

undercurrent®

THE PRIVATE, EXCLUSIVE GUIDE FOR SERIOUS DIVERS

P. O. Box 1658, Sausalito, California 94965

Cable Address: Gooddiving

Vol. 13, No. 6

June 1988

Stella Maris, Long Island, Bahamas

-- Where One Dive May Be Worth The Trip

Dear Reader:

Of all the Caribbean and Bahamas resorts I know, none offers a single dive as exciting as the Stella Maris' Shark Reef dive. Here's what happened to me in April.

Aboard a Stella Maris dive boat, all 12 of us divers suited up together, then descended four at a time, to kneel behind an old shark cage, our backs against the reef. One divemaster, Jason, perched in front of us, holding two 6-foot steel poles. Another divemaster then descended with the bait bucket. A few small reef sharks had been gathering since the first diver entered, and they fought for the first morsels. Then came the larger animals, as many as a dozen at a time, some up to 12 feet long (said the divemasters), swarming to get at the fish being offered. Most of the action occurred about 15 feet away, but occasionally a big fellow would approach us, so Jason would push it away with his pole. Groupers, yellowtails and jacks swam among the confusion, darting after their share of the bait, uninhibited by the sharks. Occasionally Jason would dip his spear in the bucket to pull out a chunk of meat and wave it in a figure-eight while fish raced after it. When the bait was nearly gone, a 12-foot shark put his head in the bucket and got stuck. Like a clown at a circus, he shook his bucketed head frantically until he finally freed himself.

The well-orchestrated show was over in 20 minutes and most of the sharks quickly swam off. Climbing back on board, we were jubilant. Surely, this single dive was alone worth a visit to Stella Maris.

It had been a long day. We had left the hotel at 9:30 and returned after 6:00 pm, not uncommon for most three tank dive days. It took an hour to get to the first dive site, the 100 foot deep wreck of the freighter Comerback. I swam into the hold, climbed the ladders, and investigated the rusting hulk. Huge

INSIDE UNDERCURRENT

The Dry Tortugas, Florida	
-- A Cruise For Killers Only	3
Rascals In Paradise?	5
Murder, They Wrote	7
How Many Divers, How Safe The Sport?	
-- The Debate Continues	9
Another Way To Count Divers	10
The Perils Of A Poorly Run Resort Course ..	11
Scubapro BC Recall	12
The DPV, Revisited	14

groupers, accustomed to being fed, searched in vain among us for food. One, in his search, came behind me and nipped me on the neck. It felt as if it were a hard bump more than a bite, but at the surface I found a small wound, allowing me to boast that after 17 years of diving I had finally earned a Purple Heart. Our second dive was a shallow, typically Bahamian coral reef, with plenty of tropical fish life and no surprises.

Stella Maris is Long Island's only hotel. Located on a hillside, it's a short walk down to the beach (there are four swimming pools) and a 5-minute bus ride to the marina for diving. The motel-like rooms are separate from the main building which houses the dining room, bar, and social areas. People can choose to eat outdoors (take an insect repellent) or in. The meals were satisfactory-plus, the service tops. We were encouraged to have seconds. Fresh fruit every day was particularly welcome. Lunches are ordered the night before for day trips. I ate in town one night at Mario's, where the native-style grouper, cracked conch, conch chowder, and conch salad was served family style. Although I was on a package plan, Stella Maris gets high marks for crediting my account \$22 for the meal I skipped.

We seemed to play musical dive boats at Stella Maris, never sure from what craft we would dive. On the first day we were loaded aboard the 65-foot Sol Mar III, a liveboard capable of bunking 16 people in not so private spaces. The main deck was open, there were cushioned benches, padded tables for photography gear, 80-cf tanks neatly stowed (but skimpily filled to 2500 psi), two heads, and an outfitted kitchen. On another day a dozen people were packed into a 22-foot glass bottom boat without much room to maneuver. We dove on 40-foot lovely Twin Reefs. I watched a huge lobster crawl around in full view before he got spooked. Several pompanos and amber jacks huddled under a ledge. A grouper, mouth agape, held still for cleaner fish. I swam through a couple of tight tunnels. After a side excursion for a leisurely lunch on a nice beach, we visited a small coral head at 20 feet. Another typical aquarium-like Bahamas dive, but two sharks circled the reef the entire hour. It was only a two-tank day, but we still returned home at 6 pm.

On another day, we used the 36-foot Enterprise for two dives at Exuma Reef -- one to the right of the anchor line, the other to the left. They were fair; surely nothing to write home about, or even write here about.

Undercurrent visited Stella Maris in 1977 and, other than new boats and the visit to Shark Reef, the experience remains the same. The German-owned resort has two hospitable German expatriate managers, George Friese and Peter Kuska, who have been there 16 years. They checked constantly to be sure everything was going well with their guests. The clientele is international; many of the guests were German, some were English, and less than half were American.

In discussing this piece with the writer who wrote before, we both agreed that Stella Maris is indeed a pleasant enough place for a vacation diver to spend a full week, though the common diving could get a little repetitious at the end. One can give a boost to the week by arranging ahead of time for 1-2 day diving

Copyright 1988 by Atcom, Inc., Atcom Publishing, 2315 Broadway, New York, NY 10024. All rights reserved. Undercurrent (ISSN: 0192-0871) is published monthly by Atcom, Inc. Copies of this guide are not available on newsstands, but are furnished directly to the diving public by mail subscriptions only. To maintain its independence Undercurrent carries no advertising. Permission to photocopy articles herein is granted by Atcom Publishers, Inc. to libraries and other users registered with the Copyright Clearance Center (CCC) for internal and personal use only at the base fee of \$10 per article plus \$1 per page paid directly to CCC, 21 Congress Street, Salem, MA 01970. Serial Fee Code: 0192-0871/88\$10-\$1. Other copying by any

electronic or mechanical means, including information storage and data retrieval systems, without the expressed written permission of the publisher are strictly forbidden. News media may use no more than one quarter page of material per issue, provided that Undercurrent is credited. POSTMASTER: Send address change with old label to Undercurrent Newsletter, 2315 Broadway, New York, NY 10024. Second Class Postage paid at New York, N.Y.

