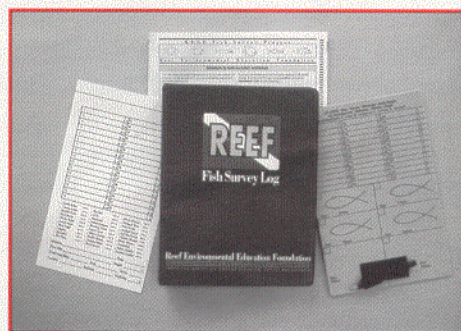
Under Currents

Underwater USA

REEF Deluxe Survey Kit Now Available!

In an ongoing effort to simplify fish survey techniques, REEF has developed a Deluxe Survey Kit for volunteer divers. The Kit consists of 12 Marine Wildlife Survey scansheets, 24 underwater ID sheets, an underwater ID slate & ID card, and a REEF Fish Survey Log (three-ring binder).

In the past, the standard procedure for recording sighted species during a survey was by jotting down the common names of the fish on a reusable yellow ID slate. Later, after transferring the collected data to a REEF Marine Wildlife Survey data sheet, the slate was erased for the next survey dive. This method made it burdensome for volunteers to keep personal histories of their sightings. If a log was kept, the information from the slate had to be rewritten onto a separate page or photocopied. Now, by using REEF's new underwater ID sheets that attach to the slate, there is no need to erase or copy data. The quality, waterproof KIMDU-



RA plastic sheets are simply removed and permanently stored in your log binder.

The ID sheets have a tab at the top that is bent back over the end of the slate and secured with a plastic slip-clip; the bottom is held in place with a rubber band. When the front page is filled with sighting data the sheet is folded over the slate's top and resecured with the band. This allows space for an additional thirty species to be recorded.

The new design differs from the old slate format in several other ways. Most obvious is an area with the pre-listed names of thirty commonly sighted fish species (Bluehead and Yellowhead Wrasse, Surgeonfish, Doctorfish,

Continued on last page

FIELD STATIONS

USA

ALABAMA		<i>Lantana</i>	Dive Locker
<i>Birmingham</i>	Scuba Adventures	<i>Marathon</i>	The Dive Site
<i>Montgomery</i>	Adventure Sports	<i>Riviera Beach</i>	Dive USA
CALIFORNIA		GEORGIA	
<i>Danville</i>	The Marine Conservation Network	<i>Stockbridge</i>	Wet Set Scuba
<i>San Jose</i>	Classic Scuba	<i>St Simons Island</i>	Island Dive Center
COLORADO		LOUISIANA	
<i>Boulder</i>	Rocky Mountain Diving Center	<i>Kenner</i>	Square World Dive Center
		<i>Shreveport</i>	Scuba Ventures
FLORIDA		MONTANA	
<i>Allamont Springs</i>	Scuba III	<i>Missoula</i>	Odyssey Diving, Inc
<i>Ft. Lauderdale</i>	Good Time Divers	NEBRASKA	
<i>Islamorada</i>	Lady Cyana Divers	<i>Omaha</i>	Midcoast Scuba Center
<i>Key Largo</i>	Atlantis Dive Center	NEW JERSEY	
<i>Lake Worth</i>	Splashdown Divers	<i>Lawrenceville</i>	The Lawrenceville School
	Michael Daugherty, Instructor		

NORTH CAROLINA

Morehead City Olympus Dive Center

OHIO

Akron Deep Six Specialists, Inc

PENNSYLVANIA

Wexford Smiley's Dive Center

TEXAS

Houston Houston U/W Club
Kenlee's Scuba West
Sea Sports Scuba

VIRGINIA

Richmond Virginia Institute of Diving

BAHAMAS

Bimini Scuba Bimini
Freeport UNEXCO
Nassau Custom Aquatics
Nassau Scuba Centre
Sunskiff Divers
Walker's Cay Walker's Cay Underseas Adventure

BELIZE

Palacencia Rum Point Divers

HONDURAS

Roatan Anthony's Key Resort
Coco View Resort
Isla Mia
Sueno Del Mar Dive Resort

OVERSEAS

Cayos Cochinos Plantation Beach Resort

MEXICO

Cozumel Aqua Safari
Isla Mujeres Puerto Isla Mujeres Resort

PANAMA

San Juan Scuba World
Albrook AFB Balboa Dive Club

PUERTO RICO

San Juan Scuba World

ST. LUCIA

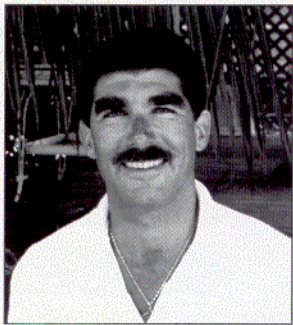
Anse Chastanet Dive St. Lucia

TURKS & CAICOS

Grand Turk Blue Water Divers

USVI

St Croix V I Divers Ltd.



