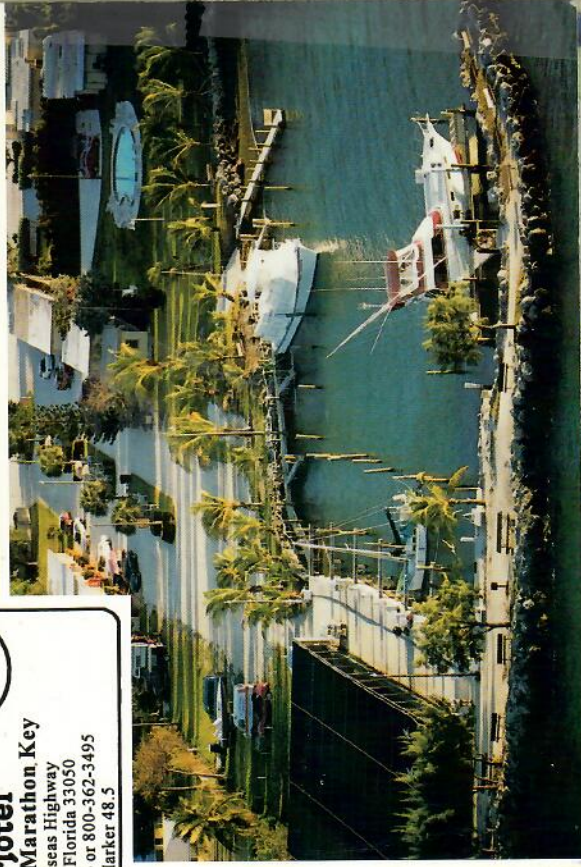


FLORIDA G.H. BALAZS

21-27 June 2001 FL KEYS
Thurs. Thurs.

2 OF 2

G. BALAZS
(808) 395-6409
(808) 271-5494



**len
rbor
otel**
Marathon Key
Seas Highway
Florida 33050
Tel: 800-362-3495
Fax: 48.5



Johnson's Sea-grass
Halophila decipiens

From the Turtle Kraals Museum....

According to Kathryn Hall Troby from *Audubon in Florida* 1974, "each turtler has his crawl, which is a square wooden building or pen, formed of logs, which are so far separated as to allow the tide to pass freely through, and stand erect in the mud. The turtles are placed in this enclosure, fed and kept there until sold." The word crawl,

or kraal, came from the Afrikaans word meaning enclosure; it comes from the same root as the word corral.

The present turtle kraals were built in the early 1920, using concrete posts spaced to allow circulation of fresh seawater with the falling and rising of the tides. Three pens, 40 feet by 25 feet, were designed to hold hundreds of turtles at one time. Each pen had two ramps, one at the dockside used to slide the turtles into the kraal on arrival; the other used to haul the turtles up and into the cannery.

The turtle Kraals Museum is housed in the former cannery building, which was also built in the early 1920's. Green turtles were butchered here, and the flippers, calipee and calipash (the soft parts of the belly plate and backbone) used in making soup. These gelatinous parts of the turtle gave the turtle soup its distinctive flavor and consistency.

Relatively little of the flesh was used in turtle soup. Almost a by-product, it was sold in local fish markets as steak, stew meat, or ground for burgers. Eggs of the butchered female were also sold and turtle liver was given away with every purchase of stew meat.

(to be continued next month)

In the days ahead, the St. Joseph Peninsula State Park and the Gulf County Turtle Patrol found 403 cold-stunned sea turtles. Gulf World, a marine zoological park in Panama City Beach, had agreed to hold the turtles in their heated saltwater tanks. Thanks to them and all the people involved with the rescue, 342 turtles survived and were released into the Gulf of Mexico just south of St. Joseph Bay. Given the navigational abilities of sea turtle, they were confident they would be able to return to St. Joseph Bay when the water warmed. Most were greens, ten Kemp's ridley, and four loggerheads.

JAN 2002

WILDLIFE

WILDLIFE MANAGEMENT AREAS



BAY KEYS. These tiny keys are a series of unspoiled National Wildlife Refuge mangrove islands seven kilometers north of Key West. Very shallow water with no-motor and idle-speed zones to protect great white, tricolored, and little blue herons.

BOCA GRANDE KEY. A popular place for local boaters, this Key West National Wildlife Refuge island lies 22 kilometers west of Key West. A narrow beach on the west and southwest sides along a protected anchorage extends to the northern tip of the island. Many species of birds can be found here, including threatened and endangered species. Half of the beach is closed to protect wildlife.

WOMAN KEY. This popular and pristine Key West National Wildlife Refuge island is 21 kilometers west of Key West just east of Boca Grande. Crystal clear, shallow water flats border an extensive south-facing beach and dunes. Conch, lobster, and juvenile fish forage along shallow, sandy bottom ledges. Several species of wading birds nest here. Half of the beach as well as the sand spit on the southeast side are closed to protect wildlife.

CAYA AGUA KEYS. These are a series of mangrove islands with tidal creeks dissecting them 10 kilometers northeast of Key West. Herons and ospreys are resident and idle-speed only/no-wake zones are in each of the tidal creeks.

COTTRELL KEY, LITTLE MULLETT, BIG MULLETT KEYS. These three sister mangrove islands are 15 kilometers northwest of Key West within the National Wildlife Refuge. No motor buffer zones

T AREAS

no-access areas have been designated to protect nesting, feeding, and roosting birds and nesting turtles.

MUD KEY. Roosting frigate birds, nesting ospreys, and a small great white heron rookery are protected in this National Wildlife Refuge area by idle-speed only/no-wake zones in two main tidal creeks. Two smaller creeks on the west side are closed as a bird sanctuary.

PELICAN SHOAL. This small rubble island nine kilometers southeast of Boca Chica is an important nesting site for birds. A no-access buffer zone between April 1 and August 31 out to 50 meters from shore protects them during migration. The shoal area is closed by the Florida Game and Freshwater Fish Commission.

SAWYER KEYS. About 35 kilometers northeast of Key West, these series of islands east of Johnston Key Channel are dissected by shallow, tidal creeks. They harbor nesting ospreys and are used by 11 species of wading birds. The tidal creeks on the south side of the islands are closed year around with vessels restricted from using most of the site.

SNIPE KEYS. Snipe Keys are a popular group of small islands 25 kilometers north-east of Key West just east of Mud Keys. Terns, shorebirds, and little blue herons use Snipe Keys, which are protected by idle-speed only/no-wake zones in the main tidal creek and no-motor zones for the remainder of the creeks.

TIDAL FLAT SOUTH OF MARVIN KEY. This two-acre area east of Mud Keys is inundated with water at high tide. Large numbers of nesting shorebirds use the flats and they are protected by no-access buffer zones.

MANAGEMENT

of 300 feet surround Big Mullet and Cottrell Keys with a 300-foot no access buffer zone around Little Mullett Key to protect wildlife.

EAST HARBOR, LOWER HARBOR KEYS.

These mostly mangrove islands 15 kilometers north-east of Key West are heavily used by boaters on weekends. The northernmost island has a 300-foot no-access zone to protect wildlife while idle-speed/no-wake zones protect nesting herons, cormorants, and osprey along the tidal creeks.

MARQUESAS KEYS. The Marquesas are a magical chain of mangrove islands in the National Wildlife Refuge about 40 kilometers west of Key West. Rays, sharks, sea turtles, and bird life abound and the area is used as an anchorage. Deepwater channels cut through the interior of the islands. No-motor and

ROCK KEY AND EASTERN DRY ROCKS Sanctuary Preservation Areas



Rock Key and Eastern Dry Rocks range in depth from 5-35 feet and are just east of Sand Key Light. Rock Key is one mile east of Sand Key Light and a half-mile further is Eastern Dry Rocks. Both are typical of most reef formations in the area, with a rubble zone and long fingers of coral with sand and coral-filled canyons. Both are popular dive spots, with abundant marine life, and several mooring buoys are available for use by boaters. Sea turtles—green and loggerhead—may be seen feeding in February and March. During the shark migration period in May/June, hammerhead and bull sharks can be spotted. During the spring, schools of snook move in, followed in May/June by large tarpon. Thanks to harvesting prohibitions, dive captains are reporting that a few large jewfish in the 200-pound range have returned to both spots following a lengthy absence. Because fishing is not permitted at the Rock Key and Eastern Dry Rocks Sanctuary Preservation Areas, poaching should be discouraged.

RESEARCH

RESEARCH ONLY AREAS *Please Don't Go There!*

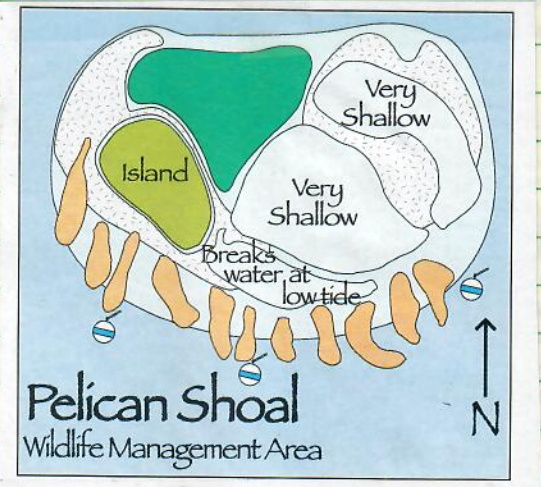


Two small areas in the Lower Keys have been set aside by the National Marine Sanctuary for research only. One is at the shallow reef crest at Eastern Sambos and the other is the patch reef system that lies on the northeast corner of the Looe Key Existing Management Area. Both are closed to entry and clearly identified by yellow research only markers.

NEWFOUND HARBOR KEY Sanctuary Preservation Area



This tiny area of less than a half-mile square is the only inshore patch reef complex protected in the Lower Keys. And protection it needs. Easily accessible by boaters, this popular and vulnerable shallow reef area is just off exclusive Little Palm Island and partially within the Coupon Bight Aquatic Preserve. It has some of the best boulder corals in the Keys as well as star corals and giant brain corals, all in depths of 18 feet or less. Nearby Seacamp students use Newfound Harbor reefs as a marine laboratory. Angelfish, butterfly fish, surgeon fish, damsels, wrasses, grunts, snappers, and parrotfish mix with the occasional grouper. All can be seen in water whose visibility is highly variable, ranging from five to 50 feet depending on wind direction and other conditions. Winter northeasterly winds produce the most favorable visibility at Newfound Harbor. Unfortunately, you will notice many coral heads are damaged by boaters who are unfamiliar with the shallow reefs and run aground navigating into the harbor from Hawk Channel.



WESTERN SAMBOS Ecological Reserve



During a stormy meeting of local fishermen, a Key West man rhapsodized about Sambos and complained that closing it off to fishing might cost him his marriage. It seems that his wife regularly expected him to return home from spearfishing at Sambos with dinner—or else. Sambos did, indeed, become America's largest "no-take" marine ecological reserve in 1997, and the man is spearfishing elsewhere. But you can hardly blame him for loving Sambos. It is a bountiful center of biodiversity with the greatest range of marine habitat in the Lower Keys—which, of course, makes it a perfect place for special protection.

A rectangular nine-square-nautical-mile area, Western Sambos Ecological Reserve begins at the water's edge off the sandy beaches and salt ponds of Boca Chica Naval Air Station. It continues through nearshore hardbottom and inshore patch reefs, out across mid-channel reefs in Hawk Channel, over offshore patch reefs and the shallow bank reef, and ends at a depth of 60 feet. Western Sambos has one of the best remaining stands of elkhorn coral, a species once abundant in the Keys. A February 1996 report by



03

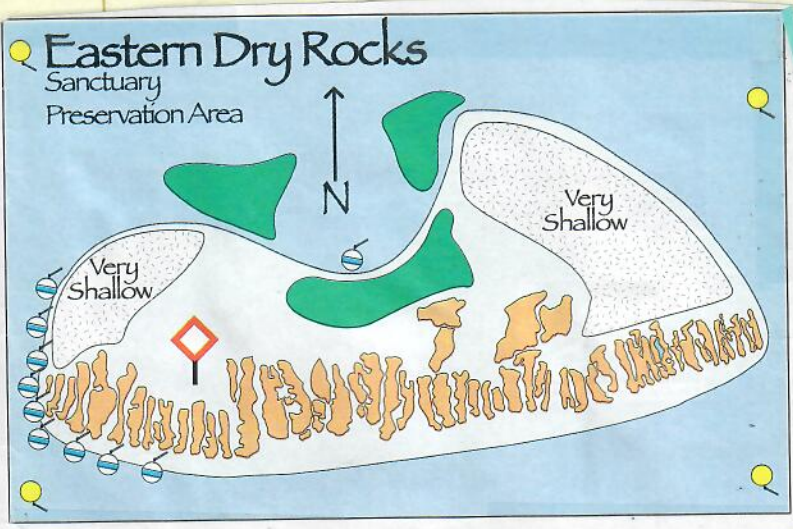
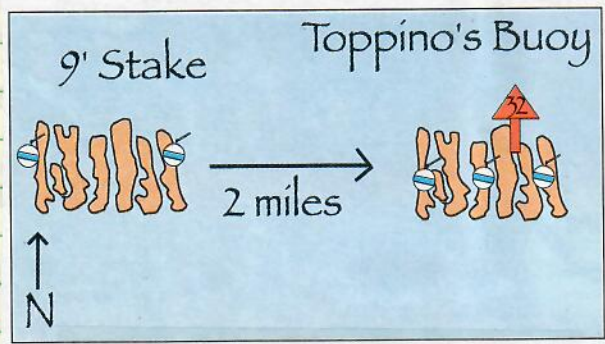
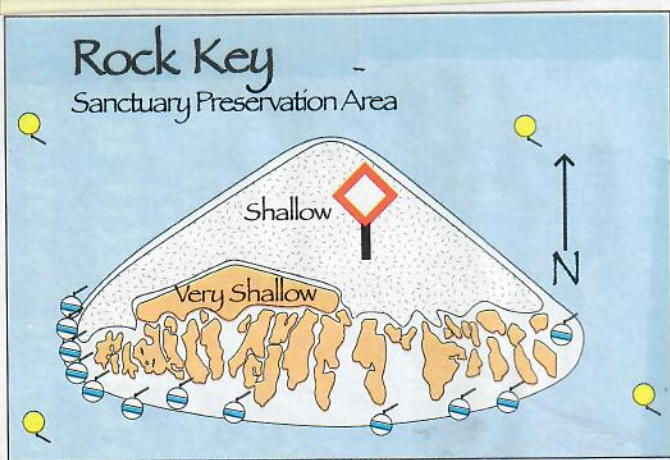
Coral reef at Western Sambos by Larry Benvenuti ©199

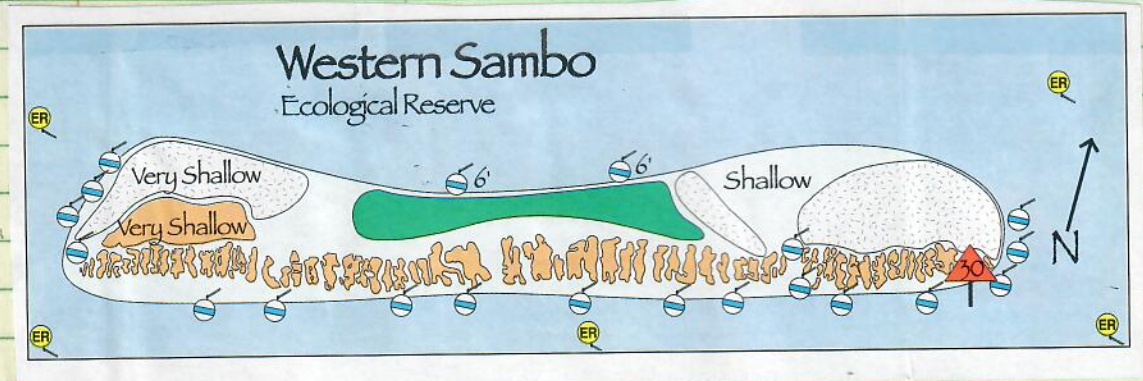
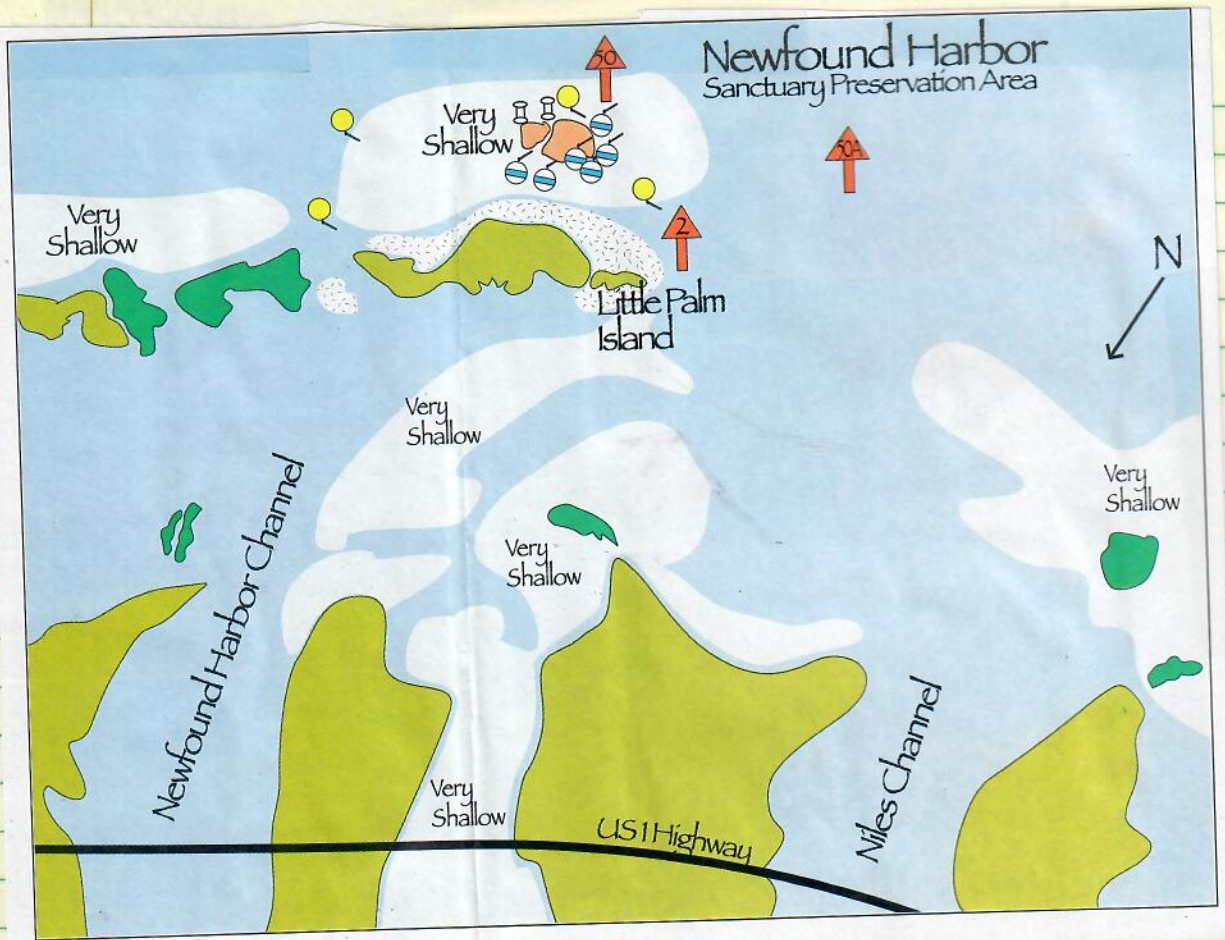
The Nature Conservancy's Coral Watch program found 21 hard coral species at the reef, out of 30 surveyed. Anemones, crabs, starfish, sea cucumbers, sand dollars, and sea urchins are found nearshore. At the reef, surveys have also found 13 of 33 sponge species and 11 of 18 species of soft corals. Surgeonfish, bar jacks, foureye butterfly fish, rosy blenny, neon goby, grunts, wrasses, angelfish, damselfish, striped parrotfish, butter hamlet, sharpnose

per, and schoolmasters are resident at the reef. Huge gray angelfish and hogfish meander the shallow areas of Western Sambos.

The presence of abundant marine life at Sambos is no accident. Adjacent to undeveloped land at the Navy base, Sambos is protected from shoreline water pollution and is isolated from Florida Bay and its problems. Sambos is used primarily by local divers and snorkelers, although there are commercial dive operators out of Stock Island that run trips there.

Because Sambos is a navigational route for the commercial fishing boats at Stock Island, groundings have historically been a problem. Before Sambos was closed to fishing and other harvesting in July 1997, locals also complained that hogfish, snapper, and grouper had largely been fished out. Scientists will be closely monitoring Sambos over the next several years to document changes in fish and other marine life with the addition of "no-take" protections. If experience elsewhere in the world is any indication, protecting this range of habitats, fish and invertebrates will result in more and bigger fish and an even healthier reef system at Sambos.