To receive the accurate, inside diving information Undercurrent offers, send \$45 (U.S. funds only) for a one year subscription to Undercurrent, Atcom Publishing, 2315 Broadway, New York, NY 10024-4197 and get a valuable FREE gift.

trips to Conception Island (of which I've heard high praise), or even a two- or three-day trip to San Salvador. The sleeping arrangements would be comfortable, but not private.

You might, as I did, enhance the trip with a little bone fishing. Usually two people with a guide cast from a small boat, or the bones can be fished while wading in the shallows. They're tough fish to catch, but legendary fighters. Deep sea fishing is also an option. Some friends, traveling with me this year, wished for last year's luck when they boated a white marlin, 2 huge bull dolphin, a Spanish mackerel and several barracuda. This year it was only a yellow fin tuna and a couple of barracuda.

Rating Stella Maris	
Shark Reef	★ ★ ★ ★ ★
Other Diving:	
For Experienced	★ ★ ★ ½
For Beginners	★ ★ ★ ★
Hotel	★ ★ ★ ½
Food	★ ★ ★ ½
Bus trip snorkeling	★ ★ ★ ★
Money's Worth	★ ★ ★ ★
★ poor, ★★ fair, ★★★ average, ★★★★ good, ★★★★★ excellent	

So, what's the verdict? Average to good Bahamas diving, with shark reef worth the price of admission; if you can spend 10 days in the Bahamas, five here and five anywhere else would be a perfect combination.

Divers Compass: Shark Reef dives are offered twice a week . . . Getting to Stella Maris requires connecting with a flight at Fort Lauderdale or Nassau; Stella Maris will arrange charter flights from Nassau at \$140 RT. . . A package for 7 nights (no meals) including 6 days of diving (2-3 tanks/day) is \$519 in the winter and \$489 in the summer. . . Snorkeling near the hotel isn't much, but snorkelers can be bussed to other areas; after a dusty 20-minute bus ride to a lovely beach I found moderate fish life and healthy corals, dominated by spectacular elkhorn. . . Reservations: 701 SW 48th St., Ft. Lauderdale, 33315 (305/467-0466; 800/327-0787) or call the hotel directly: 809/336-2106.

-- jd

The Dry Tortugas, Florida

-- A Cruise For Killers Only

Dear Reader:

If you've ever wanted to howl about a travel review, here's your chance. We're going on a spearfishing charter. Now, as a knee-jerk liberal, I'm not keen on spearfishing, though I once indulged (as did most divers back when). I remember taking aim with my arbalete off Monterey. As I focused on an ordinary rockfish, another joined it. The spouse, no doubt. The thought of killing one of a pair was too depressing. I returned to the shore fishless. I got rid of my gun at a garage sale and bought a Nikonos. I use it today to photograph the fish I catch with rod and reel.

Spearfishing can be a sneaky sport. At a number of Bahamas and Caribbean resorts guests slide up to the guides to arrange "quiet" spearfishing trips (I've been offered the opportunity at Grand Cayman at more than one resort). Hunters often have to sneak around. They're sniffed at by most sport divers, just as some nonsmokers, especially the reformed, treat smokers. But our correspondent is no closet hunter. He loves it.

C.C., travel editor

* * * * *

Yes, I'm a hunter. I like any diving, but whenever I get a chance to spearfish, I take it. The fish I kill end up on someone's dinner table, usually mine. Unlike my editor, I don't anthropomorphize fish, dwelling on pairs as loving couples. For me, fish are an integral part of the food chain.

Driving to Key West from my home near Miami, I stopped to enjoy a couple of sightseeing tanks at Pennekamp Coral Reef State Park. I soon saw the conflict between taking fish and watching fish. On my first dive, on French Reef, I saw a barracuda with an 8-inch chartreuse lure hanging from a #8 hook in the side of its mouth. On the second dive, on Molasses Reef, I saw a yellow tail snapper with a hook in its mouth trailing about nine inches of stainless steel leader. Fishing from a boat is allowed in Pennekamp.

Shouldn't sanctuary be just that? No fishing. No spearing. Fewer divers. Human pressures on Pennekamp will destroy it, as the broken coral will attest. If Pennekamp is to look like anything in ten years, strict limits should be placed on the number of divers who visit daily. Once the daily quota is filled, no more admittance. Of course, the charter boat operators will scream -- conservation is ok, they will say, but not if it affects my income.

At the Dry Tortugas, a cluster of islands 70 or so miles west of Key West, there's a sanctuary, as well as unregulated water. I was to join the 65-foot Shear Water, making hunting runs from Key West during April and May. Captain John Elsner normally operates from Palm Beach -- he offers daily reef diving on the 45-foot Infatuation, and Bahamas live-aboard trips on the Shear Water, which I've enjoyed. John asks where you want to go and what you want to do. Day dive, night dive, deep dive, wreck dive, hunt fish, take pictures, dive alone, dive your brains out? You name it and John will help you do it, your way.

The Shear Water cruises at 20 knots with a range of 1600 miles and sports plenty of electronics. With two staterooms and bunks in the bow, the Shear Water comfortably sleeps 12 people. Amenities include color TV, stereo, electric stoves and ovens, refrigerator, two microwave ovens, freezer, two heads with full hot water showers (fresh water is limited to one shower a day on trips without refill stops) and air conditioning throughout.

Our trip was to depart at 10 p.m. on a Tuesday and return 6 p.m. Friday. Aboard was John, his brother Rick and crew member Craig, all of whom I'd dived with before, and two paying divers, brothers Drew and David. Just two other divers? "Yes, we are going," said John. "I had 11 divers last trip and the next one is 12." He could make up the difference by bringing back fish to sell.

Rather than depart at 10 p.m., John decided to get some sleep. I was angry. I wanted to dive, dive, dive, but the Captain wanted to sleep, sleep, sleep. I felt lucky to be going at all. I heard the engines start at 4 a.m. and at 9 a.m. we stopped short of the Tortugas to make our first dive at Rebecca Shoal.

I took my six-foot pole spear, propelled by a single strand of rubber, with a single tip point. This was the weapon I was familiar with, though it was no match for the more powerful band spear guns that Rich and Craig carried. Drew and David, yet to become hunters, dived unarmed. At 10 feet I could not see beyond the tip of my spear. I had no idea where the rest of the divers were. But I was not going back. I was diving and I was hunting. Pointing my spear below me to find the bottom, I felt the reef at 50 feet. After setting my compass, I located the ledge, then preceded over it, slipping down to the sand at 63 feet, and began drifting southward in search of my first shot.