Director's Note

Laddie Atkins,
Executive Director of REEF

What an exciting and gratifying start! After four years of research, development, experimenting with dozens of survey scansheet prototypes, revisions, and numerous pilot projects, REEF finally got out of the boat and into the water in January 1994. In the first six months membership has grown

to over 4,000 volunteer divers, and during the same period more than 40 dive stores/resorts have become affiliated as Field Stations. This excellent response has been heartening and I applaud you all.

One of my most pleasant duties is the daily trip to the post office to pick up completed REEF Marine Wildlife Survey forms. Over 600 have already been returned and scanned into our rapidly growing database. According to Dr. Kathleen Sullivan, Marine Ecologist with the Dept. of Biology at the University of Miami, your first six months' effort has already contributed more useful fish species population data from the Florida Keys than has been gathered in the last 15 years!

A question continually asked by volunteers is how to get more survey forms after completing the original document supplied in your membership packet. Unfortunately, because of the expense involved in producing the scansheets we must be conservative with our limited supplies. This is a problem that we continue to work on. Presently you have two options in obtaining extra scansheets: first, stop by your nearest REEF Field Station or plan your next dive vacation with a resort that is a Field Station. These businesses are responsible for distributing survey sheets to REEF members. A second option is to purchase one of REEF's new Deluxe Survey Kits. The Kit not only includes 12 survey forms, but also provides additional materials that make it easier to take fish surveys and file the data for personal use. Profits from the Kit also help us to fund new projects and cover operating expenses.

REEF has taken a unique approach for an independent environmental organization by offering free membership to our volunteers. We are doing our best to continue this policy. Sponsorship from dive industry leaders has helped, but, as membership grows, so do expenses. For those of you who have been able to make personal contributions, a BIG HUG and THANKS. In addition to continued support from *Rodale's Scuba Diving*, The Nature Conservancy, *Sea Frontiers* and Atlantis Dive Center, we have recently received grants and financial support from The Norcross Wildlife Foundation, The PADI Foundation, IBM, and the Florida Association of Dive Operators. These groups are helping to make your free membership possible and the important work of REEF a reality.

I would also like to recognize the wonderful work of the volunteer divers who participated in this summer's REEF Fish Surveys. You have made a tremendous contribution to the understanding of fish diversity and abundance throughout the survey areas. Each of you is a true pioneer. In fact, because of the great response to our summer program, we have added two additional REEF Fish Field Surveys this fall, and are expanding our schedule in 1995.

Thanks for all your support, enthusiasm, and underwater survey time gathering sighting information for REEF's ever-growing database. ♣

REEF T-Shirts Ready

Be the first in your block to proudly wear the new REEF T-shirt. Boldly emblazoned on the back with the REEF logo banner in red, black and gold, the front left of the white T-shirt reads Reef Environmental Education Foundation CHARTER MEMBER. Available in Medium, Large, and X-Large. Sizes tend to run a bit large. Send \$15.00 plus \$3.50 for S&H to REEF, PO Box 246, Key Largo, FL 33037.

REEF Fish Field Surveys 1994

October 3 - 7 Mon. - Fri.

KEY LARGO \$290.

Price includes diving and seminar.

Contact REEF Hqtr.

(305) 451-0312



October 13 - 17 Thurs. - Mon.

BIMINI \$675.

Price includes diving, seminar,
air and room (double occupancy).

Contact Scuba Bimini

(800) 848-4073



Humann and DeLoach Lead REEF Invertebrate & Coral ID Seminars in Roatan

Paul Humann and Ned DeLoach, author and editor of the three volume Reef Set, will conduct the first REEF Field Surveys for marine invertebrates and corals in the waters off Honduras' Bay Islands in July 1995. The live-aboard dive cruiser *Isla Mia* will host both eight day seven night trips.