Bag Limit: Six (6) per person per day or 6 per per
 son per trip when the trip is longer than one day.

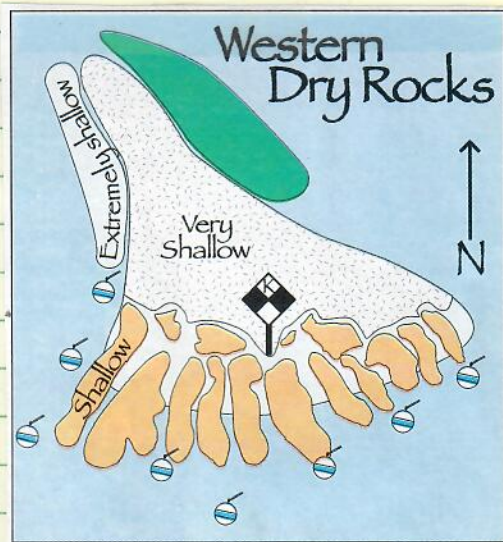
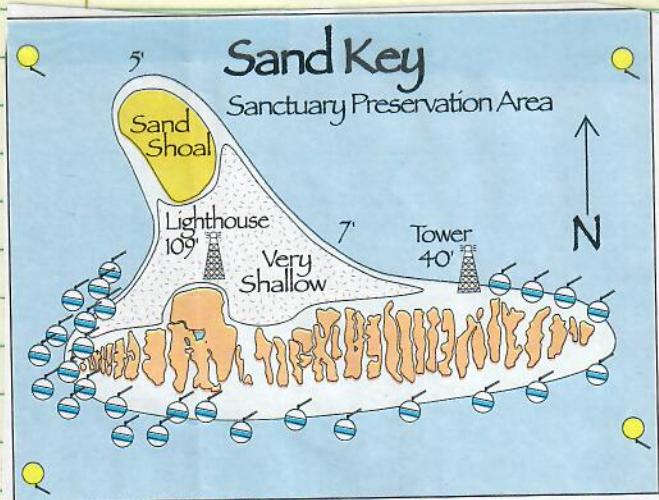
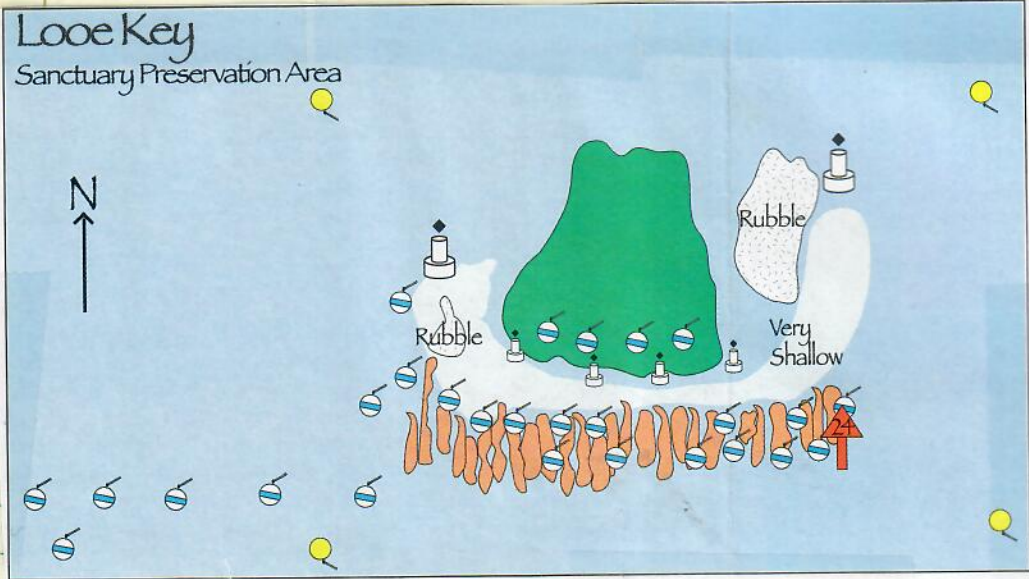
SAND KEY Sanctuary Preservation Area



Just five miles west off Key West, Sand Key is marked by a 144-year-old red iron lighthouse that is a beacon for divers, snorkelers, and boaters. Sand Key is where you go when you don't know your way around. Just take a bearing on the historic 115-foot tall lighthouse that rises from the water. If Sand Key sounds like a busy place, more often than not it is. More than 60 mooring buoys are in place there, accommodating everything from pleasure boats to the big tourist catamarans out of Key West. Originally called Cayos Arena by early Spanish explorers, the shape of Sand Key shifts with the weather. Up until about six years ago, the lighthouse rose from a visible sand island (actually ground coral and shell). Sand Key today has settled just below the water's surface.

The reef at Sand Key is typical of major lower Keys spur and groove reefs. The spurs are ridges of coral 5-20 feet deep, with grooves of sandy bottoms between cliff-like structures. Fire coral abounds in several sections of the reef. The northwest side of the reef has coral heads and mixed rubble in close proximity to the lagoon and is more suitable for beginner divers and snorkelers. The south side of the reef gradually slopes away to a gentle ledge at about 65 feet, dropping to 90 feet in some places. In the shallows are artifacts from the original brick lighthouse, which blew away in an 1846 storm. Visibility at Sand Key can be highly variable—ranging from 15-110 feet—depending on the wind, wave action and monthly tide variations. Spring and summer are the best times to visit Sand Key because the nearby Gulf Stream blows in over the shallows, adding an extra sparkle to the reef structure.

A variety of fish can be seen at Sand Key. Grunts, yellowtail, snapper, parrotfish and angelfish are dominant residents, along with some grouper, blue tang, chromis, wrasses, and the ubiquitous nurse shark. A no-fishing and harvesting rule now applies within the half-mile Sand Key Sanctuary Preservation Area and we may see more and bigger fish as a result. Catch-and-release trolling, however, is still allowed.



LOOE KEY

Existing Management Area & Sanctuary Preservation Area



Since 1981, Looe Key has been federally protected as a National Marine Sanctuary. It is now recognized as an Existing Management Area within the Florida Keys National Marine Sanctuary with expanded conservation measures. Lying eight nautical miles southwest of Bahia Honda State Park, there is arguably no finer place in the lower Keys to view coral reefs, fish, and other marine life.

Looe Key's uniqueness is described insightfully by John and Judy Halas and Don Kincaid in their *Diving and Snorkeling Guide to the Keys*. Looe Key, they say, is a geological anomaly having characteristics of both patch reefs and bank reefs as opposed to other sites farther west that only contain fingers of fire coral, elkhorn and staghorn coral. Looe Key, they point out, is constantly washed by the waters of the Gulf Stream and its pulsating life cycle renewed by larval creatures that drop from the sargasso weed and propagate the reef. A diversity of fish congregate here--parrots and surgeonfish on the north side, barracudas and jacks on top of the reef, grunts, butterfly fish, and angelfish on the reef crest.

It was, in fact, Looe Key's showcased abundance and diversity of fish that argued for extending conservation management to other Keys reefs in 1997. For the past 16 years, Looe Key has benefited from prohibitions on spearfishing and tropical fish collecting. An extensive mooring buoy system and "look don't touch" rules have prevented damage to corals. It's

simply a more intact reef system as a result. Marine life protection was expanded in 1997 with the designation of the Looe Key Sanctuary Preservation Area, a rectangular area of about a half square nautical mile along the shallowest reef areas within the larger Looe Key Management Area. There, more comprehensive "no-take" rules are aimed at eliminating all forms of fishing and other harvesting. Based on past success, we can expect more and bigger fish and a healthier overall reef system as a result.

As an Existing Management Area, the following regulations protect Looe Key:

- Removing, taking, damaging, harmfully disturbing, breaking, cutting, or spearing any coral, marine

invertebrates, plant, soil, rock, or other material; except commercial taking of spiny lobster and stone crab by trap and recreational taking of spiny lobster by hand gear consistent with the applicable Fishery Management Plan.

- Taking any tropical fish.

- Fishing with wire fish traps, bottom trawls, dredges, dish sleds, or similar towed or anchored gear or nets.

- Spearfishing or possession of spearfishing equipment.

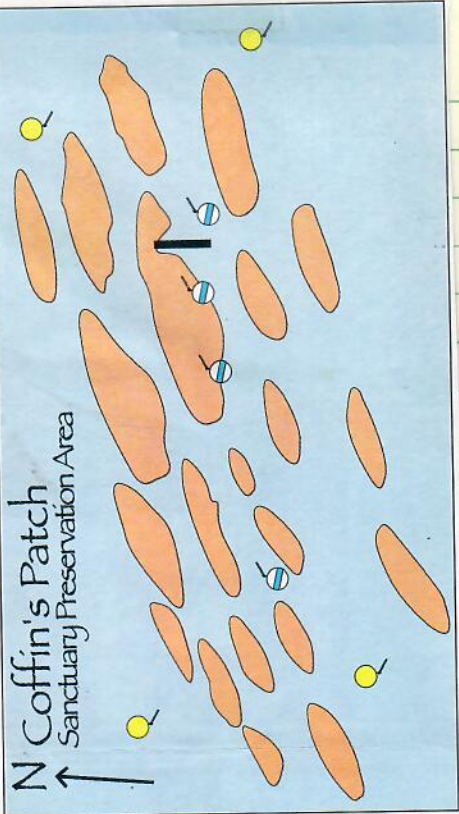
Looe Key got its name from the wreck of the British frigate, H.M.S. Loo, which ran aground in the early morning hours of February 5, 1744, pushed, according to British courts, into the reef by the Florida current. Little remains of the wreck but its story. The ship was named after an old seaport town in Cornwall, England and was launched in 1706. Thirteen commanders later, it ran aground on what was then a sandy Looe Key island. The most widely reported reason given for the added "e" to Loo on the charts is that it resulted from a clerk's error in listing the ship as "HMS Looe" on admiralty documents created after the vessel was lost.

COFFINS PATCH Sanctuary Preservation Area

7

To dive instructor Capt. Jim Holley, the shallow patch reefs of the Coffins Patch Sanctuary Preservation Area off Marathon offer some of the best snorkeling in the Middle Keys. "It's just like an aquarium," says Holley, one of the coordinators of the on-the-water volunteer Team OCEAN activities for the Marine Sanctuary.

Tangs, jacks, stingray, nurse sharks, grouper, lobster, butterfly fish and the curious moray all call Coffins Patch home, plying the easy currents among soft corals, up to three-foot round boulder coral and some of the prettiest patches of pillar coral in the area. Toward the east, four mooring buoys bob in depths of mostly 10 and 12 feet, ideal for snorkeling. The pillar coral is found at the west end of the SPA near a single mooring buoy where the maximum depth is 25 feet. The water is deep enough at low tide that boat groundings at Coffins Patch are rare and coral cover remains good.



111

SOMBRERO KEY Sanctuary Preservation Area

6

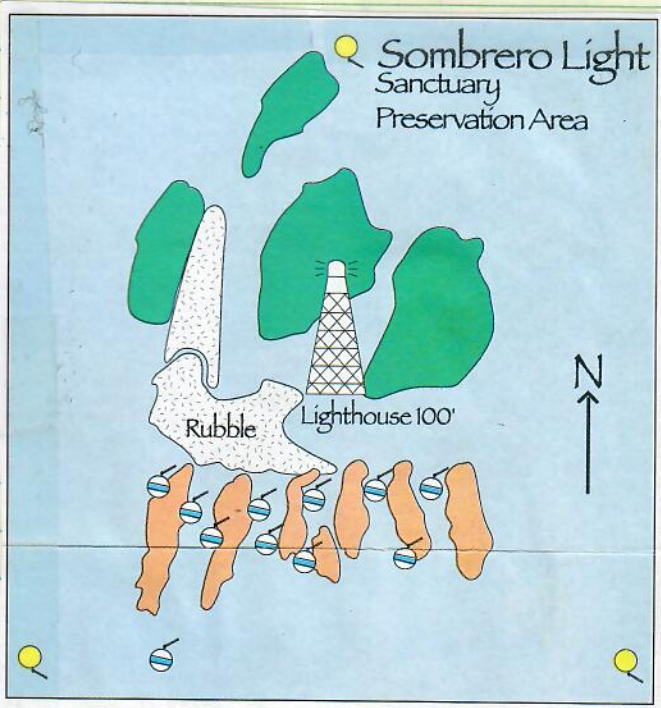
Just five years before General George G. Meade defeated Robert E. Lee at Gettysburg, Meade was building lighthouses in the Florida Keys, with the distinctive skeletal Sombrero Light completed in 1858. Nearly thirty years later, the Army's "lighthouse brigade" completed the aids to navigation that ended the

lucrative salvaging industry in the Keys, sending local wreckers scurrying to wayward ships that ran aground along the reef. Today Sombrero Key's treasure is the reef, with beautiful branching and boulder corals organized in a classical spur and groove formation. A diving highlight is "the arch," a natural coral bridge reaching eight feet in height.



Soft corals
by Larry Benvenuti
©1997

Not as large as Looe Key, Sombrero is a great place for beginner snorkelers who won't get pounded by waves. Sombrero Reef is dotted with mooring buoys that help protect this remarkable area from anchor damage.



KEY WEST

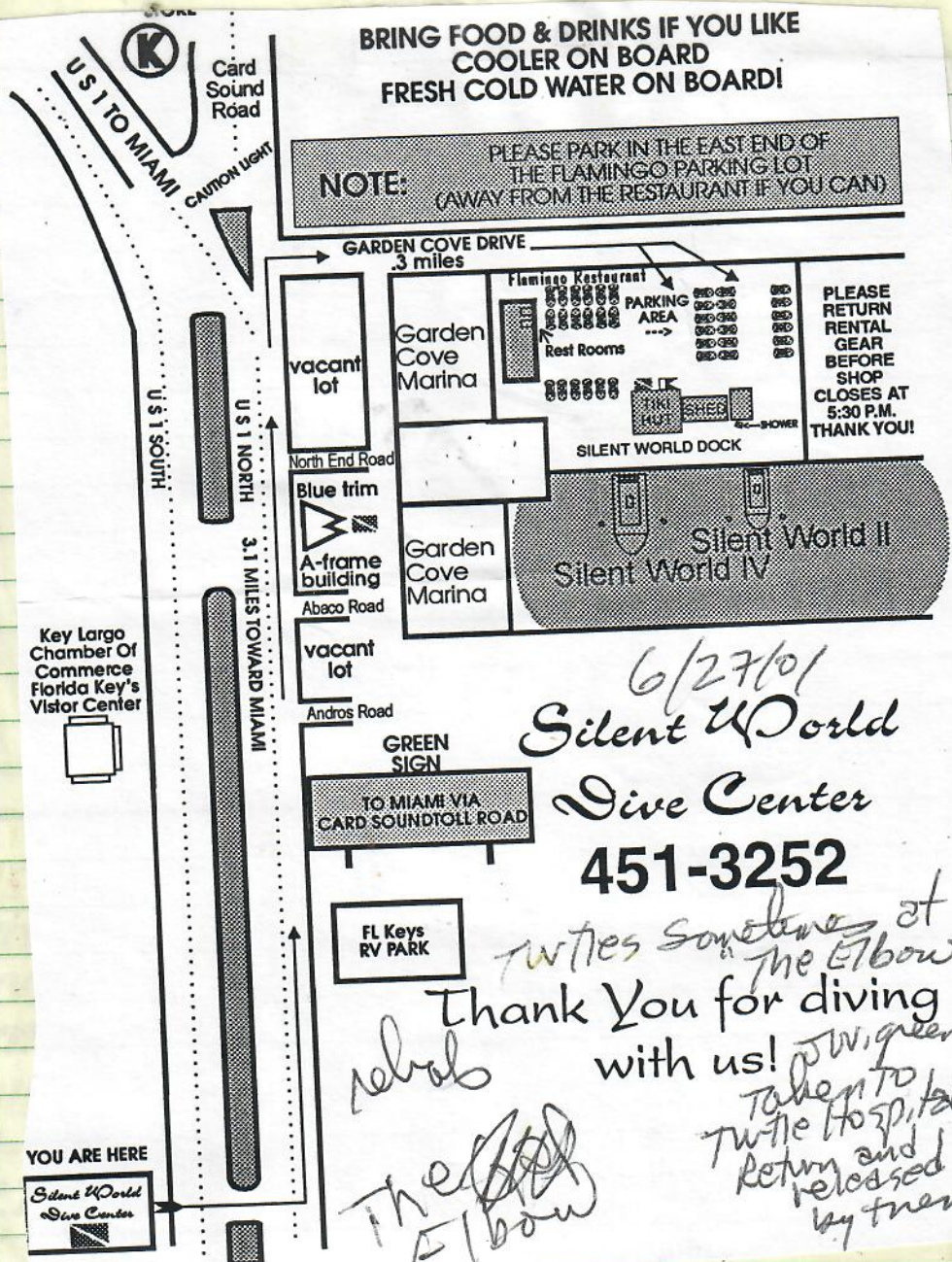


structure on the vessel.

- Operating a vessel in such a manner as to create or risk collision with another vessel.
- Attaching to the seabed, or causing prop-scarring.
- Travelling a vessel anchored on living coral in water less than 40 feet deep.
- Operating a vessel at more than idle speed within 100 feet of a coral reef.
- Operating a vessel at more than idle speed within 100 feet of a sandbar or shoal.
- Diving or snorkeling without a dive flag.
- Operating a vessel in such a manner as to endanger life, limb, or property.
- Releasing exotic species.
- Damaging or removing markers, buoys, navigational aids, scientific equipment, boundary buoys, or other buoys.
- Harassing, molesting, ignoring, or possessing protected wildlife.
- Taking or possessing protected wildlife.



1. Ambrosia House, 296-9838
2. Atlantic Shores, 296-2491
3. Banana Bay Resort & Marina, 296-6925
4. Blue Marlin, 294-2585
5. Chelsea House, 296-2211
6. Coconut Beach Resort, 294-0057
7. Coconut Mallory resort, 292-0017
8. Comfort Inn, 294-3773
9. Cuban Club Suites, 296-0465
10. Day's Inn, 294-3742
11. Douglas House, 294-5269
12. Duval House Inn, 292-9491
13. Fairfield Inn, 296-5700
14. Grand Key Resort, 293-1818
15. Hampton Inn, 294 2917
16. Harborside Motel & Marina, 294 2780
17. Hemingway House Museum
18. Hibiscus Best Western, 294-3763
19. Hilton Resort & Marina, 294-4000
20. Holiday Inn Beachside, 294-2571
21. Hyatt Beach House Resort, 294-0059
22. Key Lime Inn, 294-5229
23. Merlinn Guest House, 296-3336
24. Ocean Key Resort, 296-7701
25. Palms Hotel, 294-3146
26. Paradise Inn, 293-8007
27. Pier House, 296-4600
28. Red Rooster Inn, 296-6558
29. Sheraton Suites Key West, 292-9800
30. Southernmost Motel, 296-6577
31. Speakeasy, 296-2680
32. Sunrise Suites, 296-6611
33. Whispers Bed and Breakfast, 294-5969
34. Wyndham Beach House, 296-5000
35. Wyndham Casa Marina, 296-3535
36. 1800 Atlantic, 294-8877



THE FLORIDA KEYS & KEY WEST
Come as you are™

Stuart Newman Associates
63 North Conch Avenue
Conch Key, FL 33050
(305) 289-3159
Fax: (305) 289-7326
E-mail: keyspr@aol.com

Michelle Sheldone
Keyswoman1@aol.com

REEF TRIP DESTINATIONS

The following is a partial list of the more than forty beautiful living coral reefs that we visit regularly.

SHARK DIVE.....(SAMANTHA'S ~~REEF~~) Abundant schools of tropical fish, barracuda and large sharks are found under and around the coral ledges.

WRECK DIVERS.....180 ft Thunderbolt Large jew fish, barracudas, jacks & tropical fish abound. Divemaster joins you for a complete penetration dive into the ship.

COFFINS PATCH.....One square mile of colorful coral reefs with depths varying from 8 to 35 feet. Large numbers of tropical fish make this area an underwater dream world.

SOMBRERO LIGHT.....Finger like coral projections reaching out in only 30 feet of water make this an interesting location. A beautiful natural arch and many tunnels add to the charisma of this area.

PILLAR CORAL.....One of the very last remaining stands of this fragile coral in North America. The pillars range in height from one to eight feet making this location a photographers paradise.

SOME OF THE OTHER REEFS WE VISIT.....Hermans Hole..... Delta ShoalsLobster Ledge..... High School Reef..... Arrow Head..... Angelfish Reef.....