Rascals In Paradise?

Now you've done it. You and your spouse, both hard-core divers, are the proud parents of a new baby. You've told yourself, "That does it for dive vacations." It would be impossible to manage an infant or even a little kid on a dive trip. You're going to be stuck for years, and when that next little tot comes along -- well, perhaps you'll never get wet again.

Now, don't get your dauber down. Thanks to a great idea called "Rascals in Paradise," organized by two energetic women, Theresa Detchmندی and Deborah Baratta, both mothers and divers, you can stuff your duffel with your dive gear, and use the Pampers for padding. Long-time staffers at See and Sea Travel, Theresa and Debbie left about 18 months ago to open Adventure Express Travel and their subsidiary, Rascals in Paradise, which features family adventure trips. Their mission: to get families to exotic destinations and diving, while solving ahead of time the problems they can expect to face with kids in tow, no matter how young.

They take a couple of approaches. For example, they organize groups of families up to six families for fine dive destinations such as St. George's Lodge in Belize, Pirates Point on Little Cayman, or Small Hope Bay in the Bahamas. They even have a Bahamas cruise to swim with dolphins. The typical price of a stay at the Southern Cross Club, (most everything but air fare and diving is included) is \$1990 per couple, plus \$200 for an infant, \$600 for a child 2-11, and \$850 for a 12-18 year old adolescent.

Accompanying each group trip is an escort with teaching credentials, who organizes activities for the kids -- including snorkeling lessons -- so mom and pop can go diving. In addition, each family has its own baby sitter assigned, and those sitters, Detchmندی told *Undercurrent*, are fully versed in the quality of sitting demanded by American parents. "We tell the resorts we don't want *las*

cucarachas in the cribs and we don't get them." Furthermore, optional family activities, such as tours of sugar mills or sand castle building contests, are organized if the parents tire of diving and want to play.

For people who don't want to or can't join the groups, they offer individual family trips to a number of diving destinations, where they can arrange and assure high-quality child care (but no teacher accompanies). Among the destinations are the Bolongo Bay Club in St. Thomas and Club Akumel in Mexico, and even a trip on the dive boat/floating resort, Aquanaut Explorer in the British Virgin Islands. Of course, kids accompanied by only one parent are indeed welcome -- though the price per person is higher.

If you seek adventures other than diving, Rascals has safari trips to Africa (minimum age 4), cultural tours of Papua New Guinea (minimum age 6), trekking, rafting and game viewing in Nepal (minimum age 5) and tours of New Zealand with camper vans -- you drive.

Some parents have children with very special needs, to which Detchmندی attends. The mother of a 3-year-old diabetic child wrote that her Fiji trip was perfect and that her child's special diet was perfectly managed. And there are plenty of similar stories as well.

Theresa Detchmندی says that the Rascals staff works hard to ensure that each family has the trip personalized to its interests and needs. They arrange special meals, shared or separate rooms, or specialized care. She and Debbie are more than happy to field calls from diving families to discuss those needs.

Spaces remain for summer and fall trips, and Christmas trips are just being organized. Call 800/443-0799 (in California call 415/442-0799) or write for an enticing brochure to Rascals in Paradise, 185 Berry St., #5503, San Francisco, CA 94107.

To a real hunter, the "never dive alone" commandment doesn't apply. If I were buddied up, I would have only half the shots that I would have alone. But here I didn't like the five-foot visibility. I could barely see the reef wall. To make matters worse, a two-foot long Queen angel kept popping into my limited visibility world. Each time I would flinch. After five futile minutes of being spooked by the Queen, with no indication that any other fish lived in this murk, I ascended, happy to be wet. The hunt had officially begun.

At noon we arrived at the western edge of Tortugas Bank, where the Gulf Stream water was blue and the depth recorder showed the bank rolling from 50 to 90 feet. Visibility was 75+ feet and the scenery so nice I could easily have

forgotten hunting. The top of the roll off, punctuated with small holes and tunnels, consisted of coral and rock. The roll off, covered with clumps of brown gorgonia bent by the current, sloped to the sand and rock bottom. It was the home of grouper and hogfish.

Cruising along at 50 feet, I looked into the holes, under the ledges, and down the slope. A good-sized black grouper came into view and both Craig and I started toward it. Spooked by the two of us, it darted into a hole. Craig got there first. Frankly, I was glad that he did; the power of his two-banded gun would be needed for a fish this size. He aimed into the hole while I shined my light in. The next thing I saw was a cloud of sand. Craig reached in and grabbed the grouper by the eye sockets to pull it out. The shaft had gone in the head and out the tail of what turned out to be a twenty-six-pound grouper. Because the fish was skewered, it could not turn to swim away, but it was very alive. Craig pushed his knife to the hilt in the top of its head. The thrashing stopped. He put the fish in his bag but did not signal thanks for the help. He had not needed the help and, if I were Craig, I would not have wanted any. Hunting is something best done alone and being alone is a part of hunting.

I told some friends this story, and they yech and yuk and wonder how I can join in the slaughter. They're the same ones who let the guide spear their dinner aboard their Australian liveboard ... or point out a lobster to the guide so he can pull it out and break off the tail. I have a friend who says she only eats what she herself can kill. She eats oysters and clams, but eats no chicken or beef and is considering giving up fish now that she's a diver. She's the only consistent thinker I know.

On the next dive hunting alone, I descended into a desert of sand at 50 feet. Visibility was 50+ feet. I set a 180° course and kicked south to be near where the others would be when it came time to be picked up after drifting. As I approached a field of dusty brown gorgonia, signs of life started to appear -- a large blue parrot fish and gray angels. Moving toward an increasing number of fish, I saw a two-foot hogfish swimming through the gorgonia tops. It was an adult male with a well-developed snout.

My armament was a pole spear with a paralyzer tip -- three eight-inch-long tines fastened together at the base and spreading to a three-pointed pattern about the size of a half-dollar at the working end. The objective is to spear the fish through its lateral line just behind the gills. Properly done, one of the three tines will sever the central nervous system and immobilize the fish. A poor shot in the head will usually result in the tines being deflected by the bony structure. A shot too high or too low will result in an impaled fish flopping mightily to get off the tines.