The first seminar, scheduled for July 15 - 23, will teach invertebrate species identification and pioneer survey techniques to be used by REEF volunteer divers beginning in 1997. The second week, July 23 - 30, will cover coral identification. Each seminar is limited to ten participants. REEF members may sign up for either one or both sessions.

The 75-foot *Isla Mia* has six staterooms with double occupancy. All guest cabins are below the main deck for comfort. Cabins are air-conditioned and carpeted; each has its own porthole and 120V outlet. There are four complete bathrooms available. The price for each seminar is \$1,295., not including air fare. For reservations contact Miss Dori at the *Isla Mia* office in Galveston, TX, 1-800-874-7636. ♣

SAILFIN BLENNY

Emblemaria pandionis

Underwater sightings of the big fishes — Whale Sharks, Scalloped Hammerheads, and Eagle Rays — are always exciting, but often the discovery of tiny marine creatures can be every bit as dramatic. Anyone who has witnessed the flamboyant mating behavior of the Sailfin Blenny would agree. In most cases, the dark, 2 to 2 1/2 inch male is spotted perched on oversized ventral fins with only its head and forebody extending from its hole. These openings (often abandoned worm holes) are located on hard bottoms or in the sides of rocks in clear, shallow water from 3 to 35 feet deep. If a single Sailfin is discovered, look closely around because these blennies tend to live in loose colonies.

Sailfins are not particularly shy and usually permit a close approach, allowing excellent observation. The male's head and body appear almost black with a scattering of tiny, blue dots. A single pair of unbranched, banded cirri extend from between the eyes. The only bright color is a poorly defined orangish to yellow spot on the front of the large dorsal fin that lies collapsed on the back when not spread.

Females are tan to brown with white dots and blotches. Although large, their dorsal fin, marked by a series of dark, broken diagonal lines, is not nearly as impressive as the male's.

The fun begins when observing a male during its spirited courtship display. In an attempt to attract a female, the Sailfin pops out of its hole with a rapid flutter of its impressive dor-

sal. A truly inspired male may rise over a foot off the bottom before dive bombing, fins tightly furled, back into its hole. If his efforts are successful, a charmed female zig-zags her way across the bottom in the suitor's direction. Once approached, the amorous male vaults from its hole and confronts the female head-to-head, mouth agape, and together they begin a circuitous dance. Suddenly, the female twists her abdomen to the side and in an instant the male mounts and is gone.

It is not known how often or what time of year this mating behavior takes place. It was observed in mid-May of this year during the Bimini REEF Field Survey. Sixteen divers spent an entire dive charmed by the antics of an active Sailfin colony. At least half a dozen spry males were busily making their best moves. Some were popping up every forty-five seconds to a minute and a half. What a circus!

A smaller colony was found the next month near the edge of a turtle grass bed behind Key Largo Dry Rocks during the Key Largo REEF Field Survey. Unfortunately, none of the three males encountered seemed to be in an amorous mood — not even a flick of the dorsal was seen. An ol' fish watchers trick saved the day. A small mirror was positioned in the sand only inches from one of the males. Within seconds of confronting its own reflection the alarmed blenny began bracing for a fight. Its dark head flushed gray, gill covers flared, and it began to quiver violently. With a

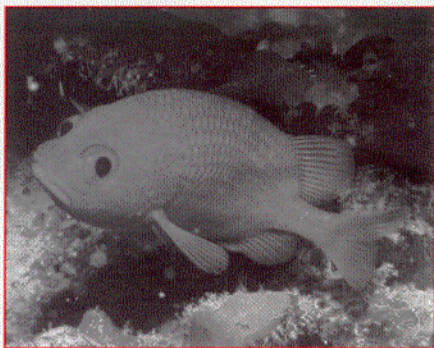


mouth-open, dorsal-raised rush it attacked its own image and began charging back and forth along the mirrored surface. Momentarily perplexed, it retreated to the safety of its hole and began bobbing up and down as it regrouped for yet another assault. It continued to repeat the behavior until the mirror was removed a few minutes later. Within seconds the valiant blenny regained its composure and natural color as if nothing had happened. 📌

CARDINAL SOLDIERFISH *Plectrypops retrospinis*

Most fishwatchers are familiar with the Blackbar Soldierfish *Myripristis jacobus*, but few have tracked down the more illusive family member commonly known as the Cardinal Soldierfish *Plectrypops retrospinis*.