MARATHON DIVERS FIER

Bottom out, heads under ledge
FANASOWITZ
said been here at night

JACK and RAY

Visit our website at
www.yankeefleet.com

DRY TORTUGAS FERRY
240 Margaret Street • P.O. Box 5903 • Key West, FL 33040



Owned and operated by Yankee Fleet
Key West, FL, and Gloucester, MA
Schedule and prices subject to change



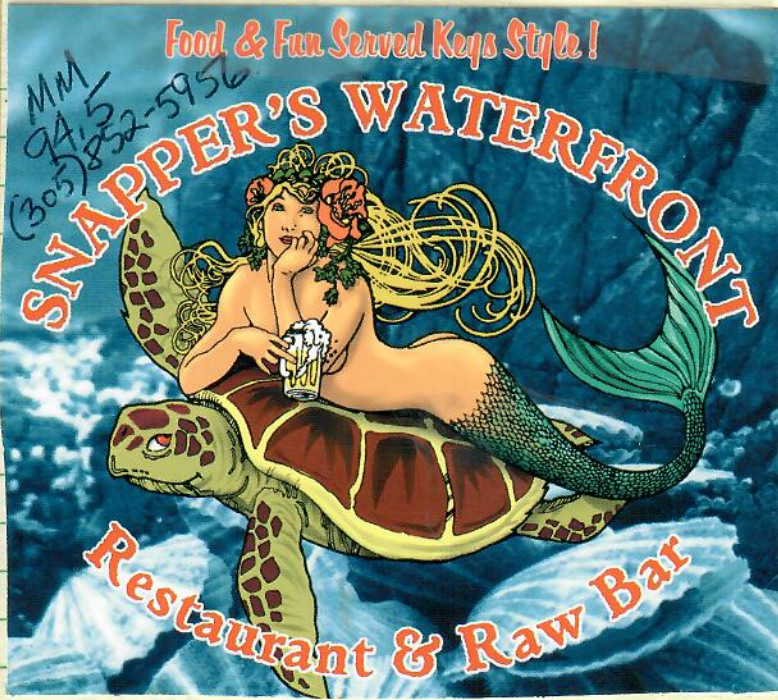
INCLUDED IN YOUR DRY TORTUGAS ADVENTURE:

- Breakfast and lunch of fresh foods and juices
- Professional tour guides at sea and at the park
- Snorkeling equipment provided
- Yankee experience—more than 20 years of transporting visitors to the Dry Tortugas

305-294-7009

Toll-free 800-634-0939

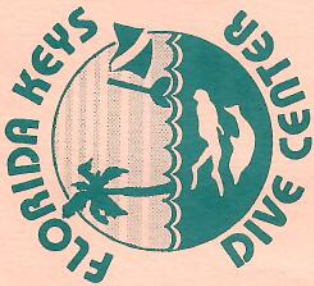
www.yankeefleet.com



Home of the World Famous Turtle Club
 Join Now to receive Member Discounts!
 Come See Live "Turtle Club the Radio Show"
 Broadcast Thursday Evenings at 6:30
 Presented by



theFloridaKeys.com/snappers

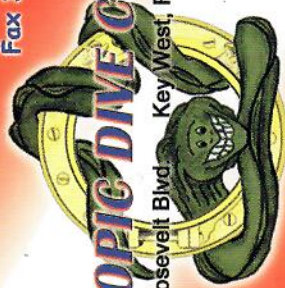


Mile Marker 90.5
 P.O. Box 391
 Tavernier, FL 33070

CAPT. GARY HOWE
 Training Director
 (305) 852-4599
 1-800-433-8946

Email: scuba@floridakeysdivctr.com
www.floridakeysdivctr.com

PH 305-296-9914
 Fax 305-296-9918



SUBTROPIC DIVE CENTER

1605 North Roosevelt Blvd - Key West, Florida 33040

Captain Dan Tess
 Instructor

www.subtropic.com

dan@subtropic.com

296-9914



The Down + Western Dry Rocks

SUBTROPIC DIVE CENTER KEY WEST

1605 N. Roosevelt Blvd., Key West, FL 33040
www.subtropic.com



Holiday Isle Dive Shop M/V Captain Scuba

P.O. Box 482
84001 Overseas Highway
Islamorada, FL 33036

(305) 664-DIVE
1-800-327-7070 ext. 644
www.divetheisle.com

OUR CHARTER AREA IS FROM
ALLIGATOR REEF TO CONCH REEF INCLUDING
THE WRECK OF THE EAGLE, A 287-FT. FREIGHTER

6/27
"Twenties hard to come by"

ScubaDiving.com Survey

LADY CYANA DIVERS

THE CENTER FOR REEF & WRECK DIVING IN THE FLORIDA KEYS

MILE MARKER 85.9 — U.S. 1

POST OFFICE BOX 1157
ISLAMORADA, FLORIDA KEYS 33036

(305) 664-8717 • (800) 221-8717

Molasses Reef

LAURA TOLAND 39 reefs yesterday

www.ladycyana.com

117



CAPT. HOOK'S MARINA & DIVE CENTER

Voted Marathon's Favorite
MM 53 • US1 at Vaca Cut
(305) 743-2444

CPT. HOOK
1-800-278-4665
Fax: (305) 289-1374
Owners
11833 OVERSEAS HWY., MARATHON, FL 33050
e-mail - info@captainhooks.com

• DIVER DEVELOPMENT CENTER
• EQUIPMENT SALES / SERVICE / RENTALS
E-mail: info@captainhooks.com

11833 OVERSEAS HWY
MARATHON, FL 33050

Reef Runner
floridadivecharter.com

Marathon and The Middle Keys

With over 75 excellent dive locations you can choose to experience:

- A diver-friendly WWII mine sweeper and home to giant jewfish
- Feed or watch friendly reef and nurse sharks
- An 80' front reef wall
- A variety of healthy coral reefs including the Arch, a coral rainbow 8 feet tall
- Spearfishing and lobstering (in season)
- For full description of 75 outer and mid-reef locations, call **Captain Sam Watson at 800-332-8899**

Equipment Sales/Rental **Paradise Divers^{INC}** Dockside Air/Nitrox Fills
Aquatic Adventure Center
 of Sunshine Key Resort / Marina

Daily Dive / Snorkel Trips
 Looe Key • Sombrero • Wrecks
 Diver Propulsion Vehicles

Scuba Instruction • Recreational / Technical

PADI Linda Kruszka, Instruction Open Daily
 IANTD (800) 852-0348 (305) 872-1114 8am-6pm
 E-mail: paradivers@aol.com

THE DIVING SITE **PROFESSIONAL DIVE CENTER**
 DAILY REEF TRIPS
 30 Ft. Custom Dive Boat "Island Diver"
 Sales, Equipment Rental, Instruction
 Enriched Air Service

Woody Mepham
 Owner
 D.O.T. Approved Hydrostatic Testing Facility

12399 Overseas Highway
 Marathon, Florida 33050
 http://www.divingsite.com

Voice: 800 634-3935
 305 289-1021
 Fax: 305 289-0046

DIVING DISCOVERY
 Richard Boileau & Suzanne Potts

- U/WATER VIDEO PRODUCTIONS
- SPORT DIVER DEVELOPMENT CENTER
- DIVE TRAVEL/CHARTERS
- EQUIPMENT SALES / SERVICE / RENTALS
- www.divingdiscovery.com
- E-mail: RBoileau@aol.com

1629 CENTRAL AVENUE
 ALBANY, N.Y. 12205
 (518) 456-8146

showed us nurse shark 5/99/1999
Video

Reef Runner Dive Charters of the Florida Keys

• Private Individualized Diving •
Scuba/Snorkeling • Instruction
Reef and Wreck Diving • Spearfishing/Lobstering

33' Luhrs Mainship

Capt. Sam Watson
Marathon, FL
www.floridadivecharter.com
(305) 289-9808
(800) 332-8899
Cellular 731-4434

BUD BOATS, INC.

800-633-2283

OLD WOODEN BRIDGE
FISHING CAMP & MARINA
BIG PINE KEY, FL MM 30

THE BUCCANEER
RESORT & MARINA
2600 OVERSEAS HWY. MM 48.5

Turtle Kraals

Restaurant & Bar



MAIN OFFICE MAILING ADDRESS:
2600 Overseas Hwy.
MARATHON, FL 33050
CHECK OUT OUR WEBSITE AT:
budboats.com
E-mail: BudBoatsFL@aol.com

TROPIC ISLE DIVE CENTER

11499 Overseas Hwy. *Not Predictable*
(mile marker 52.9)
Marathon, FL. 33050
Pho 305-289-0303
Fax 305-289-0745



Padi Dive Instruction
Resort Course *Thru When turtles seen*
Divemaster *seen at Delta Shoal + The GAP*
Capt. Jim Dill
jim@floridakeysdive.com
Dive Equipment
Sales and Rentals
REEF TRIPS
SHARK DIVES
WRECK DIVES
NIGHT DIVES

MIDDLE KEYS SCUBA CENTER

- U/WATER VIDEO PRODUCTIONS
- DIVER DEVELOPMENT CENTER
- DIVE TRAVEL/CHARTERS
- EQUIPMENT SALES / SERVICE / RENTALS
- www.divingdiscovery.com
- E-mail: RBoileau@aol.com

MM 52.8
11511 OVERSEAS HWY.
MARATHON, FL 33050
(305) 743-2902

MARATHON DIVERS

Ritz Riverside "shop for sale" 1951



SALES • SERVICE • RENTALS
DAILY REEF TRIPS

Jack - played Rock & Roll S. Calif.

JACK & RITA
FERGUSON
(305) 289-1141

12650 OVERSEAS HIGHWAY
MARATHON
FLORIDA KEYS 33050

800-724-5798

Bottom line said by all dive shops - Seeing turtles is an uncommon event - can't be predicted where or when - then only singles usually larger heads small to medium size

601

The Turtle Hospital was opened in 1986 with four main goals: 1) Repair injured sea turtles and return them to the wild, 2) educate the public through outreach programs to local and out of state schools, 3) to conduct and assist with research in conjunction with state universities to aid the sea turtles, 4) to work for environmental legislation to make the beaches and water safe and clean for sea turtles.

The Turtle Hospital, (Hidden Harbor Marine Environmental Project, Inc.), is a 501 c3 charitable corporation.

The Hidden Harbor Motel provides the space and the buildings needed to house and care for the sea turtles.

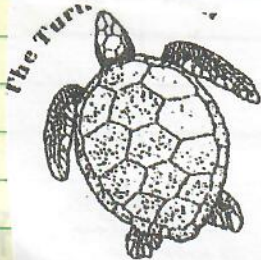
The Turtle Hospital relies on volunteers to assist with feeding and caring for the turtles. Many veterinarians, both local and non-local, have and continue to volunteer their time as well. The Turtle Hospital is not open to the public.

The Turtle Hospital is equipped with up to date medical equipment needed for performing a variety of surgeries on different species and sizes of sea turtles. More than half of this equipment has been donated by local hospitals and doctors.

The Turtle Hospital treats a variety of turtle ailments, such as flipper amputations caused by fishing line and trap rope entanglements, shell damage caused by boat collisions, and intestinal impactions caused by ingestion of foreign material, such as plastic bags, balloons and fishing lines. The most common surgery performed is the removal of debilitating viral tumors that affect over 50% of the sea turtles in the Keys and around the world.

The Turtle Hospital and the University of Florida have been doing cooperative research into the causes of fibropapilloma, the debilitating tumors affecting sea turtles. This is currently the only global disease affecting wild animals. We have successfully been able to transmit the disease, proving that it is an infectious disease, and we are on the last stage of isolating the cause.

In 2000 the Turtle Hospital has released 22 sea turtles back to the wild and has released over 500 sea turtles since its inception.



Hidden Harbor Marine Environmental Project, Inc.

2396 Overseas Highway
Marathon, Florida Keys 33050
(305) 743-5376

Date: Mon, 21 May 2001 08:12:20 -0700
 From: Denise Parker <Denise.Parker@noaa.gov>
 To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
 Subject: Re: Bathymetry maps On-line - a little detailed (fwd)

Marc's site is different from the one I pulled up. You can look at bottom type in the areas of interest. Most of area is sea grass beds. Only area with some possible relief (patch reefs) is in Marthon/Duck/Long Key area.

"George H. Balazs" wrote:

>
 > ----- Forwarded message -----
 > Date: Fri, 18 May 2001 17:21:11 -1000
 > From: Marc R. Rice <mrice@hpa.edu>
 > To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
 > Subject: Re: Bathymetry maps On-line - a little detailed (fwd)

> I think it is a different site. What they seem to show is that the
 > whole area out there is classified and sea grass beds... not much
 > hard stuff anywhere to be found... no wonder the mothers went there.

> go to this web site and look at the habitat maps...

> http://spo.nos.noaa.gov/projects/benthic_habitats/

> Denise's site
 > <http://www.ngdc.noaa.gov/mgg/bathymetry/maps/nos.html>

> Different sites??
 > Marc

> >This is what Denise found for me but I've not had a moment to examine
 > it all.

>
 > ----- Forwarded message -----
 > >Date: Thu, 17 May 2001 11:39:22 -0700
 > >From: Denise Parker <Denise.Parker@noaa.gov>
 > >To: ghb <gbalazs@honlab.nmfs.hawaii.edu>,
 > > skkm <smurakaw@honlab.nmfs.hawaii.edu>
 > >Subject: Bathymetry maps On-line - a little detailed

> >George - (if there are any questions just give me a call).

> >Maps are available through the NOAA, National Geophysical Data Center
 > > NOAA/National Geophysical Data Center
 > > 325 Broadway E/GC3
 > > Boulder, CO 80303
 > > USA
 > > Phone: (303) 497-6338
 > > FAX: (303) 497-6513

> >Orders can be paid for by credit card, check or money order. They don't
 > > mention how they ship or shipping times in the website.
 > > Call for info or contact Robin Warnken (e-mail Robin.R.Warnken@noaa.gov)
 > > Cost \$4-5 per map but you may want to ask about if they have a Federal
 > > pricing
 > > The Maps you would need are:
 > > BR-3, BR-6, NG-17-12, NG-17-6, NG-17-9, NG-17-7 (full color bathymetry),

Date: 10/15/97
Sender: Barbara Schroeder
To: George Balazs
Priority: Normal
Subject: Re[2]: Sat Tag ID's

Yes, I used all id numbers under my program, #1490. No, I would rather not have these numbers back because I hate re-using the numbers it's too confusing to me. Because sometimes a number pops up long after it has stopped regular transmission and then, if that id has been out on more than one turtle, who knows who it is. So, I would prefer you keep those numbers, EXCEPT, you just sent a refurbished tag to me with your number 22127, so this one should be transferred to my program 1490. How does this sound. Later today I'll get back to you with what recovered transmitters I have here relative to our antenna discussions.

Reply Separator

Subject: Re: Sat Tag ID's
Author: George Balazs at ~NMFS-HONO
Date: 10/14/97 10:45 PM

Thanks Barbara, I know it took a bit of your time to assemble this. Regarding 25689, could you put a magnet on it to be sure it no longer transmits. Remember, if it transmits for more than 10 days in a month, that's 1/12 of a ppt year, standard location service, i.e. 1/12 x ca \$3,000. But maybe it's too sporadic to worry about.

What ID codes did you use this year? Presumably all ones in your (or Florida's) Argos program. If you have your own, let me know what the Program Number is (mine are 9092 and 1092).

I guess the bottom line question is, should I proceed to use all the codes below in transmitters I'll be using? Or, do you what these numbers (for nostalgic reasons) transferred to your program (at a cost, but not much I believe- but they do charge something to transfer number).

Different subject: Mike Paine. I enjoyed his input, questions and contributions at our Program Review. But there were a few items sometimes I want to mention/discuss with you. Geo.

George, here are the details, after you digest, let me know what you want me to do:

Used in 1994 on Melbourne greens:

22127 deployed 7/23/94
 22128 deployed 7/24/94
 22129 deployed 7/25/94 - this turtle was recaptured on 7/14/96 and her tag was gone

Used in 1995 on Melbourne greens:

25688 deployed 8/7/95 - this turtle was recaptured this summer, her transmitter was gone and we retagged her with one of my sat tags (and id's)
 25689 deployed 8/8/95
 25690 deployed 8/9/95 - this turtle was recaptured nesting at Melbourne Beach on 8/8/97, the transmitter was gone
 25691 deployed 8/16/95 - this turtle was recaptured on 7/14/97 nesting at Melbourne Beach, the transmitter was present, was removed, and it is sitting in my office

In 1996, I re-used ID numbers as follows, these id numbers were built into new transmitters, not refurbished ones.

22127 deployed 8/24/96
 22128 deployed 8/25/96
 22129 deployed 8/23/96
 25689 deployed 8/14/96 - this transmitter was recovered two months ago (it was found laying on the bottom in 10 feet of water), I copied you on the e-mail, this transmitter is sitting on my desk - it must be transmitting, I saw this come up on ADS too.

Okay, now what do we do?

BAS

Date: Sun, 17 Jun 2001 22:18:18 -0400
 From: jwyneken <jwyneken@fau.edu>
 To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
 Subject: RE: FL Keys

[The following text is in the "ISO-8859-1" character set.]
 [Your display is set for the "US-ASCII" character set.]
 [Some characters may be displayed incorrectly.]

FL
Reduce Bush

Hi George-

Most of my diving is whimp diving (30 ft of so). Often I free dive in the 10-20 ft stuff (tanks can be a pain when I'm just going for fun). Florida turtles tend to be much spookier than your bold beasts. I've seen only greens and hawksbills and they were happily swimming along. No feeding behavior. Just beautiful swimmers.

My favorite trip is on the Morning Star (a 45 ft Irwin) captained by Rick Winters. If you go out with him, be sure to tell him if you are going for pictures. Call him when you get down there, tell him Mike and I said to call (we've gone out with him a lot) and let him pick the day. Doing that you'll get the best water reports and not waste your money and you'll be on a boat with few people (6 pack) so the critters don't flee.

If you are on Key Largo, there is a great restaurant on the Bay side called Snooks. Awesome sunsets and the best yellowtail snapper I've ever had. There is a good restaurant in Islamorada (North of Marathon) called Squid Row. It's worth going just to read the menu. My experience diving around Marathon is not as recent but was pretty nice near Sombrero. Again, I avoid the big boats and try to go by sail if I have a choice. South and east of Marathon a great reef that is has undergone some successful repair following a ship grounding about 4 years ago. I'm drawing blank on the name. It's huge and about 5 miles out. I'll write back when I think of the name.

If you plan on stopping in to see Richie Moretti you should know that he is still recovering from a bad car wreck. You might encounter some of the UF crowd there.

If I think of other things I'll let you know. The water should be about 84-85, days in the upper 80s to 90s, nights about 75-80 and a storm about 3 PM every day.



need to call

Date: 10/14/97
 Sender: Barbara Schroeder
 To: George Balazs
 Priority: Normal
 Subject: Sat Tag ID's

Florida

George, here are the details, after you digest, let me know what you want me to do:

Used in 1994 on Melbourne greens:

22127 deployed 7/23/94
 22128 deployed 7/24/94
 22129 deployed 7/25/94 - this turtle was recaptured on 7/14/96 and her tag was gone

Used in 1995 on Melbourne greens:

25688 deployed 8/7/95 - this turtle was recaptured this summer, her transmitter was gone and we retagged her with one of my sat tags (and id's)
 25689 deployed 8/8/95
 25690 deployed 8/9/95 - this turtle was recaptured nesting at Melbourne Beach on 8/8/97, the transmitter was gone
 25691 deployed 8/16/95 - this turtle was recaptured on 7/14/97 nesting at Melbourne Beach, the transmitter was present, was removed, and it is sitting in my office

In 1996, I re-used ID numbers as follows, these id numbers were built into new transmitters, not refurbished ones.

22127 deployed 8/24/96
 22128 deployed 8/25/96
 22129 deployed 8/23/96
 25689 deployed 8/14/96 - this transmitter was recovered two months ago (it was found laying on the bottom in 10 feet of water), I copied you on the e-mail, this transmitter is sitting on my desk - it must be transmitting, I saw this come up on ADS too.

Okay, now what do we do?

With
 No
 Summary
 25689

Date: 10/15/97
 Sender: Barbara Schroeder
 To: George Balazs
 Priority: Normal
 Subject: Transmitters

Attached is a little table with the transmitters I have on hand. There are two recovered ones, 25691 and 25689 that are under your program that I will need to switch to my program, if the id number stays with the transmitter at refurbishing. So, these are in addition to the 22127 I sent you e-mail on earlier, that one is already refurbished. The last one in the table already belongs to my program.

That last one is one I recovered from my male loggerheads, it was out from 10 Feb 97 till 29 August 97 and the antenna is completely gone. The other one, with the missing tygon and damaged antenna we fixed up and release, as you noted to Telonics.

B.



satlist.tab

Transmitters in Hand:

ID NUMBER	SERIAL NUMBER	STATUS	NOTES
22127	209048B	Refurbished Ready to Deploy	Needs to be Transferred from Balazs Program to BAS Program
25691	386815A	Recovered Needs Refurbishing	
25689	384534	Recovered Needs Refurbishing	
25668	370105A	Recovered Needs Refurbishing	

Date: Mon, 27 Oct 1997 17:17:58 -0500 (EST)
 From: BASFMRI@aol.com
 To: dab15782@pegasus.cc.ucf.edu, gbalazs@honlab.nmfs.hawaii.edu
 Subject: Satellite Turtles

Hello, Dean, please forward to Doc, don't have his e-mail address at home.