I pushed the pole spear back with my left hand while holding the spear and band with my right hand until I had as much stretch on the band as I could get. Holding the tensioned spear in front of me, I closed in. While the hogfish was not moving fast, it was moving at an angle away from me. I started to kick out to the side to intercept it, but, oddly, it stopped and turned its side towards me, perhaps to get a better look. I took aim and released my grip on the pole. Instantly it covered the four-foot distance from the tip to the fish. Three puffs of green clouds came from the point of impact. The hogfish began thrashing on the tines. My shot was too low. I pushed the spear forward, driving the tines through the hogfish and pinning it to the sand.

I let out some air from my BC, settled on my knees next to the flopping hogfish and methodically removed the mesh game bag from my weight belt. I was

calm and comfortable, but stopped when something moved in front of me. There, watching me from a distance of about five feet, was a ten-pound Nassau grouper. Could it be that there was a grouper dumber than a hogfish? I let more air out of my BC to settle firmly in sand as I finished putting the hogfish into the game bag and attaching it to my belt. There was more hunting to be done here.

The Nassau continued to watch, perhaps waiting for food from this kill. Slowly, from my kneeling position, I straightened up and pushed back on my pole spear to tension it. I took careful aim and let the spear fly. Three green puffs appeared and I followed through, fully impaling the grouper and pinning it to the sand. It was a good shot. The grouper went quietly into my bag.

After another hogfish kill, I began my ascent, pulling my plastic "diver down" flag from my BC pocket to put it on the tip of my pole spear. It served me well: the boat, 150 yards away, came only after someone spotted the flag.

I felt good about my first hunt. Two seven-pound hogfish and a ten-pound grouper with good shot marks. A few minutes later, John came up with seven hogfish, each bigger than mine. But I didn't mind. I was being out-hunted by one of the best. I felt proud to be a part of the team.

One more hunting dive (and a night dive for fun) and I was ready for bed. I slept soundly and dreamt in colors of dusty brown and slate grey. Thursday morning breakfast was pancakes made with fresh strawberries. Sausage, orange juice and coffee rounded it out. Lunches and dinners -- fish, chicken, and fresh salads and fruits -- were no-nonsense natural. I had plenty to eat and the refrigerator and food cabinets were open all day for snacking. Sodas and fruit juice are free. Bring your own beer or spirits.

We had anchored near Fort Jefferson, a mammoth ten-acre, 45-foot-high walled Civil War fort. At its dock lay the Yankee Freedom, which advertises "fishing safaris on the Tortugas banks aboard the awesome 100-foot fishing machine." She bunks 45 people and makes two trips a week. A picture in the brochure shows a dozen anglers with a dock piled high with dead fish. So much for any notion that only hunters take fish from the Dry Tortugas.

The first dive would be to a shrimp boat wreck in 150 feet of water. The plan was for everyone but John to dive the wreck with an 8-minute bottom time and decompression stops for 2 minutes at 20 feet and 6 minutes at 10 feet. Rick and Craig took band-powered spear guns tipped with .357-magnum power heads, hoping that big groupers would be on this hard-to-reach wreck. I took my trusty pole spear with a single pointed tip. Drew and Dave dove unarmed.

The water was 78° and I could clearly see each diver as we headed towards the bottom. A thermocline at 90 feet turned the water from blue to brown-green, dropping the temperature from 69° to 64°. No one got a fish. But I watched Drew

Murder, They Wrote

Though not the sort of news that we normally report, someone ought to put the rumors at rest (after all, it was front page news in Canada). Yes, there was a murder in Bonaire over Christmas. A 15 year-old Canadian girl, on vacation with relatives, was found strangled in a restroom of that big dive hotel. There were no immediate suspects, but rumors worked their way back to the States from people who had been on the island during the holidays. Bonaire is such a peaceful, friendly, crime-free island that such a tragic event created serious fears among the people and its visitors while the murderer remained at large. Even some locals were afraid to walk the streets at night.

In mid-April a 14 year-old Bonaire youth was arrested and charged with the crime. One source reports that he was "mentally unstable."

bag an enormous bug. At the surface he got pictures of the 7 1/2 pound behemoth, then set it free. It was out of season. Drew was all smiles. The metamorphosis from looker to hunter was beginning.

I went on three more dives that day and bagged three hogfish and a grouper -- all good sized -- but the crew continued to out-hunt me by a wide margin. And Drew had taken to diving with a pole spear and hunting and spearing fish. The metamorphosis was complete. Another hunter now roams the seas.

First thing Friday morning I was heading down toward yet another deep shrimp boat wreck. John's goal was to get big groupers to sell back home. Our dive plan was 10 minutes at 180 feet with a four-minute decompression stop at 20 feet and a 10-minute stop at 10 feet. The water was 68°, the visibility seven feet. I could see the end of my pole spear and I could see bubbles coming up from under me, but that was it. I followed the bubbles down as far as I could, but they gradually disappeared until I was completely alone.

As I descended, it got darker and darker. Normally I carry a light on wreck dives, but this wreck was so small ... and it was a sunny day. I began to speculate that my chances of finding the wreck were close to zero. The tip of my spear sunk into sand as I reached the bottom. I could barely read my gauges, it was so dark. As I slowly forced air into my BC, I saw a light about ten feet away. It was Dave, who until yesterday had probably never been over 90 feet and never been on a night dive. He was now at his deepest and darkest.

Unable to find the wreck, I began to ascend after five minutes. Slowly we headed up, carefully monitoring our speed in the dismal waters. This was no time to risk being bent. At 100 feet it was finally light enough to see my Edge. Even though flashing "out of range, out of range," it continued to give the information I needed to continue. Oddly, the Skinny Dipper that I carry in my BC did not go out of range; it reported a maximum depth of 178 feet. On the surface I learned that no one had found the wreck. And no one got a fish. Yet I felt good about the dive. I managed to dive competently, to dive well.