The stocky, reddish orange, 5 to 6 inch member of the squirrelfish family is quite a recluse, so is seldom seen. It can be identified by its lobed tail fins, and lack of a single prominent spine on the gill cover. This individual was photographed under a shelf of plate coral, at a depth of 45 feet, in the bay fronting St. Lucia's Anse Chastanet resort.



We Speak Fish! REEF FIELD STATIONS

If you are interested in marine life, the dive businesses listed as REEF Field Stations on the front page speak your language. Because of their commitment to marine wildlife preservation, each has agreed to act as a field station for the Reef Environmental Education Foundation.

Charter REEF Field Stations will actively recruit divers for the project and function as distribution points for Marine Wildlife Survey scansheets for the REEF Fish Survey Project and related support materials. If you are interested in becoming a research diver for REEF, simply stop in at any of our Field Stations and pick up a membership application.

Dive retailers and resorts are invited to become REEF Field Stations. For a contribution of one hundred dollars or more you will demonstrate to your customers and community your active support for the future of our coral reef ecosystems. For information contact REEF, PO Box 246, Key Largo, FL 33037. 📌

1994 REEF FIELD SURVEY VOLUNTEERS



BIMINI — Ingrid Anderson, Rob Antonelli, Walter Briney, Dave Downs, Noreen Downs, Jean Gasen, Patrick McAlpin, Beverly Morabito, Jim Morabito, Anna O'Donnell, Cathy Roberts, Dwight Pitcairn, John Pitcairn



DRY TORTUGAS — Rob Antonelli, Perry Esposito, Jean Ferrel, Harris Friedberg, Jean Gasen, David Gigliotti, Karen Guider, Ann Hunt, Kitty Hunter, Jess Lorek, Mel Mc Combie, Keith Mille, David Mulvey, Cathy Nydick, John Pitcairn, Eric Riesch, Yusty Salzman, Emily Schmitt, Ximena Velasquez



KEY LARGO — Roger Hinds, Ann Hunt, Christa LoBuie, Elaine Morden, Adrian Muniz, Everett Ramsey, Carol Reichert, Don Peck, Kerrie Peck, Sarah Pelleteri, Emily Schmitt, Deena Wells



KEY WEST — Scott Boykin, Steve Dulfer, Ann Hunt, Robert Gerrick, Doug Jones, Bonnie Nichols, Tom Isgar, John Pitcairn, John Pray, Veronica Serpas, Emily Schmitt, Bill Silliman, Rich Toth, Deena Wells



ISLAMORADA — Stephanie Bogard, Monica Cervinek, Roxanne Chavanne, Brenda Hitt, Richard Hitt, Melissa Holland, Ann Hunt, Terri Kelly, Denny Lutz, Dee Ray, Jonathan Reese, Timothy Reese, Nathan Riddle, Shelly Tyre, Bill Vandergriff, Deena Wells, Pete Wyman, H.C. Young



MARATHON — Claudia Campos, Florence Cohan, Amelia Johnson, Marty Kellog, Ted Kellog, Ed Law, Julie Law, C.C. Larroude, Barb Modafari, Jim Modafari, Mark Murtha, Renee Ranson, Will Ranson, William Ranson, Cheryl Shea, Laura Sinclair, Emily Schmitt, Eric Schmitt, Betty Young

REEF Contributing Members

Africa, Dana	# 966	Hilbert, James	#1063
Anderson, Thomas	# 479	Kirkpatrick, Bob	#3510
Bell, Randy	#3653	Kirkpatrick, Mrs R L	#3511
Briney, Walter	#1866	Kirkpatrick, Jean	#3512
Brinkley, Dan	#3651	Kitchen, Elizabeth	#2466
Burrell-Sahl, Helga	# 351	Klebs, Bob	#2180
Chapman, Park	#1084	Klein, Lydia	#1055
Devon, Nancy	# 763	Kruschke, Don	#2467
Diaz, Lisa	# 30	Kruschke, Pam	#2468
Dixon, Robert	#3122	Mulvey, David	# 944
Downs, Dave	#1383	Nutter, Guy	#2465
Downs, Noreen	#1384	Sachs, Don	#3654
Fricke, Jim	#1924	Seiffert, W A	# 501
Gaines, Carl	#1574	Smith, Kenneth	# 47
Goldsmith, Ilse	#2463	Sollins, Phillip	#3652
Harell, Carol	#1304		

Become a REEF Contributing Member

PLEASE!