Not too much new to report:

FloJo: Still receiving dive data, but no valid location data since 10/08, previously reported.

Jacquesline: Nothing at all, no transmission whatsoever since 9/23, previously reported.

Rhonda: Last location 10/12, dive data coming through still, previously reported position.

Marjorie: Still transmitting reasonably well, still in same exact area.

Endora: Still transmitting well, still in exact same area.

Web page maps should be updated tomorrow or Wednesday. Will keep you posted and let you know right away if anything unusual happens.

Date: Sat, 08 Nov 97 12:02:42 EST
 From: michael_bresette@email.fpl.com
 To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
 Subject: Re: change of address

George,

No sign of any head start turtles here. But it's not surprising when you consider we found tag loss in juvenile green turtles to be quite high. We had a poster at last years symposium on tag loss rates of green turtles and loggerheads and found that over 50% of these turtles loose there tags within 2 years. We also compared tag loss between Roto-tags and Inconel tags. If you'd like a copy of our poster let me know, because it doesn't look like we'll see the publication of the symposium proceedings any time soon. MJB

Date: Thu, 27 Jul 2000 08:55:31 -0400
 From: Barbara Schroeder <Barbara.Schroeder@noaa.gov>
 To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
 Subject: Re! Now come the taxing inquiries

Actually, cancel my request, I now know that I have everything, realized after I wrote that message and was working on this last night - we went through this before the paper I gave at the 1995 symposium, there were no points after October, so I have them all.

Regarding the issue of looking for these turtles, I don't think this is your task to set things up, find funds, find a boat, find people, etc. Despite what you may think I have been thinking about how this might be done for some time - and part of that is finally getting all my data cleaned and mapped on detailed maps so that I can figure out where the most promising areas are and how we might accomplish it. Many of the turtles are within the boundaries of the Fl Keys National Marine Sanctuary and I plan to involve them at some point, at least from the standpoint of their knowledge of these areas, more detailed mapping, and maybe vessel support also, depending on exactly where we want to go. Some of the turtles are also very near or within USFWS refuge land (yes water). I have tagged 26 green turtles, including several males, I have a lot of data to get final. It's not a matter of giving you a few 1,2,3 points and its not a matter of trusting you or anyone else - I don't even see how that relates to this. If anything, I think you should trust me that I am working on this - yes, in my time frame - and I don't want to be pushed into something that is set up thousands of miles away that I am not even a part of the setting up of. So, yes, I'm a little annoyed, in case that's what you are thinking. I have ideas on this too George.

"George H. Balazs" wrote:

> Simple, just need a little time to get to it. I'll bet also there's a
 > bunch of LC 1, 2 and 3's there for the terminal points. A good chance
 > for you to look, if you've decided you trust George. G
 >
 > On Wed, 26 Jul 2000, Barbara Schroeder wrote:
 >
 > > Okay, now that I have my nifty conversion program I am going back to all
 > > my old data and ensuring completeness. So, please close your eyes and
 > > drift back to 1994.....
 > >
 > > I have, from you four diskettes from 1994 with backup data that you sent
 > > me for my deployments that year - they ran under your program, tag
 > > numbers 22127, 22128, 22129. I have diskettes from July/Aug/Sept/Oct and
 > > then nothing after that. I presume absolutely nothing of my tags
 > > transmitted after October, but, how difficult would it be for you to
 > > pull your Nov and Dec 1994 backup data electronically and forward the
 > > DIAG to me to confirm so I know for sure. Is this an easy or difficult
 > > or impossible task?

Discounts Available occasional turtle

Dive great sites: Molasses Reef, French Reef,
 Benwood Wreck, USCGC Duane, Pickles Reef,
 Conch Reef, Davis Reef, and many more.

Sharky's Dive Center

FOR RESERVATIONS & INFO
(800) 935-DIVE • (305) 451-5533

10/9/97

From: Barbara Schroeder
George Balazs
Subject: turtles in the news

I thought you would find this interesting. Especially the last line. Ugh. I don't believe this was his idea, and hope that it is simply a misquote.

Forward Header

Subject: turtles in the news
From: Therese Conant at ~NMFS-5
Date: 10/9/97 12:48 PM

I take it this is the "reporter" that you never got to talk with. Yikes on Ehrhart's last missive.

Forward Header

Subject: turtles in the news
From: Sarah Fangman at ~NMFS-4
Date: 10/09/97 12:15 PM

Therese - this came from the Daily Clips Donna sent today, but in case you didn't have time to read them, I wanted to be sure you saw this. Note the last line in the article! :

FLORIDA TODAY Space Online

For October 8, 1997

Satellite transmitter helps researchers find turtles' habitat

By Lou Misselhorn
FLORIDA TODAY

SEBASTIAN, Fla. - Space-age technology is helping scientists solve an ancient mystery concerning Florida's endangered green sea turtles.

The turtles nest each summer on beaches of Brevard and Indian River counties. But, until recently, researchers had not been able to determine where the adult turtles went after they laid their eggs and slipped back into the ocean.

Now, a satellite tracking system has shown that many green turtles go to the South Florida waters between Key Biscayne and Key West.

The news is important to scientists trying to preserve turtle habitat in the Keys.

Scientists have known for some time that the brackish water of Florida Bay, just south of the Everglades, is a critical feeding ground for juvenile Florida green turtles.

But the satellite transmitter project gives experts the first evidence that adult green turtles - more rare than the threatened loggerhead turtles that also nest on our beaches - also are going to the Keys.

"Any foraging habitat is important," said Allen Foley, an assistant research scientist who has worked on the Florida Bay studies for the Florida Department of Environmental Protection. "And if (the habitat) is lost, there will be no place to find food."

In the past four years, 11 of 16 green turtles tagged with monitoring equipment have been tracked to the Keys, according to Llew Ehrhart, a University of Central Florida biologist.

The monitors were attached to the backs of the turtles while they nested here. The five other turtles either were tracked somewhere else, or their equipment fell off shortly after they re-entered the ocean.

Local environmentalist Jerry Heyes said he's happy the turtles are going to the Keys, even though the area has certain dangers.

He said federal officials have set up the Florida Keys National Marine Sanctuary, which will help protect the turtles from pollution and such hazards as lobster traps, which are prevalent elsewhere in the Keys.

Heyes, who heads the Indianalantic-based Sea Turtle Preservation Society, is encouraged by what the sanctuary offers.

"I think this is one of the safest areas they have," he said.

In many other countries, environmental officials have not given the turtles the same protection. In fact, in some Third World countries, green turtles still are caught and eaten.

The satellite tracking program is not without its problems, though, and leaves some questions unanswered.

Antennas attached to the turtles often fall off after a few months, leaving scientists without information on how long the turtles stay in the Keys.

Scientists aren't sure why the transmitters fall off but suspect it has something to do with the growth of the turtles' shells.

Scientists are considering more detailed studies, tagging the turtles with transmitters and then going to the Keys to pinpoint the specific areas where the turtles are going and how long they are staying.

"It seems as though that would be the next step," said Ehrhart. "We're losing them after about three months, and we need to know more if we're going to link them to critical habitat."

Ehrhart said he's been talking with the federal National Marine Fisheries Service about paying for the work.

Need a Telephone Number?

Turtle Hotline -----	305-743-6056
Pat Wells, Technical Advisor -----	305-451-8679
Mike Hall, President -----	305-295-2734
Florida Marine Patrol -----	800-DIAL FMP
Florida Game & Freshwater Commission -----	800-432-2046
Newsletter Staff Margie & Don Jensen	
Pat Janda & Phyllis Michaelis -----	305-743-6904
Fax -----	305-743-2546

Web Site: <http://www.save-a-turtle.org>
 e-mail: newsletter@save-a-turtle.org

COORDINATES

Latitude Longitude

SANCTUARY PRESERVATION AREAS

Sand Key

24°27.58'N	81°52.29'W
24°27.01'N	81°52.32'W
24°27.02'N	81°52.95'W
24°27.61'N	81°52.94'W

Rock Key

24°27.48'N	81°51.35'W
24°27.30'N	81°51.15'W
24°27.21'N	81°51.60'W
24°27.45'N	81°51.65'W

Eastern Dry Rocks

24°27.92'N	81°50.55'W
24°27.73'N	81°50.33'W
24°27.47'N	81°50.80'W
24°27.72'N	81°50.86'W

ECOLOGICAL RESERVE

Western Sambos

24°33.70'N	81°40.80'W
24°28.85'N	81°41.90'W
24°28.50'N	81°43.70'W
24°33.50'N	81°43.10'W

EXISTING MANAGEMENT AREA

Looe Key

24°31.62'N	81°26.00'W
24°33.57'N	81°26.00'W
24°34.15'N	81°23.00'W
24°32.20'N	81°23.00'W

Latitude Longitude

SANCTUARY PRESERVATION AREAS

Newfound Harbor Key

24°37.10'N	81°23.34'W
24°36.85'N	81°23.28'W
24°36.74'N	81°23.80'W
24°37.00'N	81°23.86'W

Looe Key

24°33.24'N	81°24.03'W
24°32.70'N	81°23.85'W
24°32.52'N	81°24.70'W
24°33.12'N	81°24.81'W

Sombbrero Key

24°37.91'N	81°06.78'W
24°37.50'N	81°06.19'W
24°37.25'N	81°06.89'W

Coffins Patch

24°41.47'N	80°57.68'W
24°41.12'N	80°57.53'W
24°40.75'N	80°58.33'W
24°41.06'N	80°58.48'W

RESEARCH ONLY

Eastern Sambos

24°29.84'N	81°39.59'W
24°29.55'N	81°39.35'W
24°29.37'N	81°39.96'W
24°29.77'N	81°40.03'W

Looe Key

24°34.17'N	81°23.01'W
24°33.98'N	81°22.96'W
24°33.84'N	81°23.60'W
24°34.23'N	81°23.68'W

Lew = Melbourne (321) 729-6239

As opposed to
databases reef

Date: 10/10/97
Sender: lehrhart@pegasus.cc.ucf.edu
To: Barbara Schroeder
cc: George Balazs
Priority: Normal
Subject: Re: Calipers

10/97

→ MOLASSAS
KEY

Cost =
Cong. =

Barbara: I'm back on line. They just set up the computer in my office yesterday. I cleared over 300 messages that were backed up, some from the 18th century. First of all, thanks for the calipers. Dean is sending the invoices to you via U.S. Mail. If you don't get them soon let me know. As far as I know we received four of them: 50, 80 and 127 cm(2). It was very kind of you to send those. Expense money is about dried up after a long, expensive summer. Thanks also for sending the updates on the satellite greens. We're looking forward to the next one. I guess you know by now that we ran into very bad weather when we went to the Keys (blowing at 20 knots when we got there, blowing at 20 knots when we departed). We managed to make a worthwhile trip of it, in spite of the fact that we couldn't get out to the reef (found some clear water and good fish in the lee of Pigeon Key and Key Vaca and Ritchie gave us the grand tour of his place) but we couldn't get over to the Molassas Keys to look around. The weather was simply too bad. We're coming up your way later today. Flying to BWI, then driving to Pittsburgh tomorrow morning, for a wedding. Then to York for a day with my mother, a short visit with the girls in Silver Spring and then back to the Orlando salt mines on Monday. I'm hoping that, with all of the hardware problems apparently solved here and in Melbourne Beach, I'll be able to keep up with my E-mail on a continuous basis. I know I've said that before and George will never believe it. It's a fact that I leave the university and live somewhere else for four months of the year (MB) and that has some major effects on the way that I conduct my affairs. Hopefully I'll soon be a "thoroughly modern Millie!" Regards, Doc

CHART
MARATHON - 11453

Telecon
5-25-01 Lew - (321) 952-2913
Melbourne home

Dean Bagley
dove / 89
no turtles
seen

Lew office
(407) 823-2141
Lew Oviedo home
(407) 365-3773



Date: Fri, 5 Oct 2001 10:48:20 -0400
From: Thomas_Wilmers@fws.gov
To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: New book coming soon

Hi George:

Please excuse my long delay in thanking you for sending the materials from your overseas trip, and for the news on the new book. Mike Bressette and Dean Bagley visited here for 2 days to search for potential trapping areas, and both send their regards.

I hope circumstances will allow your visiting here after the symposium. I have plenty of room at my house, and you are certainly welcome to bring along whomever you desire. Do know that our seas are rougher than normal (though the squall we experienced was about as bad as it gets). But with over 60 linear miles of islands in the refuge, there are always neat places to hide from the wind by seeking out lees.

All the best, Tom W.

"George H. Balazs"
<gbalazs@honlab.nmfs.hawaii.edu>
<Thomas_Wilmers@fws.gov>
soon

To: Thomas Wilmers
cc:
Subject: New book coming

08/31/01 12:53 PM

Tom- Contains a lot about fibropapilloma disease and our multi-agency research battle against it in Hawaii, Florida and worldwide.
Aloha, George

"Fire in the Turtle House: The Green Sea Turtle and the Fate of the Ocean"
<<http://www.publicaffairsbooks.com/books/fire.html>>

Subject: INFO (fwd)

Date: Tue, 10 Sep 2002 22:44:02 -1000

From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>

To: Shandell Eames <shandell.eames@noaa.gov>

print please.

----- Forwarded message -----

Date: Sun, 08 Sep 2002 21:33:55 -0500


From: Graciela Tiburcio Pintos <gtiburcio@prodigy.net.mx>

To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>

Subject: INFO

HI GEORGE

INFO YOU NEED IT ATTACH

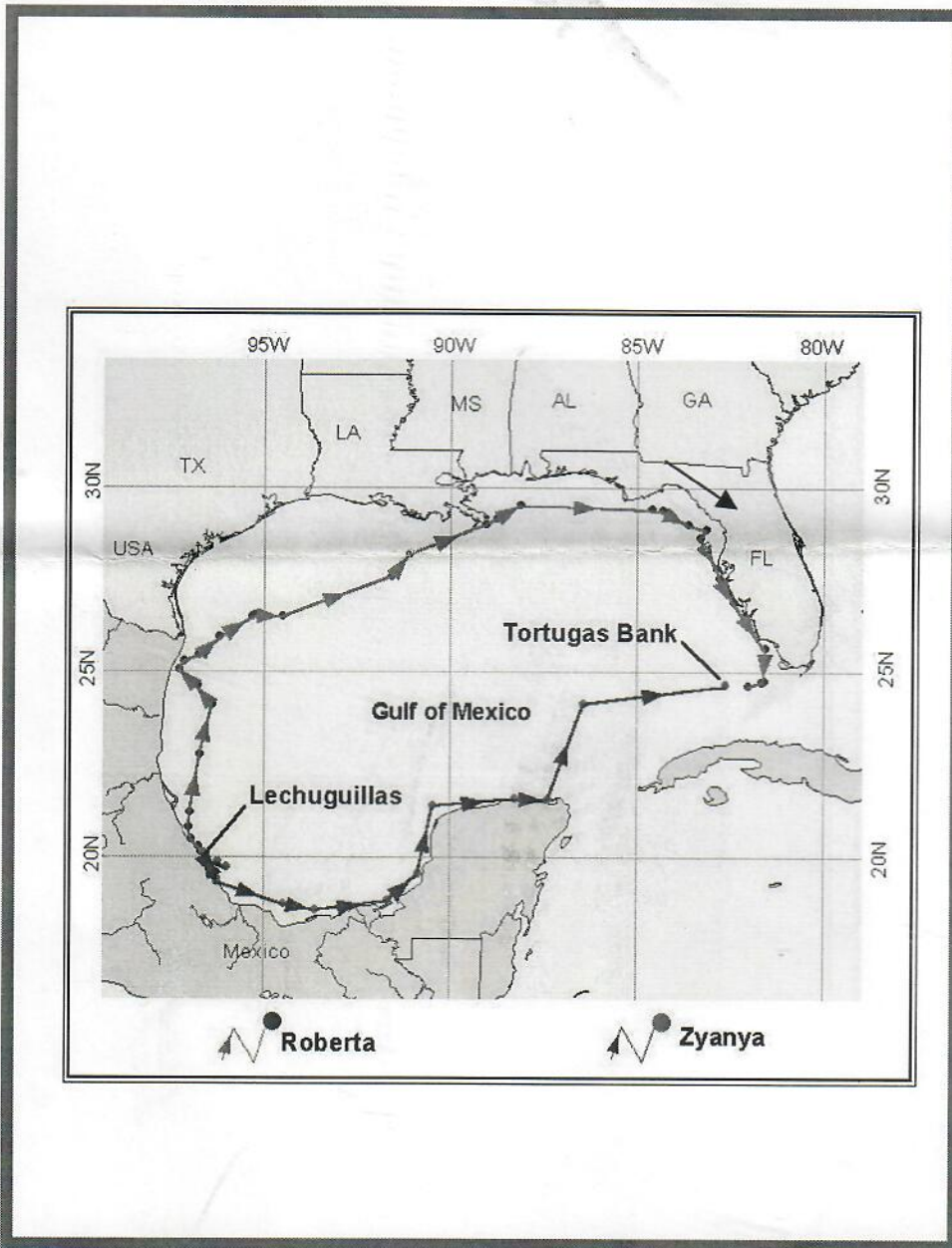
 reporte george.doc	<p>Name: reporte george.doc Type: WINWORD File (APPLICATION/MSWORD) Encoding: BASE64 Download Status: Not downloaded with message</p>
--	---

Hi George

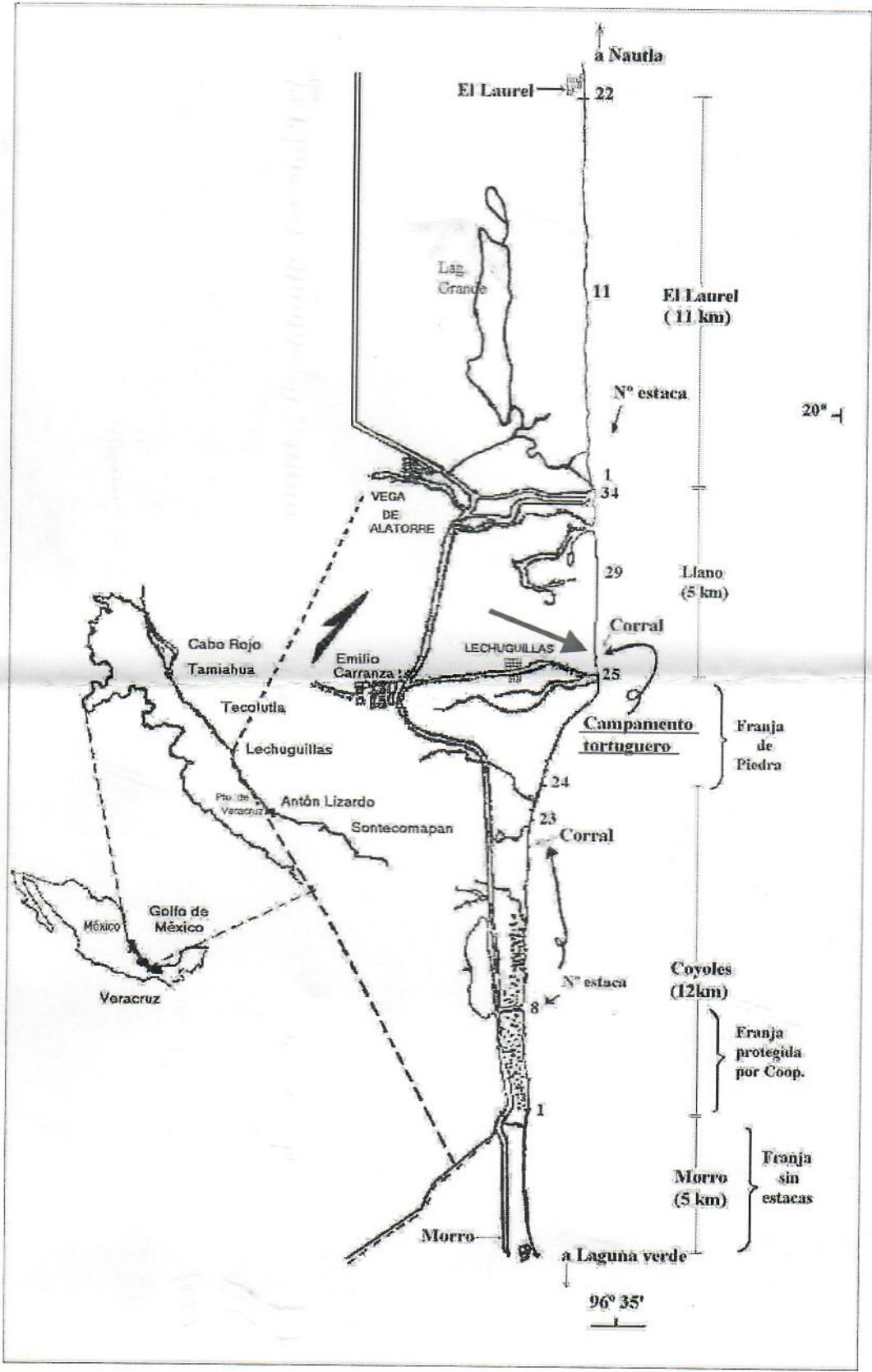
Sorry for be late, i was a big week after my travel, any way, i am back again.