Two more dives and we headed back to Key West for a 5 pm arrival. I felt that I had tested myself. That I had completed the hunt. I thought about the lures dangling from the mouths of fish in Pennekamp. About the hordes of divers descending into those waters. I wondered about the hypocrisy of some of my fellow divers, who consider me a despoiler of the sea, while ignoring the destruction of a marine sanctuary -- or the dying reefs off Cayman's seven-mile beach, thanks to masses of divers. Some of those folks will buy a few of the fish we have aboard and prepare a fine repast, complete with a chilled Chardonnay. They'll probably talk about how they're eating less beef and more seafood. To them, I can only say: "Enjoy."

Diver's Compass: Many day boats throughout Florida organize hunting trips or permit hunters to join photographers and sightseers. Get a list of Florida shops from any issue of Skin Diver magazine (or subscribe to Florida Scuba News at \$12.50/yr. -- 1324 Placid Place, Jacksonville, FL 32205). Look for overnight trips out of Fort Myers or Naples on Florida's West Coast; the Tortugas are only 90 miles away and you don't have to make the long schlep to Key West. Captain Elsner will be running his cruises to the Tortugas next year (and runs year round trips out of Palm Beach) Gold Coast Charters, 113 Timber Run East, West Palm Beach, FL 33407 -- 305/842-6356). Day trips to the Tortugas out of Key West are run by Reef Raiders (US #1, Stock Isle, Key West, 33040; 305/294-0666); Key West Pro Divers (1605 N. Roosevelt Blvd., Key West 33040; 800/426-0707); Dive Key West (POB 2842, Key West 33045; 305/296-3661) and Tortuga Adventures (Box 671, Key

West 33040; 305/296-7748). Overnight trips: Coral Reef Scuba (9699 West Sample Road, Coral Springs 33063; 305/344-6333); Seasports Diving (261 Margaret St., Key West 33040; 800/533-9229; 305/294-6172). Ken's Sports (4600 Cleveland Avenue, Fort Myers, FL; 813/936-7106).

More Bottom Time (Rt. B, Box 2450, Youngstown 32466; 904/722-4574) runs in the spring out of Fort Myers, but here's what a reader who chartered the boat for his dive shop reported. "The Dry Tortugas are one of America's last diving frontiers; it has something for everyone: good photography, good fish life and coral in the park, and good spearfishing outside. I saw huge rays and lobsters. More Bottom Time is surely seaworthy, but not plush; I put 18 people onboard (no cabins -- bunks, dormitory style) for \$499 for a week (they'll overcrowd it with as many as 25). Biggest problem was the Captain, whose bad attitude permeated the week; he was frequently inconsiderate, treating or ignoring his passengers as if they were children."

How Many Divers, How Safe The Sport?

-- The Debate Continues

The two-part article by Robert Monaghan (January and February) in which he concludes that "diving is not getting safer" has raised high the hackles of the dive industry. To summarize Monaghan's points:

- ★ At the end of 1986 there were fewer than 700,000 active divers, not the 3,000,000 or so claimed by the National Underwater Accident Data Center (NUADC).
- ★ Divers today are making half as many dives as did their counterparts 10 years ago.
- ★ Deaths are underreported by 10% or more.
- ★ The fatality rate is many times greater than normally assumed, ranking behind only hang gliding and skydiving.

The controversy began prior to publication when we sent drafts to NUADC and DAN asking for comments. NUADC responded, challenging several of his points, but requested that the letter not be published. We did, however, use many of those points in editing the Monaghan article. We also received a response from DAN, using comments in that letter to further edit the Monaghan report.

The Monaghan draft found its way to DEMA and others in the industry, and may very well be the reason DEMA hired a research firm to conduct a study of diver "erosion" and hurriedly distribute those results at the January DEMA show. As Monaghan pointed out, since no legitimate industry-wide studies exist, he used a drop out rate of 80%, generally talked about in the industry as the presumed dropout rate. Furthermore, he was handicapped by not having accurate figures for certification -- reporting since 1970 has been sporadic and there is no consistent nor centralized reporting by individual agencies -- so he used general industry assumptions.

So that everyone gets a fair hearing, we are publishing the three formal responses we received from the industry -- one from John McAniff at NUADC, one from Millard Freeman of the YMCA, and one from PADI's Al Hornsby. Monaghan responds to criticisms, acknowledging one omission in his figures, and therefore revises downward his fatality rate. Finally, we conclude with a thoughtful analysis from reader Laurence Durio in Luling, Louisiana.

The NUADC Response:

The NUADC active diver population estimates are purely my guesstimates and have been arrived at without any insider information. I have had neither full nor partial cooperation from the training agencies or the industry in arriving at these numbers. With the threat of lawsuits hanging over their heads we cannot expect the agencies to supply extensive data to us. Therefore the NUADC estimates may well be inaccurate but are honestly arrived at based on my personal insight.

Monaghan uses a 463,000 diver population for 1970, but our data shows that 500,000 was the rough number at the beginning of 1967, and by the end of 1970 there were 693,000 divers, which would boost the total number of active divers in 1986 considerably.

Rumors abound as to a drop-out rate, ranging between 22% and 90%. Monaghan assumes that 80% of the divers stop diving within a year after their certification. In addition, he assumes that 10% of those remaining drop out each year. NUADC, after extensive investigations, has decided that a more accurate rate was 45% per year, which includes not only first-year divers but experienced divers as well. Using our

initial figure of 693,000 at the end of 1970, we estimate that by the end of 1986 there were 2,786,000 active divers.

The NUADC further maintains that "active diver" includes all divers in training for that year since each of them will dive at least three times that year.

Monaghan concludes that fatalities are under-reported by 10%, but we believe that we miss less than 5% in a given year and probably pick up any missed cases through successive years' collecting.

If we are to accept Monaghan's numbers of a 700,000 dive population in 1986, then the currently successful diving industry would be nonexistent.

I am the first to admit that our method is crude and may conclude a higher population than some other approach, but, given the lack of data and lack of access to accurate numbers, this is the most honest and sincere estimate we can make.

But Monaghan's presentation is a classic misuse of the statistical approach. One cannot take assumptions, guesses, theories and extrapolation in one paragraph and call them truths and facts in the next paragraph.

We stand by our figures.

John McAniff,
Director

The YMCA Responds

Determining the number of active divers is complex. Accurate statistics are difficult to obtain.

As to economic growth as an indicator of active divers, perhaps we underestimate the number of people who purchase used equipment from retiring divers. This is a common practice among diving clubs. In fact, club members lend equipment to new divers (or family members), if they are not making a particular dive. People in some cases have purchased equipment jointly and share it by going on different dive dates.