Help REEF protect marine wildlife — fishes, corals, marine mammals, sponges, hydroids, jellyfish, anemones, zoanthids, coral-limorphs, comb jellies, flat worms, ribbon worms, fire worms, tube worms, fan worms, shrimp, lobsters, crabs, barnacles, bryozoan, nudibranchs, bivalves, squid, octopuses, feather stars, sea stars, brittle stars, basketstars, sea urchins, sea cucumbers, tunicates and marine plants — by becoming a contributing member of REEF.

REEF Contributing Membership — minimum contribution \$30.

Please send contributions to:
REEF, PO Box 246, Key Largo, FL 33037

Surprise — Its a Short Big Eye

—*Pristigenys alta*

Its a fact — Fishwatchers are never bored underwater; there is always something to discover.

It was not what I had hoped. In August the waters off Jacksonville, Florida are generally at their best with 50-70 ft visibility, and temperatures pushing 80 degrees. But here I was 26 miles offshore, 92 feet down, chilled to the bone and squinting through ten-foot visibility in an effort to identify the fish shapes that swirled around a low-lying limestone ledge. Although disappointed by the conditions, I wasn't discouraged. I simply modified my plan to survey the entire ledge line, and, instead, remained close to the anchor.

After settling on the sand a few feet from the ledge, I began jotting down the names of fishes passing nearby. Curious Amberjacks sailed into visibility, trailing a silver stream of Machrel Scad. A pair of Red Porgies followed by a Sheepshead swam in to check out the disturbance my fins made in the fine sand. Next came a four inch Pygmy Sea Bass, comically scooting across the bottom. I recorded 23 species in the first ten minutes before moving.

Almost immediately I spotted a dainty pair of Blue Gobies, suspended inches above their burrows, and three Jackknife Fish grazing nearby. Then it happened. From the edge of visibility two large eyes stared in my direction. I froze. There is nothing like it — the moment you spot something truly strange —

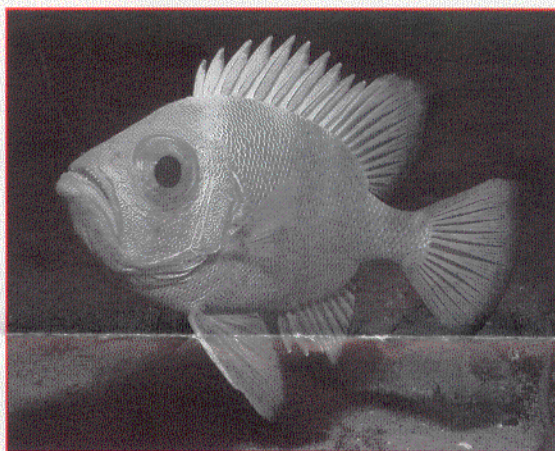
something you've never seen before! Cautiously, I swam closer, expecting my discovery to bolt before I could make an ID. Amazingly, I was able to move within three feet before stopping dead.

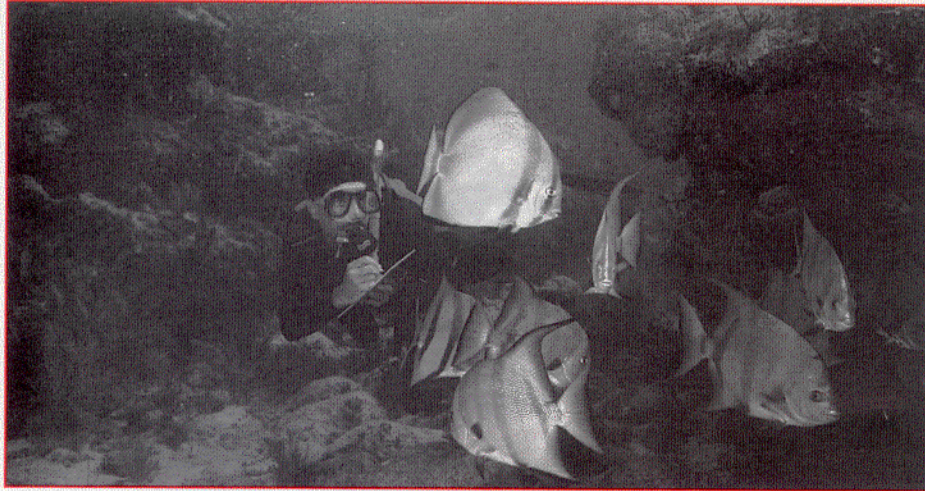
I couldn't believe it. What luck. I lay eye to eye with a Short Big Eye adult, a species believed to inhabit only waters below 300 feet, and it was gorgeous — a robust red, delicately barred, eight to nine inches, with widely spread translucent fins edged in red and black. I was mesmerized; the fish, true to the nature of its reef dwelling family members, the Glasseye Snapper and Big Eye, allowed a close approach; only a shy turn indicated any concern at my presence.