About my report and the info you need it you can find attach, sorry my english is not good but i hope you understand.

See you Graciela



The location where we released Manuelita was a town the name is Lechuguillas (2 hours from Veracruz city), 5 minutes from Carranza in the Municipio de Vega de Alatorre (these meaning) that the town pertence to a little place and it is Vega de Alatorre. You can see my old maps may be you can take a idea about it, We was in the Veracruz state.



State of Veracruz, important note, laguna verde is a nuclear plant and the past year in front to the camp the government installed a petroleum platform.

About the other information (it was like a lite report)

We was in the camp like 7:00 p.m. to the camp in Lechuguillas, a group of people visit these day the camp (4 adults and 3 kids), they want to see a turtle lay, we deside went to the same place where we captured the past turtles (same nesting area) and we arrived to the place like 9:00 p.m. and we walk, we made teams and star to walk in diferents direction (north and suth).

I need mention ...to arrive at the place we walked we went in cars, the ATV where we will put the turtle to carry to the camp, it went for the beach, during the travel of the ATV the y found a big turtle (return to the sea) and was imposible to stop turtle, the turtle didn't lay and we spect see it again.

Arround 3:00 a.m. of the morning (agoust 30), (after we walk 6 kilometer) the other teem found the turtle !!!!!, it was the same turtle that the ATV saw before. The turtle was tagged with the tag: FB301 (tag from the camp)...i need contac Rafael (the lither from the camp to check the records and see when they tag these turtle). They find the turtle lay.

The half of the group stayed to see lay the turtle and we return to prepare all. The turtle arrive to the camp like 4:00 a.m. We wait for the first lights and started to work..

We had a little problem with the resine (need some time to drie), but all was perfect !!!

We attach two new tags to the turtle FS829 left flipper and FS830 righth flipper.
The turtles mesure was: 111 cm long carapace (curve), and 103 cm weigh carapace (curve)

We realize the turtle exactly 10:00 a.m. the see was like a mirrow and we can see the turtle in diferents ocaion came to the superfice (It was beutifull).

If you have more question let me know please.

Note the picture had a mistake in the date, the corret it is 30 AGOUST, I WANT TO PUT TOGETHER ALL THE PICTURES AND SEND YOU IN CD. FOR THE MOMENT I SEND YOU SOME PICTURE IN OTHER E-MAIL.

SEE YOU
GRACIELA
AND THAKS AGAIN

2002 Florida Keys Sea Turtle Workshop
Presentations

Saturday, December 7

- 9:00-9:10 ✓ Welcome, Announcements
Sue Schaf, The Turtle Hospital
- 9:10-9:25 ✓ Opening
John Bartus-Mayor of Marathon, Richie Moretti, The Turtle Hospital & Elliott Jacobson, University of Florida
- 9:25-9:40 ✓ 2002 Statewide Sea Turtle Stranding Summary + Megan
Tony Redlow, Florida Fish & Wildlife Conservation Commission
- 9:40-10:10 ✓ "Case Study on a Facial Mass in a Loggerhead Sea Turtle"
"Intracoelomic Catheter Placement in a Loggerhead Sea Turtle"
Dr. Douglas Mader, The Turtle Hospital
- 10:10-10:25 ✓ "Medical Conditioning of a Captive Green Sea Turtle"
Becky Ellsworth, Columbus Zoo
- 10:25-10:35 Break
- 10:35-10:50 ✓ "Medical Management of Mixed Nocardial and Fungal Osteomyelitis in a Kemp's Ridley Sea Turtle"
Dr. Craig A. Harms, North Carolina State University
- 10:50-11:05 ✓ Hawaiian Turtles
Dr. Robert Morris, Makai Animal Clinic
- 11:05-11:15 ✓ "Is the seawater you are pumping really clean?"
Kirt Rusenko, Gumbo Limbo Nature Center
- 11:15-11:30 "Subcutaneous, Nodular Steatitis in Cold-Stranded Kemp's Ridley Sea Turtles"
Susan Root, The Florida Aquarium
- 11:30-11:45 ✓ "A Program in the Making: Sea Turtle Rehabilitation at the South Carolina Aquarium"
Jason Crichton, South Carolina Aquarium
- 11:45-12:05 SeaWorld 2002 Rescue Update & Sea Turtle Life Support System Survey
Melissa Ranley & Jennifer Albert, SeaWorld Orlando
- 12:05-1:15 Lunch
- 1:15-1:40 "Coquina: Wound Management in a Critically Injured Loggerhead"
Jean Beasley, Karen Beasley Sea Turtle Rescue & Rehabilitation Center
- 1:40-2:00 NAIB Marine Animal Rescue Program
Cindy Perry, National Aquarium in Baltimore
- 2:00-2:20 ✓ Marine Life Center of Juno Beach 2002 Annual Summary
Larry Wood, Marine Life Center of Juno Beach
- 2:20-2:35 "Sweet Pea-A Case Study of Intense Rehabilitation of a Green Sea Turtle"
Connie Merigo, New England Aquarium
- 2:35-2:45 "The Sea Turtle Program at Xcaret in Quintana Roo, Mexico"
Cesar Alejandro Garcia-Garcia, Parque Xcaret, Departamento de Tortugas Marinas
- 2:45-2:55 Break
- 2:55-3:15 "A Year In Review 2002"
Corinne Rose, The Turtle Hospital
- 3:15-4:05 Update on Loggerhead Neurological Disease
Praziquantel Dosage Study
Dr. Elliott Jacobson, The University of Florida
- 4:05-4:15 Break
- 4:15-4:45 Endoscopy Presentation for Sunday Lab
Dr. Douglas Mader
- PLEASE NOTE: People who are attending the endoscopy workshop must be at the endoscopy presentation**
- 6:00 p.m. Bar-B-Q Dinner Hosted by Save-A-Turtle (at Hidden Harbor Motel waterfront)

2002 Florida Keys Sea Turtle Workshop

Sunday, December 8

LABS

- 8:00-9:00 a.m. **Coffee & Danish (at Turtle Hospital)**

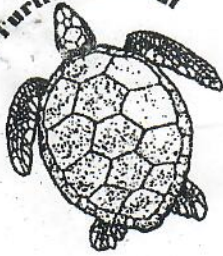
- 8:30 a.m. **Endoscopy Workshop**
Dr. Douglas Mader, The Turtle Hospital

- 9:00 a.m. **Blood Collection & Chemistry Lab**
Dr. Elliott Jacobson, The University of Florida

PLEASE NOTE: People who are attending the endoscopy workshop must be at the endoscopy presentation

Br. H. O. Dinner Hosted by Steve A. Lurie (at hidden harbor Motel waterfront)

The Turtle Hospital



Hidden Harbor Marine Environmental Project, Inc.

2396 Overseas Highway
Marathon, Florida Keys 33050
(305) 743-5376

Dear Turtles:

The Turtle Hospital and the University of Florida would like to invite you to attend the annual Sea Turtle Workshop held in Marathon, Florida in the beautiful Florida Keys. This year the workshop will be held on Saturday and Sunday, December 7th & 8th, 2002, with the Friday night welcome pizza party on December 6th, at The Turtle Hospital.

Over the past years we have had such an overwhelming interest about the workshop from people outside of Florida that this year we are opening it up to other facilities and organizations around the world. The format will still be the same, we want to get people together who work with sea turtles in the medical/rehabilitation field and captive/long term care. By sharing ideas with others from different geographic areas we may find some of the new problems we are seeing in sea turtles in Florida could be problems others around the world have been working on for years.

Since we are outgrowing presentation seating at The Turtle Hospital the Saturday presentations will be held at the Marathon Government Center which is located two blocks north of The Turtle Hospital (a map is included). This facility is state of the art, it seats up to 140 people comfortably, it has television monitors for viewing presentations and all presentations will be videotaped. We welcome all presentations geared to sea turtle medicine, rehabilitation, captive care and captive diet. Please do not be shy! This workshop is to share ideas, procedures and techniques whether they have had success or not so we all can learn how to better take care of these incredible creatures.

New this year we will be welcoming posters, since the new facility is larger we will be able to display them for the day. If you have a poster display from previous international sea turtle symposiums please bring them also.

Also, with such a positive response to last years wet labs we will conducting two new wet labs this year on Sunday morning at The Turtle Hospital. For those interested in collecting blood and performing a chemistry profile University of Florida will be conducting a blood collection/profile wet lab. Dr. Douglas Mader will also be conducting another wet lab this year on endoscopy. Because of limited space and equipment this lab will only be open to a limit of 20 people and they must be veterinarians.

The weekend will start Friday night at 7 p.m. with a pizza party next to the water behind Hidden Harbor motel. ^{6th Dec.} Saturday morning will start with coffee/juice, danish and sign-in registration at 8 a.m., with the scheduled talks beginning promptly at 9 a.m. (so don't be late). Saturday night there will be a Bar-B-Q hosted by Save-A-Turtle at the waterfront behind Hidden Harbor motel. Sunday morning the wetlabs will begin at 8:30 a.m. with coffee and donuts at 8 a.m.

Please fill out the reservation form and either mail, fax or email it back to me. All the information for returning it will be on the form. Please try to get it back to me no later

than November 19, 2002. Motel information is available on the invitation, please make your reservations early if you know you will be attending, rooms fill up fast, if you have to cancel please call the motel as soon as possible so we can make the rooms available for someone else. If you would like more information on Marathon you can go to www.floridakeys-marathon.com or www.floridakeys.com.

Looking forward to seeing you,



Sue Schaf
The Turtle Hospital
2396 Overseas Hwy.
Marathon, FL 33050
(305)743-6509
Turtlehosp@aol.com
www.theturtlehospital.org

FLORIDA KEYS SEA TURTLE WORKSHOP WEEKEND

December 7th & 8th, 2002

Hosted by The University of Florida and The Turtle Hospital
Marathon, Florida Keys

FRIDAY NIGHT, DECEMBER 6TH

7 p.m. – Welcome PIZZA PARTY

At the waterfront behind Hidden Harbor Motel

Pizza and refreshments served

SATURDAY, DECEMBER 7TH

8-9 a.m. PRE-REGISTRATION (coffee/juice & danish provided)

9 a.m. – 5 p.m. PRESENTATIONS at Marathon Government Center
(Located 2 blocks north of The Turtle Hospital)

SATURDAY NIGHT

7 p.m. BAR-B-Q

Hosted by Save-A-Turtle

At the waterfront behind Hidden Harbor Motel

SUNDAY, DECEMBER 8th

ENDOSCOPY & BLOOD COLLECTION/PROFILE WET LABS

Located at The Turtle Hospital

8 a.m. Coffee & donuts

8:30 a.m. Wet Labs start

Dec. 6-7-8

Friday Sat. 6, 7, Sunday 8th

Fly out 9th

ACCOMMODATIONS:

Hidden Harbor Motel
2396 Overseas Hwy.
Marathon, FL 33050
(800) 362-3495

Located next door to The Turtle Hospital
The Turtle Hospital is funded by Hidden Harbor Motel

OTHER ACCOMMODATIONS: *PHONE FOR RATES

Blue Waters Motel (2 blocks South of Turtle Hospital)
2222 Overseas Hwy.
Marathon, FL 33050
(800) 222-4832

*Please see information letter and registration form for further

2002 FLORIDA KEYS SEA TURTLE WORKSHOP

Welcome Turtlers:

Here are just a few reminders for the weekend:

The Friday night pizza party starts at 7 p.m. and is located behind Hidden Harbor Motel at the waterfront (if rain party will be moved to The Turtle Hospital).

The presentations on Saturday are at the Marathon Government Center not the Turtle Hospital, the government center is located two streets north of The Turtle Hospital on the left; after turning left take first right into parking lot, building is straight ahead, once inside building take stairs or elevator to the second floor.

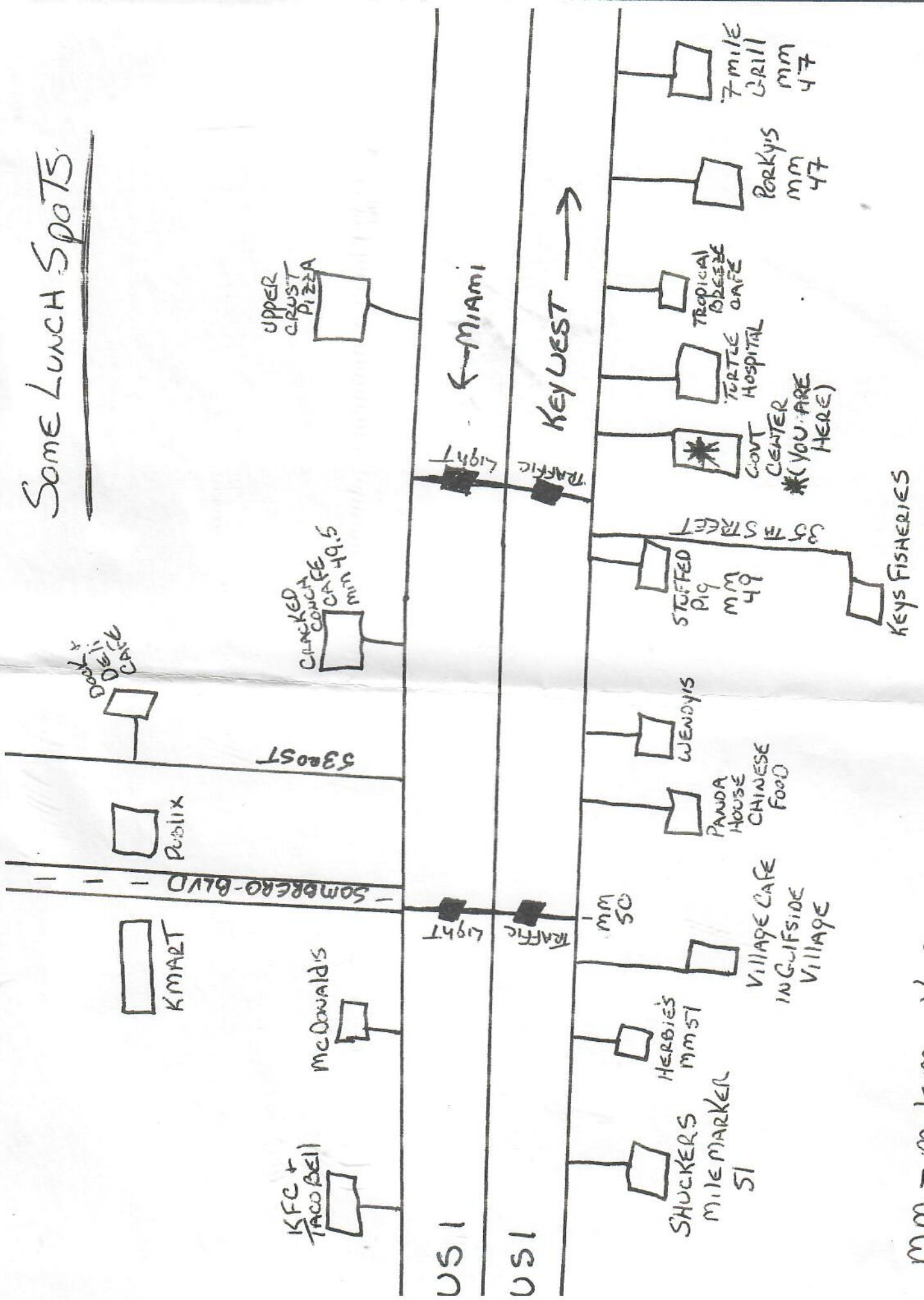
If you have a poster please try to be at the meeting room no later than 8:30 a.m. so they can be up by the 9 a.m. starting time.

Lunch time is limited so it may be better to drive your car to the government center instead of walking if you intend to go somewhere for lunch, this will allow you to get back in time for the afternoon session.

The Saturday night Bar-B-Q hosted by Save-A-Turtle will be at 6 p.m. behind Hidden Harbor Motel at the waterfront (if rain the Bar-B-Q will be moved to The Turtle Hospital).

Sunday labs will be at The Turtle Hospital. The endoscopy lab will start at 8:30 a.m. and the blood lab will start at 9 a.m.

Some Lunch Spots



MM = MILE MARKER

2002 Florida Keys Sea Turtle Workshop
Presentations

Saturday, December 7

- 9:00-9:10 **Welcome, Announcements**
Sue Schaf, The Turtle Hospital
- 9:10-9:25 **Opening**
John Bartus-Mayor of Marathon, Richie Moretti, The Turtle Hospital & Elliott Jacobson, University of Florida
- 9:25-9:40 **2002 Statewide Sea Turtle Stranding Summary**
Tony Redlow, Florida Fish & Wildlife Conservation Commission
- 9:40-10:10 **"Case Study on a Facial Mass in a Loggerhead Sea Turtle"**
"Intracoelomic Catheter Placement in a Loggerhead Sea Turtle"
Dr. Douglas Mader, The Turtle Hospital
- 10:10-10:25 **"Medical Conditioning of a Captive Green Sea Turtle"**
Becky Ellsworth, Columbus Zoo
- 10:25-10:35 **Break**
- 10:35-10:50 **"Medical Management of Mixed Nocardial and Fungal Osteomyelitis in a Kemp's Ridley Sea Turtle"**
Dr. Craig A. Harms, North Carolina State University
- 10:50-11:05 **Hawaiian Turtles**
Dr. Robert Morris, Makai Animal Clinic
- 11:05-11:15 **"Is the seawater you are pumping really clean?"**
Kirt Rusenko, Gumbo Limbo Nature Center
- 11:15-11:30 **"Subcutaneous, Nodular Steatitis in Cold-Stranded Kemp's Ridley Sea Turtles"**
Susan Root, The Florida Aquarium
- 11:30-11:45 **"A Program in the Making: Sea Turtle Rehabilitation at the South Carolina Aquarium"**
Jason Crichton, South Carolina Aquarium
- 11:45-12:05 **SeaWorld 2002 Rescue Update & Sea Turtle Life Support System Survey**
Melissa Ranley & Jennifer Albert, SeaWorld Orlando
- 12:05-1:15 **Lunch**
- 1:15-1:40 **"Coquina: Wound Management in a Critically Injured Loggerhead"**
Jean Beasley, Karen Beasley Sea Turtle Rescue & Rehabilitation Center
- 1:40-2:00 **NAIB Marine Animal Rescue Program**
Cindy Perry, National Aquarium in Baltimore
- 2:00-2:20 **Marine Life Center of Juno Beach 2002 Annual Summary**
Larry Wood, Marine Life Center of Juno Beach
- 2:20-2:35 **"Sweet Pea-A Case Study of Intense Rehabilitation of a Green Sea Turtle"**
Connie Merigo, New England Aquarium
- 2:35-2:45 **"The Sea Turtle Program at Xcaret in Quintana Roo, Mexico"**
Cesar Alejandro Garcia-Garcia, Parque Xcaret, Departamento de Tortugas Marinas
- 2:45-2:55 **Break**
- 2:55-3:15 **"A Year In Review 2002"**
Corinne Rose, The Turtle Hospital
- 3:15-4:05 **Update on Loggerhead Neurological Disease**
Praziquantel Dosage Study
Dr. Elliott Jacobson, The University of Florida
- 4:05-4:15 **Break**
- 4:15-4:45 **Endoscopy Presentation for Sunday Lab**
Dr. Douglas Mader
PLEASE NOTE: People who are attending the endoscopy workshop must be at the endoscopy presentation
- 6:00 p.m. **Bar-B-Q Dinner Hosted by Save-A-Turtle (at Hidden Harbor Motel waterfront)**

2002 Florida Keys Sea Turtle Workshop
Presentations

Saturday, December 7

9:00-9:10 Welcome, Announcements

9:10-9:25 Opening

9:25-9:40 2002 Sea Turtle Workshop

9:40-10:10 "Case Study on a Fatal Mass in a Loggerhead Sea Turtle"

10:10-10:25 "Intestinal Cancer: Placement in a Loggerhead Sea Turtle"

10:25-10:35 "Medical Conditioning of a Captive"

10:35-10:50 "Medical Management of Mixed Mosaics"

10:50-11:05 Hawaiian Turtles

11:05-11:15 "Is the seawater you are drinking really"

11:15-11:30 "Submersible, Robotic Systems in Cold-Stranded Kemp's Ridley Sea Turtles"

2002 Florida Keys Sea Turtle Workshop

Sunday, December 8

LABS

8:00-9:00 a.m. Coffee & Danish (at Turtle Hospital)

8:30 a.m. Endoscopy Workshop
Dr. Douglas Mader, The Turtle Hospital

9:00 a.m. Blood Collection & Chemistry Lab
Dr. Elliott Jacobson, The University of Florida

PLEASE NOTE: Those who are attending the endoscopy workshop must be in the endoscopy presentation.