I also wonder how long the major pieces of dive equipment are used before they are replaced. This would affect sales as, theoretically, a whole new cadre of divers would be required each year to maintain the level of previous sales.

Perhaps we misjudge the impact of equipment sales as related to the economy of the country. The fluctuation of discretionary money or purchasing power and the cost of equipment may influence the decision to rent rather than purchase.

The issue of divers returning to active diving is difficult to address -- if not impossible. Divers initially active may "retire" for a few years and then return to diving with or without any refresher training or equipment purchase.

I have sensed an increase in specialty ratings and advanced diver training, at least in their promotion. Dive travel seems to be more popular and *may* increase diver retention.

Another Way To Count Divers

Skin Diver magazine reports in April that 60.6% of the divers responding to a survey of its readers indicated that they had traveled outside the continental U.S. in the previous year to dive. Of these, 21.8% said they had gone to Hawaii.

Does the survey reflect the typical diver? Is a traveling diver more likely to be a *Skin Diver* reader than a nontraveling diver? Our hunch would be yes, because traveling divers find useful the kind of information *Skin Diver* provides. If anything, the percentages they report would tend to give a higher figure for the percentage of divers who travel than stay at home.

Now consider this. On May 15 the *Los Angeles Times* reported that 50-70,000 divers visit Hawaii each year. Using the formula $(.218)(.606) X = 70,000$, we find that if we accept that 70,000 divers visit Hawaii annually, then *Skin Diver* figures help us discover that there are 530,303 divers residing in the 49 states. To get to the 1.6 million figures some sources claim, then every man, woman and child resident of Hawaii would have to carry a C-card.

Town and Associates, hired by Grand Cayman to handle their press relations, reported to *Undercurrent* that 209,044 tourists flew into the Cayman Islands last year; 40%, or 83,618, they told us, were divers. Using the same formula, we would find that the total number of divers is 439,438.

Monaghan says there are 700,000 active certified divers. He seems pretty close to the truth.

The interpretation of statistics is as difficult as gathering the data. In fact, the same set of statistics may be interpreted several ways depending upon the circumstances or conditions of the moment.

Millard D. Freeman, Jr.
National Aquatic Director,
YMCA of the USA

PADI Responds

While we won't take the opportunity to debate a number of the article's very debatable statements and conclusions, there is at least one purely false claim that must be brought to your attention.

The article claims that a PADI survey, as reported in an article entitled "Latest Trends" in the *PADI IDC Candidate Workbook* 1984, supports a 79% dropout rate. This is false. There is no article with that title. Furthermore, the *IDC Candidate Workbook* states clearly that "PADI student surveys

indicate a very different picture" than the widely accepted dropout rate of 80%.

The claim that survey results published by PADI at any time support the 80% dropout rate is absolutely a false claim. There was a study published in 1983 that included dropout statistics. If this is what the author references, then he *misquotes* it. What the survey article actually said was: "the standard dropout rate figure of 80% per year is *not* reflective of PADI Divers. In fact, even if we create a *worst case* situation by counting every 'no response' (a total of 3,604 divers out of 5,700 surveys mailed) as a dropout, we still find that, overall, only 72% would be considered 'dropped out' of the sport. The article stated further that overall, 94% had been diving in the past 12 months. The article also made it clear that this survey and the resultant data was based on divers in equal numbers over a 3-year period and does not represent one-year results in any case. This would lead to a "best case" inference that over 3 years the dropout rate was only 6%. While we do not suggest this rate is low, for it to be reported that this article supports an 80% dropout rate per year is a misrepresentation.

"The preliminary figures released at a 1988 DEMA Show show a dropout rate of only 15% after 12 months."

Further, from a logic point of view, even if one were to attempt to claim that each "nonresponse" to the survey indicated a true dropout, then it would mean also that 100% of the active divers who received a survey actually filled it out and mailed it back to PADI. Considering that 5,072 were delivered by mail, such a concept is ludicrous. Neither statistical science nor common sense would allow the assumption that 100% of the existing divers would respond to a survey through the mail within the specified response time (a one-time survey mailing with no prewarning, follow-up or remuneration).

Therefore, based on accurate interpretation of the data, the dropout rate is at best 6% over 3 years; at worst, it *cannot* approach 72% over 3 years (for the reasons given in the paragraph above) -- much less 80% over 1 year. PADI has taken the position since this study that the actual rate lies somewhere in the mid-range between the two figures (around 40% after 3 years).

The recent Diver Erosion Study commissioned by DEMA and supported by NASDS, NAUI, and PADI is establishing a more accurate figure. The preliminary figures released at the 1988 DEMA Show (by Diagnostic Research Inc.) show a dropout rate of only 15% after 12 months, with 47% of divers still active after 48 months (4 years). The author's model, by comparison, claims only 14.58% of divers are active after 48 months.

Additionally, the statement "One must remember that the agencies do not cooperate with NUADC" is very misleading. PADI, for example, each year provides Mr. McAniff at NUADC with a complete accounting of all diver fatalities reported to PADI Headquarters. This includes victim's name, location, and date of incident. Also, we provide Mr. McAniff with PADI's certification numbers each year. We have done all of this for a number of years. Additionally, some of the other agencies provide Mr. McAniff with similar reports. To characterize the situation by stating the "agencies do not cooperate with NUADC" is simply not reflective of reality.

Al Hornsby
PADI Vice President,
Education and Marketing

Monaghan Responds

My *Undercurrent* article has become the center of a surprising storm of controversy. But, it has accomplished its goal. It's made the industry face up to its inaccurate statistics and to seek real numbers.

Actually, my models in fact dovetail with the general industry estimates. NUADC's estimates do not. It is NUADC which has had to revise its population estimates dramatically downward. That means fewer divers and higher risks, just as I suggested in my article.

The debate is muddled because people use three different categories of divers -- experienced divers, student divers, and resort course divers -- and the categories overlap in any given year: some student divers are experienced divers seeking higher levels of certification; many resort course divers soon become student divers.

The Perils Of A Poorly Run Resort Course

The New Jersey family of a deceased "resort course diver" was awarded \$520,000 in April in a suit settled out of court.