Discovering the Short Big Eye was not only unexpected but quite a coincidence. Just a month earlier, while diving a sand flat just south of the West Palm Inlet, I caught a distant glimpse of a curious shape as it dodged under a small rock. It was a Short Big Eye juvenile — an equally spectacular creature. The timid, two inch disc of orange never strayed more than inches from the rock's protection. Later, after making an ID from a text, I learned that juveniles occasionally drift to shallow habitats in floats of

sargassum before migrating to deep water where they mature and spend their lives.

A few weeks after encountering the juvenile I closely studied a pair of Short Big Eye intermediate/adults on display at the New England Aquarium in Boston. At the time I remember lamenting that I would never have the opportunity to observe the dramatic fish in the wild. Surprise! 🍀





Even Laddie Akins occasionally gets stumped. — While taking a fish survey at Molasses Reef during the Key Largo Field Survey, Laddie discovered a true mystery fish — a Pacific Batfish — mixed in with a school of Atlantic Spadefish. How did it get there? Who knows.

REEF Survey Kit

Continued from front page.

Yellowtail Snapper, Sergeant Major, Bicolor Damsel, Bar Jack, Barracuda, etc.) The surveyor can now save time by simply checking off these ubiquitous species. There are 70 additional spaces, front and back, to record the names of other fish sightings for a total of 100 recordings per sheet. Another addition is an area for survey site information necessary to complete a REEF Marine Wildlife Survey scansheet (dive site name and location, date, depth, visibility, etc.).

REEF Deluxe Survey Kits can be ordered by sending a check for \$33.50 (\$30.00 + 3.50 S & H) to REEF, P.O. Box 246, Key Largo, Florida 33037 📧

R.E.E.F. Volunteers help the National Marine Fisheries Service assess the recovery of Jewfish and Nassau grouper populations.

by James A. Bohmsack

The Protected Resources branch of the National Marine Fisheries Service (NMFS), wants to determine the condition of Nassau grouper (*Epinephelus striatus*) and jewfish (*Epinephelus itajara*) populations. These two conspicuous Caribbean fishes have declined greatly in abundance over much of their range. The Nassau grouper, for example, was once the major commercial fish in fish markets of Puerto Rico but today are rarely seen or caught. Dr. Walter Stark listed Nassau grouper as “common” at Alligator Reef in the Florida Keys in 1968, meaning that it could be observed during every dive in “appropriate habitat”. The jewfish is an especially large species reaching several hundred pounds. It is ecologically important as a top predator and is most com-

mon in the Gulf of Mexico, but occurs throughout the Caribbean region. Both species are highly vulnerable to fishing and have become depleted because of their market value, food quality, large size, ease of capture, and lack of fear of humans. Currently, they are protected from fishing in U.S. waters by federal and state fishery management agencies. If caught accidentally, they must be immediately released.

NMFS, a federal agency of NOAA (National Oceanic and Atmospheric Administration), Department of Commerce, is charged with monitoring the condition of fisheries in U.S. federal waters. Much of the data used to monitor fish populations, or “stocks” in fisheries lingo, comes from commercial and recreational landings (those fish caught and

actually brought ashore). Unfortunately this source of data is useless, when a fishery is closed. This is where REEF volunteers can help. By analyzing the reported location, the number of times observed (frequency), and abundance in REEF data, marine scientists can better assess the potential recovery of these stocks. Any unusual “hot spots” can then be more closely investigated to verify reports and collect additional data on spawning activity, sizes, behavior, and other information. Your volunteer effort is a valuable source of information for monitoring and assessing the recovery of these important species. It will also be valuable for managing protected areas like the Florida Keys National Marine Sanctuary, also under NOAA. 📧

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