Bar-B-Q Dinner: Hosted by Save-A-Turtle (at Hidden Harbor Motel waterfront)

VATULELE ISLAND

Vatulele Island Resort (800) 828-9146 web: www.vatulele.com
 ■ Dives 22 sites within 15 minutes of resort. Deluxe 5 Star Gold Palm FADI resort, limited to 18 couples, member of the Small Luxury Hotels of the World hotel chain. accommodations: Vatulele Island Resort on premises.

VITI LEVU

Aqua-Trek Beqa / Centra Resort Pacific Harbour (800) 541-4334, (415) 398-8990 e-mail: info@aquatrek.com web: www.aquatrek.com

■ Dives Beqa Lagoon, including Caesar's Rocks and Nisici Rocks, new 30-foot custom-built dive vessel. package: 7 nights accommodations, 5 days diving, round-trip air from San Francisco or Los Angeles to Nadi, Fiji, breakfast and lunch daily, land transfers, \$1,599 p.p., dbl. occ. accommodations: Centra Resort Pacific Harbour, on premises. Garden Island Resort, transportation provided.

Beqa Divers Fiji (011) 679-361088 e-mail: divefiji@is.com.fj web: www.beqadivers.com

■ Dives all sites in Beqa Lagoon. Experienced guides, PADI 5 star IDC, specializes in personalized tours. booking offices: Great Destinations (800-741-2178), Island Dreams, Scuna Travel Ventures, South Seas Adventures, Travel Ventures, Trip-N-Tour package: 7 nights, 5 days of diving, transfers, lunch on dive days \$820 p.p. accommodations: Lagoon Resort Pacific Harbour, on premises, and other selected Coral Coast resorts.

Waidroka Bay Resort (011) 679-304605 e-mail: waidrokaresort@suva.is.com.fj web: www.dive-suva.fiji.com.fj

■ Dives Beqa Passage, Beqa Lagoon, Serua Wall, Tukini's Secret Caverns, the Pond, Twilight Zone, Fish Bowl, Canadian Club, Sunset Reef, Frigates, Golden Arches, Seven Sisters, Sidestreets and Three Bommies. Short boat rides and small groups, new 30-foot catamaran-style dive boat package: 7 nights in deluxe bure, 8 dives, meals, \$575 p.p., dbl. occ. accommodations: Waidroka Bay Resort, on premises.

YASAWA ISLAND

Yasawa Island Resort (011) 679-722266 e-mail: yasawa@is.com.fj web: www.yasawa.com

■ Dives the 12-mile-long coast of Yasawa Island. New dive center, full-time instructor, high-speed dive boat, new equipment, courses from novice to advanced accommodations: Yasawa Island Resort, on premises.

LIVE-ABOARDS

Fiji Aggressor
 MV Princess III Fiji Voyages
 Nabuk Charters (Fiji) Limited
 Nai'a Cruises Fiji
 Sere-Ni-Wai

■ For complete descriptions of Fiji live-aboards, see page 147.

AT A GLANCE

ISLAMORADA

You'll love:

- Diving for beginners
- Fish life
- Wreck diving

AT A GLANCE

KEY LARGO

You'll love:

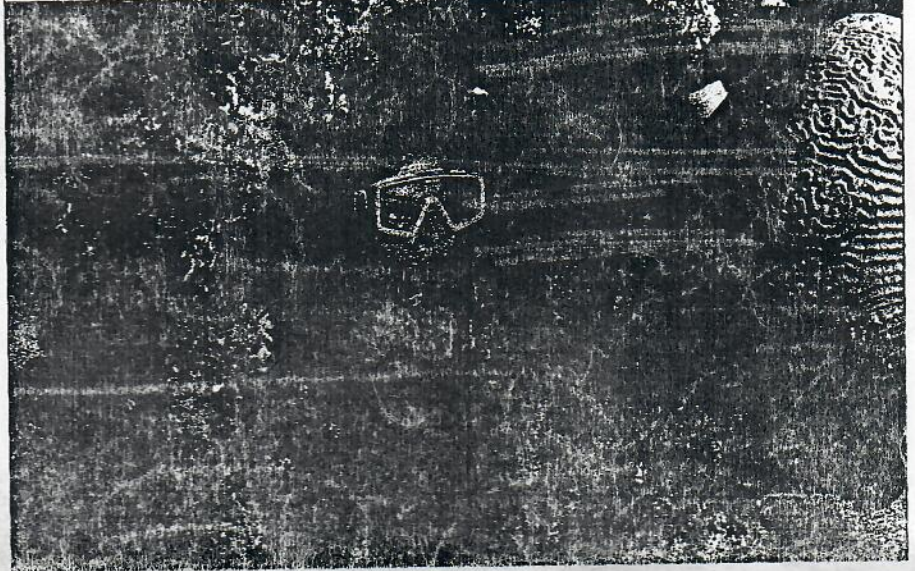
- Diving for beginners
- Value
- Fish life

AT A GLANCE

KEY WEST

You'll love:

- Topside attractions
- Diving for beginners
- Value



STEPHEN FRINKWATERHOUSE

FLORIDA KEYS

Take the Overseas Highway from Mile Marker 112 to Mile Marker 0 and stop wherever a dive flag stirs in the breeze. From Key Largo to Key West, there are more than 50 operators offering daily trips to the coral-rich waters of the 2,800-square-nautical-mile Florida Keys National Marine Sanctuary. From beginner to advanced, wreck diver to lobster hunter, the Florida Keys remain the U.S.'s most popular drive-to dive destination.

DIVE OPTIONS Key Largo is a jumping-off spot for diving in Pennkamp State Park, home of the popular Christ of the Abyss statue, or the Coast Guard wreck duo, *Duane* and *Bibb*. Sportfishing capital of the world, Islamorada provides access to the 287-foot *Eagle* and reef communities like Conch Reef, Davis Reef and Alligator Reef. Dive boats out of Marathon stop at the *Thunderbolt*, a retired cable-layer and home to a number of barracudas. The *Looe Key National Marine Sanctuary* offers good snorkeling, shallow reef diving and wrecks like the 210-foot freighter *Aldolphus Busch, Sr.* Down in Key West, divers can explore the 187-foot *Cayman Salvor* or cruise reefs including Western Rocks and Lost Reef.

WEATHER Temperatures are mild year-round with hot, humid summers and mid-winter temperatures bottoming out in the 50Fs and 60Fs.

AVERAGE WATER TEMP Low 80Fs to high 70Fs in summer. Low 70Fs in winter.

AVERAGE VISIBILITY Typically averages 40 to 75 feet with 100 feet on calm days, but wind and waves can reduce visibility dramatically.

DESTINATION LINKS

www.fl-keys.com
 www.scubadiving.com/US/flkeys

ISLAMORADA/TAVERNIER

"I settled in on one spot on the reef and hovered, and 20-plus species eventually came my way on a single dive." M.K. P. *Florida Keys*, N.J., May '00. "They've got a little bit of everything, but I especially like the wreck diving." E.W. *Ocean Diver*, Fla., July '00. "The variety and abundance of

THE TURTLE HUNTERS

TWA

gues, boats and store at same location, snorkeling on some trips, customer-driven site selection. **package:** Accommodations at Islamorada Motel, 2-location dive trip, tanks, weights, \$99 per day, p.p., dbl. occ. **accommodations:** Islamorada Motel, Pelican Cove, The Chesapeake, Ocean Pointe, Ocean Dawn Lodge, all within 6 miles.

Lookout Lodge Dive Resort (800) 870-1772, (305) 859-9915 web: lookoutlodge.com

■ Dives Islamorada and Key Largo. Intimate resort, all suites or studios on the beach, dive boat on premises.

Ocean Quest Dive Center (800) 356-8798, (305) 664-4401 e-mail: divegoddess@oceanquestdive-center.com **web:** www.oceanquestdivecenter.com

■ Dives wreck, reef and mini-wall dives from Molasses to Alligator Reef. Located at quiet resort with many amenities, 12-passengers max., personalized attention with a relaxed pace. **package:** 8 dives (4 trips), tanks and weights, \$196 p.p., lodging starting at \$35 a night. **accommodations:** Smugglers Cove Resort, on premises.

Rainbow Reef Dive Center (800) 457-4354, (305) 664-4600 e-mail: divers@rainbowreef-divecenter.com **web:** rainbowreef-divecenter.com

■ Dives the *Eagle* wreck and reefs, including Davis, Hens 'n Chickens, Bean Patch, Fish Bowl and more. 10-passenger and 6-passenger boats, personalized service, located at Tropical Reef Resort, on-site pool available for instruction. **package:** 3 days and 2 nights in motel, 2 days diving, tanks, weights and taxes, \$362.92 for 2 divers. **accommodations:** Tropical Reef Resort, Pelican Cove Resort.

KEY LARGO

Admiral Dive Center (800) 346-3483, (305) 451-1114 e-mail: rsd@admiralcenter.com **web:** www.admiralcenter.com

■ Dives Key Largo National Marine Sanctuary. Offers PADI training, including one-day diving experience, families, individuals and small groups, rental dive boats. **package:** Oceanfront cottage accommodations, 2-dive trip, tanks and weights, \$75 per day, p.p., dbl. occ. **accommodations:** Key Largo Oceanfront Guest House & Cottage Rentals.

American Diving Headquarters, Inc. (877) 451-0037, (305) 451-0037 e-mail: adhq@aol.com **web:** americandiving.com

■ Dives Key Largo National Marine Sanctuary, Pennekamp State Park, *Eagle*, *Bibb* and *Duane* shipwrecks, and coming in May of 2001, the *Spiegel Grove*. Guarantees dive trips, takes requests for dive sites, flexible schedules, emphasis on customer service, unlimited dive packages available. **package:** 5 2-tank dives, tanks and weights, \$45 per trip.

Amy Slate's Amory Dive (800) 426-6729, (305) 451-3595 e-mail: amorydive@aol.com **web:** www.amoray.com

■ Dives Florida Keys National Marine Sanctuary, Pennekamp State Park, *Duane* wreck. A dedicated PADI Gold Palm dive resort offering accommodations, scuba/snorkel charters and instruction with personalized attention, instructors, dive catamaran, pool/jacuzzi on property. **package:** 3 nights, 4 2-tank charters, tank and weights, from \$315 p.p., dbl. occ., including taxes. **accommodations:** Amy Slate's Amory Dive Resort, on premises.

Aqua-Nut Divers / Kelly's on the Bay (800) 226-0415, (305) 451-1622 e-mail: kellysmo@aol.com **web:** aqua-nuts.com

■ Dives Florida Keys National Marine Sanctuary, Carysfort Reef, *Duane*, Molasses Reef, French Reef, Elbow Reef, *Benwood* and *Eagle* wrecks. Emphasis on customer service, 2 new, fast 42-foot dive boats, full-service dive resort, RSD's 2000 Readers' Choice best resort staff, RSD 2001 Readers' Choice Top 10. **package:** 3 nights, 2 4-trip dive packages, \$285 p.p., dbl. occ. (excludes holidays, slightly higher on weekends). **accommodations:** Kelly's on the Bay, on premises.

Captain Slate's Atlantis Dive Center (800) 331-3483, (305) 451-3020 e-mail: dive@captainslate.com **web:** www.captainslate.com

■ Dives Pennekamp State Park, Key Largo National Marine Sanctuary, Elbow Reef and various wrecks, Carysfort, *Duane*, *City of Washington*, *Benwood* and soon the 510-foot *Spiegel Grove* wreck. Capt. Slate is known for the Creature Feature—feeding moray eels and barracuda with bait from his mouth. Boats located oceanside, snorkel and glass-bottom combination charters, professional NAUI/YMCA Instructor Career Institute, 4 41-foot dive vessels, nitrox available. **packages:** Dives discounted for multiple trips, 8th trip is free when purchasing 7 dive trips. Rental gear discounts for multiple dives. \$169.95 for 10 dives, (5 trips). **accommodations:** Howard Johnson's Resort, nearby.

Caribbean Watersports at Westin Beach Resort Key Largo (800) 223-6728, (305) 852-4707 e-mail: cwsports@aol.com **web:** www.caribbeanwatersports.com

■ Dives Pennekamp Park, Molasses Reef, Christ of the Abyss, *Benwood* wreck, south to Alligator Reef. Completely renovated 200-room resort, parasailing, wave runners, enviro-tours, PADI certification, private group charters only from hotel. **booking offices:** PAUL Travel Network, American Express Travel, Virgin Atlantic. **accommodations:** Westin Beach Resort Key Largo, on premises.

Dixie Divers of Key Largo (800) FLA-DIVE, (305) 453-9588 e-mail: dixdivers@aol.com **web:** www.dixiedivers.com

■ Dives Pennekamp State Park and surrounding areas, Molasses Reef, Christ of the Abyss, *Duane*, *Eagle* and, coming soon, the *Spiegel Grove*. Professional scuba and free-diving services, wide variety of departure areas, PADI 5 Star Career Development Center for instructor training, friendly, helpful staff, training headquarters of the International Association of Free Divers (IAFD). **package:** 3 nights, 8 dives, \$299 p.p., dbl. occ. **accommodations:** Kelly's Motel and Ed & Ellen's Lodging.

HMS Minnow Charters, Inc. (800) 366-9301, (305) 451-7834 e-mail: hmsminnow@msn.com **web:** www.hmsminnow.com

■ Dives reefs and wrecks of Pennekamp Park and the Florida Keys National Marine Sanctuary. Personalized trips, 6 divers max. **package:** 3 or more daytime trips, tank and weights, \$50 per trip. **accommodations:** Holiday Inn Sunspree Resort, on premises.

Jules' Undersea Lodge (305) 451-2353 e-mail: info@jul.com **web:** www.jul.com

■ World's only underwater hotel, where guests dive to enter their rooms. **packages:** Unlimited diving, light dinner and breakfast, \$250 p.p.; groups of 4 to 6, \$200 p.p. **accommodations:** Jules' Undersea Lodge, on premises.

Ocean Divers Inc. (800) 451-1113, (305) 451-1113 e-mail: info@oceandivers.com **web:** oceandivers.com

■ Dives Key Largo National Marine Sanctuary and Pen-

nekamp Park, *Bibb* and *Duane*, Molasses Reef, *Spiegel Grove*. Personal service, dive shop adjacent to hotel, new dive programs, unlimited diving, PADI Career Development Center. **booking office:** PADI Travel Network. **package:** 4 nights, 3 days, \$477.38 p.p.; same package with unlimited diving, \$601 p.p. **accommodations:** Marina del Mar, on premises.

Quiescence Diving Services, Inc. (305) 451-2440 e-mail: info@keylargodiving.com **web:** www.keylargodiving.com or www.quiescence.com

■ Dives Key Largo National Marine Sanctuary, Pennekamp Park, shallow wrecks, advanced wreck dives like the *Bibb* and *Duane*, and specialty dives such as *drifts*, *dusk*, *night*. Full-service diving facility, including 6-passenger charter operation (3 boats), all levels of scuba instruction, hydro-test facility, equipment repair. **booking offices:** Southern Indiana Scuba (812-336-25270), Pisces Divers (570-253-0552), Rec Diving (248-549-0303). **package:** Minimum 2-night stay at Marina Del Mar Bayside, 2-location dive trip each day, tanks and weights, starting at \$89 p.p., dbl. occ. **accommodations:** Marina Del Mar Bayside, Largo Lodge.

Sea Dwellers Dive Center (800) 451-3640, (305) 451-3641 e-mail: sdwellers@aol.com **web:** www.sea-dwellers.com

■ Dives Key Largo, Florida Keys National Marine Sanctuary. Custom dive boat, caters to small groups, full-service dive center. **package:** 3 days, 3 nights at Holiday Inn SunSpree, \$264 p.p., dbl. occ. **accommodations:** Holiday Inn SunSpree Resort, across the highway.

Seafarer Dive Resort (800) 599-7712, (305) 852-5349 e-mail: seafarer@terranova.net **web:** www.keylargoparadise.com

■ Dives Pennekamp State Park, Key Largo National Marine Sanctuary, Florida Keys National Marine Sanctuary, *Duane* and *Eagle* wrecks. Private charters and PADI programs for guests of resort. **accommodations:** Seafarer Dive Resort, on premises.

Silent World Dive Center (800) 966-3483, (305) 451-3252 e-mail: info@silentworldkeylargo.com **web:** www.silentworldkeylargo.com

■ Dives Pennekamp State Park and Key Largo National Marine Sanctuary. Uncrowded boats and professional diving services. **package:** 5 days, 4 nights, five 2-tank boat trips, tanks and weights, accommodations, \$270 p.p., dbl. occ.

Stephen Frink Photographic, Inc. (800) 451-3737, (305) 451-3737 e-mail: frinkphoto@aol.com **web:** www.stephenfrink.com

■ Dives Key Largo National Marine Sanctuary. All programs geared to underwater photography, two-day photo courses with resident photo pro Mike Waters and scheduled one-week photo courses with renowned underwater photographer Stephen Frink, exotic photo tours several times each year, underwater photo specialty, E-6 processing, camera and video rentals, and Cibachrome custom enlargements. **booking office:** WaterHouse Photo Tours. **packages:** 2-day photo course with resident photo pro Mike Waters, including dive with Ocean Divers and film processing, \$395. **accommodations:** Marina del Mar Ocean Divers.

KEY WEST

A Key West Reef Trip (305) 292-1345 e-mail: greatdive@keywestflorida.cc **web:** www.reefchief.com

■ Dives off-the-beaten-track coral reefs off Key West. 65-foot sailing schooner *Reef Chief*, 15 minutes from anywhere in Key West.

web sites/EMAIL

INTERNATIONAL TRAVEL DIRECTORY

Florida Keys

Bonsai Diving (305) 294-2921, (305) 296-6301 e-mail: divkw@aol.com web: www.bonsaidiving.com

■ Dives Looe Key, Key West, Marquesas to Dry Tortugas. 6 passengers max., new fast boat, free underwater tours, fish ID and photography are our specialties, professional dive instruction, private charters, nitrox available. **booking office: Caradonna Tours. package:** 2-tank dive, including breakfast, \$85 per day, p.p., dbl. occ.

Captain's Corner Dive Center (305) 296-8918, (305) 296-8865 e-mail: info@captainscorner.com web: www.captainscorner.com

■ Dives *Atocha* treasure site near Marquesas Keys (30 miles west of Key West), shallow and deep reefs and wrecks in and near the Florida Keys National Marine Sanctuary and in the Gulf of Mexico. PADI 5 Star resort and instruction facility, pool on premises, multilingual staff, PADI specialties. **packages:** Open-water certification, 4 nights, \$450; advanced open water, 3 nights, \$325; rescue with medic first aid, 7 nights, \$578; divemaster, 14 nights, \$750; 21 nights, \$1,025; 28 nights, \$1,200.

Dive Key West, Inc. (800) 426-0707, (305) 296-3823 e-mail: info@divekeywest.com web: www.divekeywest.com

■ Dives both shallow and deep reefs at 100-plus reef locations and numerous wrecks near Key West. Offers equipment, rentals and repairs, certified pure air curbside, charters, all levels of dive training, 29 years experience, emphasis on customer service and safety. **package:** 2 locations, 2 tanks, weights, 2-day min., \$99.95 p.p., dbl. occ.

accommodations: Days Inn, Fairfield Inn, Quality Inn Suites, Radisson and At Home in Key West condos.

Key West Diving Society (305) 292-3221 e-mail: kwds@keysconnection.com web: www.keywestdivingsociety.com

■ Dives various wrecks, including *Cayman Salvor*, *Joe's Tug* and *All Alone*. Customized dives, 12 divers max., emphasis on safety, remote dive sites, diving freedom. **accommodations:** Holiday Inn, Econo-Lodge, Comfort Inn, all less than one mile away.

SeaBreeze / Reef Raiders (800) 370-7745, (305) 292-7745 e-mail: seabreezecharters@flakeysol.com web: www.keywestscubadive.com

■ Dives reefs and wrecks off Key West. Two dive boats (one for students and snorkelers with a 45-person capacity and the other for certified divers with a limit of 10 divers). **package:** 3-, 4- and 7-night packages starting at \$275 p.p. **accommodations:** The Galleon Resort & Marina, on premises.

Southpoint Divers (800) 891-DIVE, (305) 292-9778 e-mail: southpoint@aol.com web: www.southpoint-divers.com

■ Dives *Joe's Tug*, *Aldolphus Busch Sr.*, *Cayman Salvage Master*, *Western Dry Rocks*, *Ball and Chain*, *Eye of the Needle*, various wrecks and reefs. New state-of-the-art boats, 5 Star PADI facility, *RSD Readers' Choice Awards* "Top 10 Dive Operator in North America" 3 years in a row. **package:** 3 nights lodging in Old Town, 2 dive trips, tanks and weights, \$282 p.p., dbl. occ. **accommodations:** Hyatt Key West Resort, Crowne Plaza, the Santa Maria, and bed

and breakfast inns, all in Old Town.