In 1985, 34-year-old Edward Scrape was cruising aboard the *Flying Cloud*, a ship operated by Windjammer Barefoot Cruises out of Tortola, British Virgin Islands. Scrape participated in an initial 15 minute diving lesson, his family alleged, and then he and the group went to 80 feet to explore a wreck. They claimed "there was only one divemaster with eight inexperienced divers, when normal safety standards call for two for every four divers, and there was only one flashlight."

While inside the wreck, Scrape either hit his head or his equipment got entangled, but he apparently got separated from the group and drowned. His body was not retrieved for 45 minutes.

Even more difficult, we are trying to estimate certification numbers. Training agencies suggest at least 10% of the certifications go to divers above the entry level, with PADI claiming nearly 20%. Moreover, some of those certifications go to the same diver getting multiple certifications from different agencies from one course. In other cases, the same diver gets multiple levels of certifications. The Harvard Report suggests that some 400,000 certifications in 1985 only represented 240,000 new divers. Those sort of figures tend to make my experienced diver population figures even higher than is probably the case. Finally, raising the initial starting population in 1970 as McAniff suggested would have a very small effect on the results of the model, well within the rounding up factor I used to reach 700,000.

We have NUADC's estimate that there are some 400,000+ resort course divers annually. We have DEMA figures, which claim 400,000 to 600,000 certifications annually (but not all new certifications). We have my calculation of 700,000 people who are experienced active divers. And perhaps there are another 100,000 who start a course but fail to finish. These figures add up to 1.7 million, in agreement with various industry figures (although not the figures of NUADC). Updating my model to 1987 and adding the people not included would yield an overall estimate in good agreement with the latest DEMA sponsored Diagnostic Research Inc. figure of two million divers -- *that is people who get wet.*

This estimate is less than half that of NUADC, but it is not far off the DEMA Crane report (1.77 million), the Mediamark Inc. 1986 survey (1.75 million), and the 1986 NSGA survey estimate of 1.8-2.2 million reported recently in *Underwater USA*. Of course, we must say then that the term "diver" here means anyone who has made *one* or more dives in the last twelve months. The latest industry survey sponsored by DEMA through Diagnostic Research Inc. yields a current estimate of about 2 million divers. Yet, with these other studies around, it has been the NUADC figure that gets widespread publicity and appears as gospel.

Undercurrent quoted McAniff's estimate that there were "over 3.5 million active divers" in 1987. The latest NUADC figures have revised those estimates downward radically to 2.5 to 2.7 million "active" divers. McAniff claims his figures are simply his best "guesstimates." I suggest that McAniff needs to reduce his personal "guesstimates" by another 700,000. Doing so would bring his "guesstimates" into line with the industry consensus figure of 2 million experienced divers and divers in training or resort courses.

Hornsby's 1983 *Undersea Journal* article on the PADI Diver Survey (reprinted in the IDC Candidate Workbook) reported results on four types of certifications (basic, open water, and two categories of advanced). His figures combine these responses, con-

fusing the result. The article claims PADI's dropout rate is lower than the "industry standard dropout rate of 80%" PADI claimed to represent roughly 50% of the 1983 certification. If the industry standard dropout rate was 80% as Hornsby's article indicated, this would mean that PADI's dropout rate must have been at least 60%, while 100% of the divers trained by other agencies would have had to drop out to achieve the 80% figure Hornsby reports. Given the inbreeding evident in dive course material, the same instructors teaching both NAUI and PADI, and so on, it is hard to see why PADI's dropout rate would be substantially lower than the rest of the industry.

The new Diver Erosion Study suggests that we have cured the dropout problem. We supposedly went from what was once a "widely accepted" industry dropout rate of 80% to the 1988 Diver Erosion Study estimate of 15%. Wow!

"If the dropout rate declined from 80% to 15%, shouldn't we have had really explosive growth?"

If we did cure the diver dropout problem, I must have missed it. The diving industry had a mid-1980s growth rate of 5%-6% (DEMA-sponsored Harvard Report). If the dropout rate declined from 80% to 15%, shouldn't we have had really explosive growth? Why did the dropout rate decline so markedly? Aren't we still using the same modular scuba course (from 1978)? Did equipment prices go down? Was it color-coordinated diving equipment that cured the diving dropout problem? If not, what was it?

Obviously, I do not believe that 85% of last year's diving students are still active divers and customers today. I doubt if many diving retailers or instructors believe it either. Too bad -- we'd all be rich if it were true. My models help explain why we have had such limited growth in the diving industry.

The real risks of diving vary with such factors as the number of dives, diving conditions, and your experience as a diver. The low number of reported deaths among a NUADC-estimated 400,000+ resort course divers suggests that such closely supervised diving is relatively safe. Likewise, experienced divers making a large number of dives under familiar conditions are relatively safe. It is the new diver making his or her first few dives who faces the most risk. McAniff's figures through 1984 suggest that 41% of the deaths occur during the first few dives.

My analysis of experienced diver risk erred in merging these first dive deaths with the experienced divers' deaths, while not merging in the entire population at risk. A better estimate of the overall risk of diving can be obtained by using the industry consensus for the number of people who dive (1.7 to 2 million), which would yield an overall diving risk

estimate of 5.8 to 6.5 deaths per 100,000 participants. While this is 2 to 3 times the figure arrived at by NUADC using their inflated estimates, it is lower than my estimate for experienced divers alone.

This averages both high and low risk divers in the larger population. Individual risks depend on the circumstances of your dive and your experience. The real fatality rate, however, needs to consider the number of individual exposures. I did make a trial estimate for the risks per dive in my article, fully recognizing the need to have a risk per dive figure. I'd also like to suggest a rating for the difficulty of the dive, which would include cave dives, heavy currents, depth, no advanced certification divers present, and other factors which increase risk.

My article in *Undercurrent* is still the best guide to the real risks faced by divers. And my advice remains the same. Be careful out there. It's more dangerous than even the revised official statistics would have you believe.

Robert Monaghan

Summing It All Up: A Reader Responds

Collectively, the two parts of Mr. Monaghan's article constitute probably the best evaluation of diving safety I have ever read. It was a refreshing change from the pious pontification found elsewhere.