Subtropic Dive Center (800) 853-DIVE, (305) 296-9914 e-mail: info@subtropic.com web: www.subtropic.com

■ Dives reef sites and wrecks in the Atlantic and Gulf of Mexico. Full-service PADI 5 Star Gold Palm Resort. **package:** 3 nights, 2 days of diving, taxes, \$497 for 2 people. **accommodations:** Quality Inn, Fairfield Inn Key West, Hilton Resort and Marina, Ocean Key Resort, Ramada Inn, 1800 Atlantic, all 2-3 miles away.

MARATHON


Abyss Dive Center (800) 457-0134, (305) 743-2126 e-mail: info@abyssdive.com web: www.abyssdive.com

■ Dives more than 50 sites, including *Sombrero Reef*, *Coffins Patch*, *Samantha's* (nurse shark dive), the *Gap* and the *Thunderbolt* wreck. Featuring a 34-foot dive boat, 6 divers max., freshwater shower and head on board, official PADI dive center and authorized SSI dealer. **package:** One night at Marathon Holiday Inn, 2-tank dive, \$73 p.p., dbl. occ. **accommodations:** Marathon Holiday Inn, on premises.

Capt. Hook's Marina & Dive Center (800) CPT-HOOK, (305) 743-2444 e-mail: grange@marathon-key.com web: captainhooks.com

■ Dives the *Thunderbolt* wreck, the *Gap*, 38 patch reefs. PADI 5 Star Dive Center, nitrox certifications and fills, dockside air station, medically trained captains and instructors. **accommodations:** Banana Bay Resort.

SOUTHPOINT DIVERS



Phoenix
Newest custom dive boat on the island - state of the art 2000 Newton 46

- Rodales Top 10 in North America last 4 years
- Voted Best Dive Shop in Key West - Peoples Choice Award last 5 years
- Earn American Airlines frequent flyer miles

1-800-891-DIVE
305-292-9778

* READERS' CHOICE AWARDS 2000


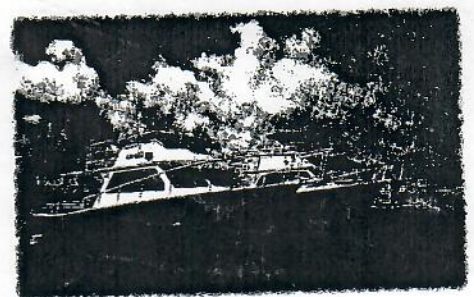
fax 305-296-6888
www.southpointdivers.com
southpoint@aol.com

Top Ten Best Dive Operators in North America

DIVE KEY LARGO!

Kelly's On The Bay
& **AQUA-NUT Divers**
Key Largo's dedicated dive resort with bed and breakfast charm.

"We wish to thank the Rodale readers for voting us the #1 dive resort staff in the world."

MM 104 Bayside, 104220 Overseas Hwy
Key Largo, FLA

1-800-226-0415

(305) 451-1622
Fax: (305) 451-4623
E-mail: Kellysmo@aol.com
Web: www.aqua-nuts.com

PADI GOLD PALM RESORT

Endless Summer Charters (800) 881-1595, (561) 881-1595 e-mail: capscuba@aol.com

■ Dives Palm Beach County, Marathon, Key West and Bahamas. Two locations. **package:** 28-foot boat, includes tanks, weights, snacks, \$225 for up to 4 divers. **accommodations:** Sombrero Resort and Howard Johnson's in Marathon, Days Inn and Heron Cay in Palm Beach.

Fantasia Divers (800) 223-4563, (305) 743-5422 e-mail: divenxs@aol.com web: www.thefloridakeys.com/fantasia

■ Dives 60 different sites including Sombrero Coffins Patch, the *Thunderbolt* wreck, shark dives at Samantha's Reef, deep ledge at the Gap or Banny's Ledge, nighttime turtle encounters, and starting April 2001, wild dolphin encounters. Full-service PADI 5 Star Dive Center. **accommodations:** Blackfin Resort, next door.

Hall's Diving Center & Career Institute (800) 331-HALL, (305) 743-5929 e-mail: hallsdive@aol.com web: www.hallsdiving.com

■ Dives Sombrero Reef, Delta Shoals, Looe Key, *Thunderbolt* wreck, Barge wreck, Shark Ledge, the Drop-off Nitrox fills and certification, open-water through instructor training, rebreather training and rentals, wet subs, DPV rentals, free locker service, courtesy equipment handling, blue-water Gulf Stream sub tours, rebreather-only charters. **package:** With 7-night package, rebreather experience, \$67 p.p. **accommodations:** Faro Blanco Resort & Marina, on premises.

Middle Keys Scuba Center (305) 743-2902 e-mail: RBoileau@aol.com web: www.divingdiscovery.com

■ Dives reefs and wrecks from Seven Mile Bridge to Duck Key, including Sombrero Light, Coffins Patch, the *Thunderbolt* and Samantha's Reef. Dive boat is docked just a few steps from the back door, max. of 10 persons, full line of underwater cameras and video cameras for rent, full production video editing studio and underwater metal detectors. **package:** Dive trip, tanks, weights, accommodations, \$84.50 per day, per diver for three or more days.

The Diving Site (800) 634-3935, (305) 289-1021 e-mail: diving@divingsite.com web: www.divingsite.com

■ Dives shallow reefs to the *Thunderbolt*, including Sombrero Reef, Coffins Patch, Samantha's Reef shark dive and 40 other sites. We dive every day, twice a day. All diving is done from new dive boat with freshwater shower, spare gear, oxygen, etc., parking in front of dock, gear storage, hot showers, on-site training pool and classroom, all instructors PADI-certified. **package:** Accommodations at Coral Lagoon Resort and diving starting at \$79 p.p., dbl. occ.

RAMROD KEY/BIG PINE KEY

Looe Key Reef Resort and Dive Center (800) 942-5397, (305) 872-2215 e-mail: looekeydiv@aol.com web: www.diveflakeys.com

■ Dives Looe Key National Marine Sanctuary and the *Adolphus Busch Sr.* Dedicated 5 Star Gold Palm PADI facility, custom 45-foot vessel, instruction, motel, heated pool, closest dive facility to Looe Key National Marine Sanctuary and the *Busch* wreck. **booking office:** Wendy Sullivan Real Estate Inc. (800-874-1894 or 305-872-9001). **package:** Full-day, 3-tank, 3-location dive/snorkel trip, tanks and weights, \$40 wreck and reef dive, \$45 snorkeling, \$25 if staying at the resort. **accommodations:** Looe Key Reef Resort, on premises.

SUMMERLAND KEY

Seahorse Scuba (305) 745-2315 e-mail: sehrsscuba@aol.com web: www.seahorsescuba.net

■ Dives Looe Key, *Adolphus Busch* wreck and other Lower Keys reefs and wrecks. Max. 6 divers, one trip daily, boat pick-up at your condo dock, relaxed diving. **package:** 2-tank dive, tanks and weights, \$70. Condo, up to 4 people, \$75 per night. **accommodations:** Venture Out Resort at Cudjoe Cay, on premises.

TAVERNIER

Conch Republic Divers, Inc. (800) 274-DIVE, (305) 852-1655 e-mail: dive@conchrepublicdivers.com web: conchrepublicdivers.com

■ Dives the southern edge of Pennekamp Park south to Alligator Reef, including reef, wreck and drift dives, the *Eagle*, *Duane*, *Bibb* and the soon-to-come *Spiegel Grove*. Small, friendly shop, big boat and a 6-pack boat, 20 years of local experience, wide variety of dive sites. **package:** 3 nights in efficiency cottages on Florida Bay, 3 2-tank dives, tanks and weights, \$266 p.p., plus tax. **accommodations:** Bay Breeze Motel and others.

Florida Keys Dive Center (800) 433-8946, (305) 852-4599 e-mail: scuba@floridakeysdivectr.com web: www.floridakeysdivectr.com

■ Dives the upper Florida Keys, including Pennekamp State Park, Conch Wall, Conch Reef, Davis Reef, Crocker Reef and Pickles Reef, *Bibb*, *Duane*, *Eagle* wrecks and

many more. Family-oriented, PADI 5 Star IDC, quick access to more than 50 reefs, wrecks and walls, dive boats are directly behind dive store, gear storage, average 6 to 12 divers per boat, fruit served after dives, lobster harvesting available on request during season. **package:** Oceanview 1- and 2-bedroom condos, 20 percent discount for dive and snorkel packages. **accommodations:** Ocean Pointe Resort, Pelican Cove Resort, Islamorada Motel.

Tavernier Dive Center (800) 787-9797 (305) 852-4007 e-mail: tavidive@tavernierdivecenter.com web: www.tavernierdivecenter.com

■ Dives Pennekamp Park, *Duane* and *Eagle* wrecks, Conch and Crocker ledges, Pickles and Davis reefs, from Key Largo to Islamorada. Rated one of the "Top 10 Dive Operators in North America" in *RSD* Readers' Choice Awards from 1997 to 2000, free parking, non-smoking boats, gear storage, instruction, nitrox, clean boats. **packages:** Starting from \$67.50. **accommodations:** Bay Breeze, Frank's Key Haven, Ocean Pointe Condos and the Westin Beach Resort, all 1 or 2 miles away.

LIVE-ABOARDS

MV Tiburon/Taylor Made Excursions
Sea-Clusive Charters

■ For complete descriptions of Florida Keys live-aboards, see page 148.

WE PROMOTE
OVERCROWDING
IN OUR SCHOOLS.

THE FLORIDA KEYS & KEY WEST
Come as you are.®

DIVE DESTINATION
IN THE WORLD.

For a free dive brochure, call 1-800-FLA-KEYS or visit us now at www.flakeys.com.

27 June 2001, Florida Keys
Rotting adult male green turtle
GHBalazs, stomach contents.

Identifications by DJRussell

<i>Thalassia testudinum</i>	100%
<i>Enteromorpha</i> sp.	Trace
<i>Cladophora</i> sp.	Trace
<i>Sargassum</i> sp.	Trace
Red alga piece	Trace

No sponge spicules present.
Soft white acellular nodules without oil droplets.
Abundance of bacillus bacteria around nodules.
No animal material present besides a few maggots.

Aloha, Dennis

To: George H. Balazs
Date: 21 July 2001
From: Dennis J. Russell

27 June 2001, Florida Keys
Rotting adult male green turtle
GHBalazs, stomach contents.

Identifications by DJRussell

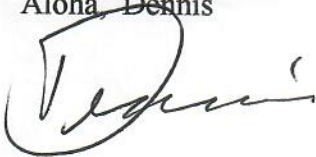
Thalassia testudinum 100%
Enteromorpha sp. Trace
Cladophora sp. Trace
Sargassum sp. Trace
Red alga piece Trace

No sponge spicules present.
Soft white acellular nodules without oil droplets.
Abundance of bacillus bacteria around nodules.
No animal material present besides a few maggots.

*correct spelling for *Thalassia testudinum* is with only one "l" (the e-mail spelling was not correct).

Complete name, with authors, is *Thalassia testudinum* Koenig et Sims

Aloha, Dennis



Juvenile Green Turtles in a Developmental Habitat



by ROBERT and JEANNE WERSHOVEN

The sun disappears as it settles into a space behind the concrete wall of condominiums to the west. We inflate our buoyancy compensators and begin swimming seaward to the first reef tract off central Broward County, Florida. We are about to begin dive number 964 to continue our study of juvenile green sea turtles. The current is strong out of the south, but the sea surface is smooth, making the 150-yard swim to the reef fairly easy. We deflate our B.C.'s and sink to the bottom. The water is clear tonight, and a feeling of peaceful well-being comes over us. The low whine of a power boat grows louder, serving as a reminder that paradise has been discovered.

The boat passes, and the familiar snap, crackle, pop noises of the reef are again heard as our lights catch the white of a plastron and the purposeful stroke of a flipper. A small green turtle is heading seaward, but our dive lights turn the animal around. (Attraction to light at the moment of the turtle's nighttime hatching, leads the way to the open ocean's horizon

Robert is a social worker, and Jeanne a computer programmer. Their volunteer project is under permit from the Florida Department of Natural Resources and the U.S. Fish and Wildlife Service. Title photo by Jeanne Wershoven.

14

or to a brightly lit city street and certain death.) I grab the turtle from behind, quickly usher it to the surface, and place it head-upright in our innertube float. We apply two National Marine Fisheries Service tags to the front flippers, measure our guest, record the information on a slate, and release the newly-numbered NNY723. The young green swims briskly away, searching out a suitable resting site. We would encounter this turtle three more times during the following 16 months.

Juvenile green turtles have probably inhabited these relict coral reefs of South Florida for thousands of years. Their persistence in continuing to do so today is indicative of their ability to survive a wide variety of natural stresses. Today these stresses are not only natural, but stem from man's recreational and commercial activities both on the shore and in the water. These reptiles frequently wash up on the beaches as victims of heavy boat traffic, plastic and tar ingestion, and monofilament and fishing trawl entanglement.

Information on juvenile sea turtle life history is limited. Archie Carr and David Caldwell studied green turtles of similar size in the Gulf of Mexico, near Cedar Key, in 1952. Larry Ogren, with the National Marine Fisheries Service in Panama City, is currently studying the green and

Underwater Naturalist

urtles Habitat



ROBERT and JEANNE WERSHOVEN

or to a brightly lit city street and certain death.) I grab the turtle from behind, quickly usher it to the surface, and place it head-upright in our innertube float. We apply two National Marine Fisheries Service tags to the front flippers, measure our guest, record the information on a slate, and release the newly-numbered NNY723. The young green swims briskly away, searching out a suitable resting site. We would encounter this turtle three more times during the following 16 months.

Juvenile green turtles have probably inhabited these relict coral reefs of South Florida for thousands of years. Their persistence in continuing to do so today is indicative of their ability to survive a wide variety of natural stresses. Today these stresses are not only natural, but stem from man's recreational and commercial activities both on the shore and in the water. These reptiles frequently wash up on the beaches as victims of heavy boat traffic, plastic and tar ingestion, and monofilament and fishing trawl entanglement.

Information on juvenile sea turtle life history is limited. Archie Carr and David Caldwell studied green turtles of similar size in the Gulf of Mexico, near Cedar Key, in 1952. Larry Ogren, with the National Marine Fisheries Service in Panama City, is currently studying the green and

Underwater Naturalist

Kemp's ridley populations in the Cedar Key area. Studies of juvenile greens and loggerheads in the Indian River lagoon system of East Central Florida are being conducted by Dr. Llewelyn Ehrhart. But no information had been gathered on the young turtles locally. Most research and conservation efforts have focused on the mating cycle, an experience these juveniles will not participate in for an estimated 15 to 25 years.

Our interest in the local juvenile green turtle population began five years ago during our recreational dive trips along Broward County's reefs. In 1985, we were granted the necessary state and federal permits for working with this endangered species. The current project, a volunteer effort begun in March 1986 under the auspices of the local Audubon Society chapter, focuses on gathering data that may help answer the following questions: Are these small green turtles residents or merely migrants on their way to somewhere else? If residents, how long do they stay in the area? Why do we encounter only the juveniles? Where are the adult greens? How fast are these young turtles growing? What are they feeding on, and where and when are they feeding? And, what diseases, if any, are present among this population?



Photo by Bryan Brooks.

SCUBA presented a useful tool for capture and study of the population. Frequent sightings during daytime dives indicated the presence of a large number of green turtles. However, without capture and tagging activities, individual animals could not be identified. Night diving provided an opportunity to approach, capture, examine, measure, and tag the turtles as they slept or searched for a resting or foraging site.

An average of two night dives per week for the past 28 months has resulted in the capture and tagging of 99 juvenile green turtles. We have recaptured 24 of these animals; some individuals have been encountered three or more times. The average growth rate of one-tenth of an inch per month exhibited by our recaptured animals is consistent with rates observed by other juvenile green turtle researchers. Carapace lengths, taken over the curve, range from 10.3 inches to 26 inches, with an average length of 17.7 inches and median length of 19 inches. Captures were made in two study areas, our primary area being a mile-long stretch of hard bottom off central Broward County, only a few miles north of Fort Lauderdale's "Strip." Dives were also made on a considerably smaller study site at the northern end of the county.

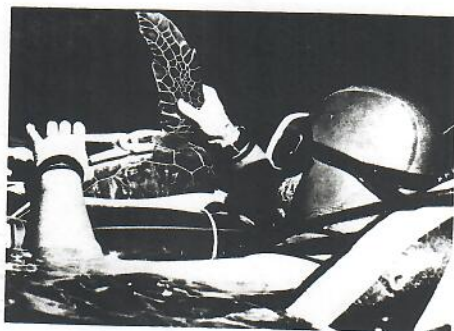


Photo by Jeanne Wershoven.

Three juvenile hawksbill turtles have also been captured, with one turtle being recaptured seven times. This turtle was both the first and last hawksbill captured, the first time on March 8, 1986, the last on August 16, 1987. This animal, along with the other hawksbills in the area, may have moved to a different habitat, or it may have been killed. The extremely heavy recreational boat traffic in the area makes death a distinct possibility.

Reported strandings of green turtles the same size class as our tagged population, apparently killed by encounters with boat hulls and propellers, provided us with an opportunity to gather further information. Necropsies were performed on 16 juvenile greens to gather tissue samples and stomach contents, and examine the gastrointestinal tract for evidence of ingestion of plastics, tar, or other foreign substances. Eleven of these turtles indicated a preference for algae of the family *Gelidiaceae*, with *pterocladia*, *gelidiella*, and *gelidiopsis* species most prevalent. Three others had been feeding on various other species of algae common to our shallow reef areas, and two were found to have ingested sea grasses. Fluke infestation was present in most heart and liver tissue. No evidence of fibropapillomas was observed.

The absence of the fibropapilloma tumors in our strandings and among our tagged sample is noteworthy. These warty growths, found on the fleshy areas of the head, neck, and groin, are present on an alarmingly high percentage of the

green turtles captured by Ehrhart in the Indian River. Juvenile greens in the Florida Keys have also been observed with these tumors. George Balazs has reported this condition in the green turtles of the Hawaiian Islands. The cause of these growths is unknown, but speculations of a virus stimulated by external causes, such as pollutants or toxins present in food sources have been made. Researchers are presently gathering tissue samples from infected and "clean" populations for comparative analysis. These tumors can become large enough to obscure vision and restrict normal movement of the animal.

The dietary preference for the various species of *Gelidiaceae*, or wire weeds, of the stranded turtles led us on a search to locate this food source. After numerous day dives to sample algae on both study areas and other nearshore hard bottom areas, we were able to locate areas with sufficient amounts of these algae to support regular foraging behavior. Three green turtles were recently observed grazing upon species of these red algae during night-time dive surveys. These findings, combined with our relatively high recapture rate of 25 percent indicate that the population is using the area as developmental habitat for an unknown period of time. The absence of green turtles larger than the 2.6 inches straight-line carapace length further indicates a population that moves to a different habitat as sexual maturity approaches. The small number of nesting green turtles (sexual maturity is reached at approximately 35 inches) recorded on Broward County's beaches also substantiates this outmigration from the developmental habitat to another more distant habitat for future reproductive purposes.

The range of movement and the extent of this habitat is unknown. Recaptures most frequently occur in January, April, May, June, and October. Sea state, currents, turbidity, fresh water discharges, and suitable algal forage may all play a significant role in determining utilization of specific areas. We hope to develop a

Underwater Naturalist

green turtles captured by Ehrhart in the Indian River. Juvenile greens in the Florida Keys have also been observed with these tumors. George Balazs has reported this condition in the green turtles of the Hawaiian Islands. The cause of these growths is unknown, but speculations of a virus stimulated by external causes, such as pollutants or toxins present in food sources have been made. Research-ers are presently gathering tissue samples from infected and "clean" populations for comparative analysis. These tumors can become large enough to obscure vision and restrict normal movement of the animal.

The dietary preference for the various species of *Gelidiaceae*, or wire weeds, of the stranded turtles led us on a search to locate this food source. After numerous day dives to sample algae on both study areas and other nearshore hard bottom areas, we were able to locate areas with sufficient amounts of these algae to support regular foraging behavior. Three green turtles were recently observed grazing upon species of these red algae during night-time dive surveys. These findings, combined with our relatively high capture rate of 25 percent indicate that the population is using the area as developmental habitat for an unknown period of time. The absence of green turtles larger than the 2.6 inches straight carapace length further indicates a population that moves to a different habitat as sexual maturity approaches. The small number of nesting green turtles at sexual maturity is reached at approximately 35 inches) recorded on Broward County's beaches also substantiates this migration from the developmental habitat to another more distant habitat for reproductive purposes.

The range of movement and the extent of this habitat is unknown. Recaptures most frequently occur in January, April, May, June, and October. Sea state, currents, turbidity, fresh water discharges, and suitable algal forage may all play a significant role in determining utilization of specific areas. We hope to develop a

Underwater Naturalist

radio tracking experiment to further delineate these intra-habitat movements.

Sea grasses are not commonly found in the offshore or estuarine waters of Broward County; therefore, we conclude that those stranded animals with sea grasses present in their stomachs were either migrants or were feeding on floating rafts of the material during periods of strong easterly winds. Examination of capture frequencies on a seasonal basis indicates a surge of the population in the spring and early summer, with subsequent decline in fall and winter. During this peak population period a higher number of intermediate-sized turtles are captured. During the fall and winter months, turtles of under 13.6 inches and over 17.5 inches are captured. Spring and summer stranding dates and the intermediate sizes of the two stranded sea grass feeders point to the possibility of an influx of migrants during these months.

Juvenile green turtles will on occasion consume various invertebrates or fish. This behavior has been reported by fishermen at the four fishing piers throughout the area. Two tagged greens have been stranded in the vicinity of area piers due to entanglement in monofilament line. One animal, the aforementioned NNY723, strangled while the fishermen were trying to land it. The stomach was filled entirely with algae, but three fish hooks were found embedded in varying amounts of scar tissue in the esophagus indicating that



Photo by Robert Wershoven.

Vol. 18, No. 1

the turtle had supplemented its diet with bait.

Another animal found entangled in fishing line in the north study area, was brought to a local rehabilitation facility. This turtle was originally tagged by us in August 1987, and stranded in December of that year at the same location. In May 1988, the turtle was judged to be well-healed, and we released PPV822 approximately 14 miles south of the original capture and stranding site. While being measured on the beach prior to its actual release, PPV822 immediately began orienting north. Once placed in the water, we followed the swimming animal on its northerly course for several hundred yards. Three weeks later, this turtle was recaptured during a night dive survey of the north study area. Homing behavior of this species is well documented by Archie Carr and others. It is probable that 822 will continue this dangerous scavenging at its favorite pier near its resting site.

The present study has answered some of the questions regarding the young green sea turtles off Broward County's coast. Growth rates, diet, disease, and seasonal occurrence have been established; however, some important questions remain unanswered. Do our smallest turtles (approximately 10 inches long), enter the nearshore benthic environment and remain in our area until some urge tells them to move on when they reach 23-27 inches in length? Where is the next stop on their developmental journey?

One cannot help but feel when observing these beautiful animals that a mystery surrounds their migration and life cycle which may never be fully understood. As the small turtles mature and leave our waters for parts unknown, the conservation of these creatures takes on an international dimension. The bits and pieces of data we have thus far accumulated can be useful in protecting not only this population of juvenile green turtles, but in preserving the developmental habitats they depend on for their growth and survival and, perhaps, the home they find at the end of their travels.

Wershoven, Robert

Assessment of Utilization of Sleeping Habitat by
Juvenile Turtles off Broward County, Florida

Broward County Audubon Society
Deerfield Beach, Florida 33442 USA

Juvenile green turtles are frequently sighted by divers over the hardbottom, first reef area of Broward County, Florida. The range, feeding habits, and growth rates of this population are unknown. Adult green turtles are rarely observed in this habitat, even though there is a small nesting population. In addition to observation by divers, juvenile green turtles frequently strand along the beaches of Broward County.

A study was implemented to gather more information about this population. Dives were conducted along a mile-stretch of hardbottom known to harbor sleeping animals during the nighttime hours. The reef area consists of scattered coral heads with limestone ledges at depths of three to six meters. Animals were captured by hand, brought to the surface, measured, observed, tagged with #681 Inconel tags, and released. 9-18'

Data were supplemented by necropsies performed on 10 juvenile green turtles after stranding. Stomach contents were removed for analysis, and the intestinal tract and pre-stomach were examined for obstruction.

The diving survey has resulted in 72 green turtles and 3 hawksbills captured and tagged between March 1986 and September 1987. Twenty of these turtles were recaptured, with four green turtles showing multiple recaptures. One hawksbill was recaptured seven times. Curved carapace lengths range from 27.4 cm to 67 cm at time of initial capture.

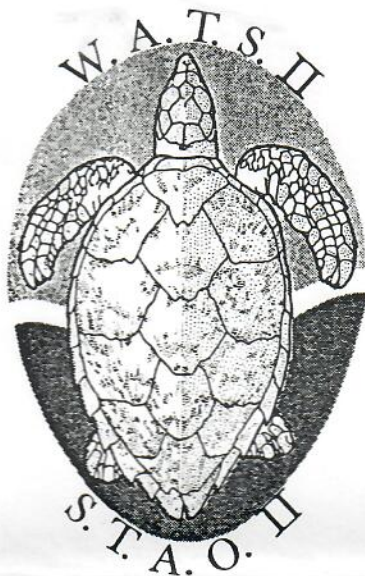
Turtles have not been observed feeding on any occasion. Examination of the stomach contents through the cooperation of George Balazs and NMFS indicate the consumption of the algae Gelidium crinale in five turtles, and Gracilaria cylindrica and Codium isthmocladum in one.

Analysis of capture frequencies indicates seasonal variability in utilization of the study area, with the peak period during the month of June. Further study will be needed to verify this. The area appears to be primarily sleeping habitat. Surveys conducted during the day to observe feeding turtles or to locate sources of the identified Gelidium crinale or Gracilaria cylindrica have not been successful. Stranded animals may thus reflect a migratory juvenile population which may, or may not, be representative of that population currently being captured and

tagged. The study will continue as long as the collection of additional data is feasible.



**PROCEEDINGS OF THE
SECOND WESTERN ATLANTIC
TURTLE SYMPOSIUM**



Editorial Committee

Larry Ogren, Editor-in-Chief
Frederick Berry
Karen Bjorndal
Herman Kumpf
Roderic Mast
Glenda Medina
Henri Reichart
Ross Witham

J u n e 1 9 8 9

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Center
Panama City Laboratory
3500 Delwood Beach Road
Panama City, FL 32408

ASSESSMENT OF JUVENILE GREEN TURTLES AND THEIR HABITAT IN BROWARD COUNTY, FLORIDA WATERS

Robert W. Wershoven
Jeanne L. Wershoven

Broward County Audubon Society, 2962 Waterford Drive South, Deerfield Beach, Florida 33442 USA

Divers frequently encounter juvenile green sea turtles (*Chelonia mydas*) along the hardbottom reef areas of Broward County, Florida. Habitat related research has been pursued in other areas of the state by Carr and Caldwell (1956) in the Cedar Key area and Mendonca and Ehrhart (1982) within the Indian River system. The current study is the first to study the population of juvenile green turtles and its foraging and resting habitat in Broward County, Florida.

The offshore sea floor of Broward County consists of a series of limestone ledges running parallel to the shore. The first of these ledges begins approximately 75 m offshore, and is continuous for the duration of the county coastline. Offshore depths range from 7 m or less for nearshore sites to 20 m for those reefs farthest seaward.

METHODS

Three primary study tools were utilized to produce information on this population. Capture of sleeping or swimming juvenile turtles was accomplished by using SCUBA apparatus at night. Turtles thus captured were brought to the surface, examined, tagged with #681 Inconel tags, measured and released. Dive entry was accomplished from shore or from a small inflatable boat. Approximately one mile of hardbottom area off central Broward County was surveyed at least twice a week as weather permitted. A similar area at the north end of the county was also surveyed on a regular basis. Diurnal SCUBA surveys were conducted to document behavior patterns of green turtles during the day, and to locate algae species and determine relative abundance of these food sources.

Necropsies were performed upon stranded juvenile green turtles. Stomach contents from 18 turtles stranded in Broward County of the same size class as those tagged were taken for analysis.

RESULTS

One hundred and five juvenile green turtles have been captured and tagged during nocturnal diving surveys conducted between 1 March 1986 and 31 December 1988. Four juvenile hawksbills were also captured. Capture success rate was 45% with a calculated effort of 4.08 man hours per capture. June and October were peak capture months; September and December resulted in the fewest captures.

Curved carapace lengths (notch-to-tip) for captured turtles ranged from 26.4-67.0 cm. The majority of the population falls between the 30 cm and 60 cm size categories. Turtles < 35 cm are more frequently captured in the spring months.

Recaptures were made for 25 green turtles for a total recapture rate of 23.8%. Homing behavior was displayed by one green turtle, tagged in August 1987. After spending 5 months at a rehabilitation facility, this animal was released in May 1988 and, within three weeks, returned to the original capture site 10 miles to the north of the release point.

Growth rates for green turtles, calculated for recaptures with at least one month total interval, ranged from 0-0.48 cm per month. The average growth rate was 0.24 cm per month. Comparable growth rates have been recorded for juvenile green turtles in the Hawaiian Archipelago (Balazs 1982). Bjorndal and Bolten (1988) reported a decrease in growth rates with an increase in size. Rates may be dependent upon nutritional value of diet (Balazs 1980, 1982).

Stomach contents from the 18 necropsied green turtles were analyzed by Steve Blair of Dade County, Florida, Department of Environmental Resource Management and Dennis Russell of Seattle Pacific University. Algae of the family Gelidiaceae, in particular Pterocladia, Gelidium, and Gelidiella species, were identified as the predominant food consumed in the 17 samples containing algae. Gracillaria, Bryothamnion, and Hypnea species were also ingested in significant amounts. One turtle had exclusively ingested seagrasses of Thalassia testudinum, Syringodium filiforme, and Halodule wrightii, and one stranding had been feeding on both algae and sea grasses.

Daytime SCUBA surveys resulted in the observation of juvenile green turtles feeding upon algae, usually at the base of soft corals. Turtles were also observed engaged in this activity at night. All algae identified in stomach contents are common to Broward County offshore areas, however, there are no known seagrass beds offshore or in the two estuarine areas of Port Everglades and Hillsboro Inlets. Results of four surveys in the main study area to determine algal density indicate a predominance of Gelidiaceae (85%), Pterocladia spp. most common, on the substrate with Dictyopteris sp. (15%) also occurring. It appears that turtles are engaging in highly selective feeding behaviors, cropping primarily those algae desired. Hypnea spp. were also present in two green turtles sampled. Mortimer (1982) and Balazs (1987) note consumption of this species by turtles in their respective study areas. Bryothamnion seaforthii, also a food of choice, and Hypnea spp. are common to areas of sand and reef rubble inshore of the first reef.

CONCLUSIONS

Diurnal and nocturnal SCUBA surveys indicate that the reef areas of Broward County, Florida, serve as an important development habitat for juvenile green turtles. The presence of substantial numbers of green turtles engaged in both feeding and resting activities support this conclusion. Samplings of algae indicate the availability of considerable biomass of desirable forage for these turtles.

None of the captured or stranded turtles evidenced papillomas. Although the size class of this population has been observed to be between 25 and 65 cm (over the curve), duration of residency for these animals is unknown at this time. Future surveys will hopefully shed some light on this question. The source of recruitment to the population and their ultimate destination is unknown, as is the relationship of the nesting population to the juveniles.

The quality of this habitat should be maintained. At present, there are several threats to the integrity of this habitat. Recreational diving pressure may be displacing green turtles from optimal forage and resting sites. Boating activities are also disruptive and appear to be a major cause of mortality to the population. Future beach renourishment projects need to be monitored closely so as to prevent impact upon food sources. We will continue this study to monitor the population and its habitat as long as it is feasible.

LITERATURE CITED

- Balazs, G.H. 1982. Growth rates of immature green turtles in the Hawaiian Archipelago, p.117-125. In: K.A. Bjorndal (ed.), Biology and Conservation of Sea Turtles. Smithsonian Institution Press, Washington, D.C.
- Balazs, G.H., R.G. Forsyth and A.K.H. Kam. 1987. Preliminary assessment of habitat utilization by Hawaiian green turtles in their resident foraging pastures. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS, NOAA-TM-NMFS-SWFC-71, 107 p.
- Bjorndal, K.A. 1980. Nutrition and grazing behavior of the green turtle, Chelonia mydas. Marine Biology 56:147-154.
- Bjorndal, K.A. and A.B. Bolten. 1988. Growth rates of immature green turtles, Chelonia mydas on feeding grounds in the southern Bahamas. Copeia 1988(3):555-564.

Carr, A. and D.K. Caldwell. 1956. The ecology and migrations of sea turtles. 1. Results of field work in Florida. 1955. Am. Mus. Nov. 1793:1-23.

Mendonca, M.T. and L.M. Ehrhart. 1982. Activity, population, size and structure of immature Chelonia mydas and Caretta caretta in Mosquito Lagoon, Florida. Copeia 1982:161-167.

Mortimer, J.A. 1982. Feeding ecology of West Caribbean green turtle (Chelonia mydas) in Nicaragua. Biotropica 13(1):49-58.

Mel Fisher's
Treasure Exhibit & Sales

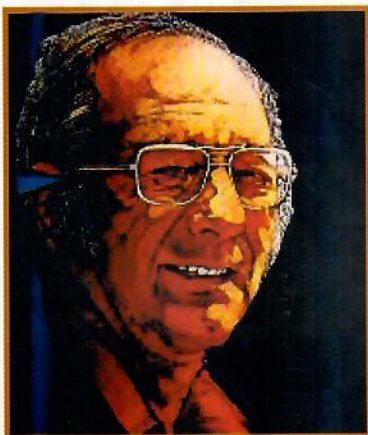


The Perfect Holiday Gift

Mel Fisher's Treasure Exhibit & Sales

200 Greene Street
Key West
Florida 33040
Tel. 1-800-434-1399

Happy Holidays!

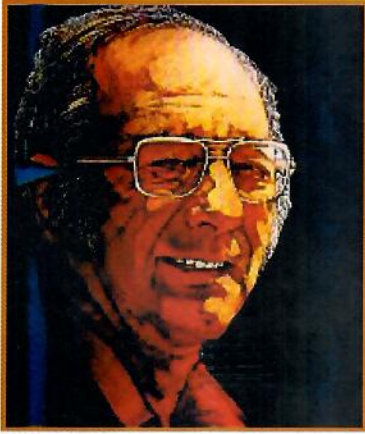


Mel Fisher

1922-1998
The World's
Greatest Treasure
Hunter

Mel Fisher's Treasure Exhibit & Sales

200 Greene Street
Key West
Florida 33040
Tel. 1-800-434-1399



Mel Fisher
1922-1998
*The World's
Greatest Treasure
Hunter*

Happy Holidays!

Friendship Bracelets & Rings

Introducing the latest addition to the
Fisher Jewelry Collection
Finely crafted historic reproductions of Spanish Shipwreck



- A. Friendship Ring
Yellow & White Gold
\$260.00
- B. Friendship Ring
\$260.00
- C. Friendship Bracelet
14K Gold
\$749.00
- D. Friendship Bracelet
Silver
\$69.99

Purchase your very own piece of the Atocha



- Atocha or Santa Margarita Iron
Spikes
\$175.00
- Atocha Musket Balls
\$45.00
- Atocha Pottery Sherd
\$14.95

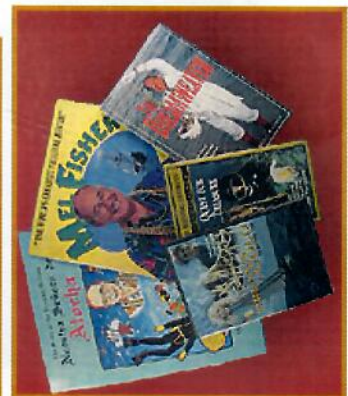
Atocha Coloring Book
\$4.95

Mel Fisher: The World's
Greatest Treasure Hunter
\$9.95

The Dreamweaver
\$26.95

DVD: Dreams of Gold
\$21.95

National Geographic Video:
Quest For Treasure
\$29.95



**WE HAVE MANY ITEMS FOR SALE NOT PICTURED IN
BROCHURE. PLEASE CALL US FOR PERSONAL ASSISTANCE**



Mel Fisher's
Treasure Exhibit & Sales



The Perfect Holiday Gift

Coins of the Lost Gallion Nuestra Señora de Atocha

Choose from our large selection of one of a kind 16th and 17th century Spanish cob coins.



Purchase the coin alone or have our jeweler professionally mount it for you to wear as a necklace.

Grade 1...\$2055.00 & up

Grade 2...\$1480.00 & up

Grade 3...\$995.00 & up

Grade 4...\$501.00 & up

Price listed are for coin only, mounting costs range from \$270.00 and up

Call for details



You may choose from a variety of mounting styles and adornments, including authentic Atocha emeralds, high quality diamonds, and gold charms such as shells, dolphins, and mermaids. Call us to create your own personalized treasure.



Actual Coin Sizes (Approx)

8 Reales....1-1/2" dia

4 Reales....1-1/4" dia

2 Reales....1" dia

1 Reale....3/4" dia



Coins, Authentic Shipwreck Treasure and reproduction jewelry come with their own Certificates of Authenticity

**Please call
1-800-434-1399**

Shipwreck Treasure Jewelry

Give the most precious gift of the sea...

Each piece of our Shipwreck Jewelry line is handcrafted and created using silver from the over 40 tons of silver bars found on the Atocha



A. Coin With Gold Dripped Bezel
\$39.95

B. Cross of the Crusade Cufflinks
\$79.00

C. Money Clip
\$62.00



D. Silver Money Clip
\$23.00
E. Silver Anchor Charm
\$14.00



ORDER BY 12/20/01

AND SAVE 10% ON PURCHASE

The Fisher Jewelry

Our newest line. Exquisitely crafted reproductions of some of the treasures recovered from the Atocha and the 1715 Fleet



A. Angel Crown Ring
\$399.00*
B. Emerald Box Ring
\$1755.00*
C. Amethyst Box Ring
\$499.00*
D. Emerald Lace Ring
\$899.00*



**Please Call
1-800-4...**

E. Life Preserver Ring
\$192.00
F. Pyramid Ring
\$200.00
G. Decorative Ring
\$220.00
H. Olive Branch Ring
\$272.00

Rings and Crosses available in Gold and Sterling Silver

*Price may vary due to size



CALL BEFORE 12/20/02
AND SAVE 10% ON PURCHASES
OVER \$100.00
WHILE QUANTITY
LAST



er Bar
.95
Anchor
.95

- I. Wrapped Coin Bracelet \$79.95
- J. Wrapped Coin Earring \$69.95
- K. Wrapped Coin Pendant \$39.95

- F. Small Wrapped Coin Earrings \$49.95
- G. Small Wrapped Coin Bracelet \$49.95
- H. Small Wrapped Coin Pendant \$35.95



02

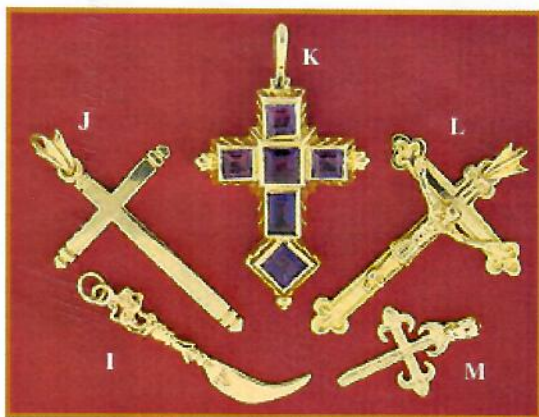
SAVES OVER \$100.00!

Collection

most precious

se call
34-1399

e Ring
.00*
nid Ring
.00*
ative Ring
.00*
ossom Ring
.00*



- I. Toothpick Pendant \$79.00
- J. Santa Margarita Cross \$130.00*
- K. Amethyst Cross \$989.00*
- L. San Roman Crucifix \$189.00*
- M. Spanish Cross \$44.00

n 14K Gold



Friendship Bracelets & Rings

Introducing the latest addition to the
Fisher Jewelry Collection
Finely crafted historic reproductions of Spanish Shipwreck

- A. Friendship Ring
Yellow & White Gold
\$260.00
- B. Friendship Ring
\$260.00
- C. Friendship Bracelet
14K Gold
\$749.00
- D. Friendship Bracelet
Silver
\$69.99



Purchase your very own piece of the Atocha



- Atocha or Santa Margarita Iron Spikes
\$175.00
- Atocha Musket Balls
\$45.00
- Atocha Pottery Sherd
\$14.95



- Atocha Coloring Book
\$4.95
- Mel Fisher: The World's
Greatest Treasure Hunter
\$9.95
- The Dreamweaver
\$26.95
- DVD: Dreams of Gold
\$21.95
- National Geographic Video:
Quest For Treasure
\$29.95

**WE HAVE MANY ITEMS FOR SALE NOT PICTURED IN
BROCHURE. PLEASE CALL US FOR PERSONAL ASSISTANCE**



**Mel Fisher's
Treasure Exhibit & Sales**

200 Greene Street
Key West
Florida 33040
Tel. 1-800-434-1399



Mel Fisher
1922-1998
*The World's
Greatest Treasure
Hunter*

Happy Holidays!

Florida Keys



Florida