While a definite analysis of the apparent increase in diving fatalities appears to be beyond the scope of Mr. Monaghan's analysis, he did identify some likely causes. I would like to add my views, which basically expand upon those touched on by Mr. Monaghan. As a scientist, I understand the limitations of anecdotal evidence, but I also understand the likely

statistical validity of the number of observations made in the course of twenty years of active diving.

"In the last ten years, I have noticed a steady degradation of diver quality."

Over the course of my diving career, but particularly in the last ten years, I have noticed a steady degradation of diver quality. When I first began diving, virtually all divers were dedicated and highly motivated, with very strong aquatic skills. Building upon that base, the training was both physically and academically more rigorous. Out of necessity, diving was a skill-dependent, rather than equipment-dependent, sport.

After certification, divers of that era dove whenever and wherever they could, under some truly awful conditions. The divers that I have seen who have been certified in the last ten years have been lacking in motivation, dedication, aquatic skills, academic training, and, consequently, meaningful experience.

A class that I was recently involved with (taught by one of the better instructors of my acquaintance) illustrates my point. Approximately half the students were women taking the class under pressure from husbands or boyfriends. The remainder were approximately equally divided between children who possessed neither the discipline nor the intellectual skills to make competent divers and young men who seemed to have something to prove. There was one outstanding student in the class; a woman in her early thirties who was a Red Cross Water Safety Instructor

Scubapro BC Recall

Scubapro has announced a voluntary recall of all models and sizes of its heat-sealed stabilizing and front-adjustable jackets due to a potential problem with the overpressure dump valve. If defective, this valve could stick open, preventing the device from holding air and maintaining flotation.

In Scubapro's words, "loss of flotation could endanger the user; therefore, it is strongly recommend that these jackets not be used until the valve has been replaced."

According to Scubapro Special Projects Manager Don Fruch, Scubapro "discovered the potential problem in routine testing by the test team and we were able to duplicate it. At that point, we decided upon a recall."

A spokesman for the Consumer Product Safety Commission told *Undercurrent* that "Scubapro notified us in a timely fashion of the problem and they were conducting a voluntary recall."

The units subject to the recall are at the "low end of the line" and were manufactured between 1984 and April 28, 1988. About 4000 have been sold. They were produced by Scubapro Europe and can be identified by the valve, which is about 2.5 inches in diameter and conical in shape. The replacement valves can be identified by the two opposing spanner wrench holes in the cover of the valve assembly. Any previous configuration valves do not have these holes and should be replaced. The valves used on the standard model jackets are larger (2.75 inches in diameter), and flat, rather than cone shaped and are not affected by this recall.

All of these units should be returned to any authorized Scubapro dealer or to the Scubapro factory at 3105 E. Harcourt St., Rancho Dominguez, CA 90221. Repairs will be made free and the owner will receive a complimentary one-year subscription to *Diving and Snorkeling Magazine*.

The DPV, Revisited

A few issues back, we reported that the Tekna Diver Propulsion Vehicle was being discontinued because of skyrocketing insurance premiums, even though Tekna President Ralph Osterhaus told *Undercurrent* that "we have not had any problems with the product for more than two years."

But wait a minute, says Tulsa attorney J. Michael Busch. "I represent a local dive shop that has had one of its customer's vehicles explode in a diving accident in the Bahamas. It is believed that the explosion was caused by a buildup of hydrogen gas within the casing....I am disturbed that Tekna is blaming the discontinuance of its vehicles on high insurance premiums. A more reasonable belief would be that the vehicles are flawed. In the Tulsa area alone there have been two accidents with the dive vehicles in the past four years. I had trouble enlisting any help from

either DEMA or the Consumer Product Safety Commission.

"We called Osterhaus, who has always been very forthcoming to *Undercurrent*. He apologized, saying that he had no intention of misleading us. "I simply don't keep all those facts in my head and should have checked the files."

If you don't like the risk of operating DPV — or simply don't want to get wet — consider purchasing the Surrogate Diver, a Tekna-like propulsion vehicle that doesn't need a diver. It's an underwater robot with a camera attached to a 164-foot guide wire that you plug into your television set and control with a joy stick. You watch the underwater scenery from the safety of your boat. \$5200, postpaid, from Hammacher Schlemmer, 800/543-3366.

who was fulfilling a long-term ambition. With the exception of the aforementioned woman, all of these students were extremely weak in aquatic skills, with many of them being openly afraid of the water. Substantially less than half of the class had any real grasp of the academic aspects of diving. Gas laws were mystical abstractions, regulators were "black boxes" full of unfathomable magic and decompression tables were written in as-yet undeciphered language and worked by rote memorization. Not to worry: spend enough on equipment and gadgets, and skills and knowledge become superfluous.

So far as I can tell, only three of the students from that class are still diving. Two are pressured spouses, (one of whom is merely incompetent and the other who dives in a state of abject terror), while the third is the highly motivated woman mentioned earlier. She has turned into an extremely capable diver.

"In an attempt to mass market the sport, the training system starts with poor raw material and teaches equipment dependency in lieu of adequate diving skill."

I encounter products of the current training system in widely scattered locations. My experience described in the previous paragraph seems to apply to virtually all of them. It appears that, in an attempt to mass market the sport, the training system starts with poor raw material and teaches equipment dependency in lieu of adequate diving skill. As a consequence,

I usually feel safer diving alone than buddied up with a diver of that type.

A possible explanation for the poor state of diver training is the acknowledged fact that instruction is the "loss leader" that enables dive shops to make money selling equipment. It is a reasonable hypothesis that dive shops find it far more profitable to teach equipment dependency rather than skills. Heaven forbid that the training should be rigorous. Physical and/or academic rigor might weed out too many of the students before they could buy all that expensive, color-coordinated equipment.

Until we go back to more rigorous training, we will continue to certify large numbers of divers who drop out of the sport very quickly. While this may benefit the dive shops in the short run through the sale of large quantities of equipment, the resulting accident rate is already beginning to attract regulatory interest.

From the standpoint of a career in a regulatory field, on both sides of the fence—including involvement in the development and initial enforcement of the OSHA commercial diving standard—it is my opinion that getting the government involved would probably be far worse than the lost sales of color-coordinated BCs and wet suits which could result from adequate training. If diving is to remain independent and self-regulating, it had better get on with the fundamental task of producing competent divers.

Laurence R. Durio
Luring, LA