

Undercurrent®

The Private, Exclusive Guide for Serious Divers

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Caves and Cenotes, Yucatan, Mexico

—Wondrous Spaces, Silent Cathedrals

Dear Reader,

I've traveled the world looking for exciting places to dive: the Red Sea, Micronesia, Sipadan. There are wonders to be seen: huge turtles, graceful lionfish, schooling hammerheads, armies of barracuda and acres of vibrant reef. But it turns out that, for me at least, diving's finest adventures are found much closer to home, in the caves of Mexico's Yucatan peninsula.

A diver I met in Borneo recommended cave diving in Mexico. Actually, he more than recommended it - he called it a religious experience. Of course, you must get specialized training, so on his suggestion, I called Mike Madden in Akumal, Mexico. I arranged to take the necessary one week training program during my next vacation--something you can do if you're an adventurer. But, more about that later.

The Yucatan has rain but no rivers, at least none on the surface. Rainwater seeps through the limestone and travels seaward, creating subterranean rivers as it flows underground. During the last Ice Age, sea level became much lower than it is now and the tunnels formed by the subterranean rivers emptied and filled with air. Centuries of dripping water left sometimes delicate and sometimes grand stalactites and stalagmites. Then the glaciers melted and the sea rose and flooded the caves again. For some 10,000 years, the caves lay beyond human knowledge. It was only ten years ago that scuba divers began to explore them.

What those first divers found was a hauntingly beautiful underwater labyrinth. Then another. And another. In the countryside surrounding the ancient Mayan city of Tulum and the modern beach resorts of Akumal, many underground river systems have been found and new ones are still being discovered. Tourists

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visiting the nearby ruins and beaches drive by the unmarked paths that lead to the cenotes or jungle pools that are the entrances to these cave systems, never suspecting the awesome world that lies beneath their feet.

A cenote is an open window into an underground river. Many are idyllic freshwater ponds in the jungle with enough tropical fish and plants to amuse even a casual diver or snorkeler. Others are openings in the ground no wider than a well. Cave divers have come to know and map dozens of cenote/cave systems and have built paths, ladders and platforms to facilitate access into those that are difficult to enter. The caves are mostly too long to measure, but they are shallow-- 40 to 70 feet deep. Using twin 80's allows for substantial penetrations and dives as long as two hours.

Cave Death in the Yucatan

A Gainesville, Florida, cave diver who had just finished mapping the intricate underwater caverns of a large Mexican cave called "The Temple of Doom" died a few months ago in a Mexican sinkhole.

The sinkhole where Carl A. Sutton, 28, perished is near Merida, several hours by car northwest of the cave Sutton had been surveying.

Lamar Hires, a friend of Sutton, told *Undercurrent* that Sutton and two companions had been diving in an area with deep cenotes. They went to 240 feet examining the walls of the cenote for a cave entrance. The divers set up their decompression correctly, but Sutton died on the surface due to oxygen toxicity.

Sutton had spent three months last summer surveying "The Temple of Doom," Hires said. He returned to the cave three weeks ago to finish the project, which was to come to fruition in a map other divers exploring the cave could use as a guide.

Sutton, a licensed cave diving instructor, had contributed much to cave diver's knowledge of caves in Northern Florida since he first learned to dive caves in 1987. Known as a careful diver, Sutton was co-owner of Water World Dive Center in Gainesville.

Since my cave diving certification in 1991, I've returned four times. On my recent June trip, I was guided by Steve Gerrard, a cave diver with 20 years' experience and a fine teacher and dive partner. Steve had been searching for new caves. One unnamed prospect lay at the end of a tough hike through the jungle with a stretch of foul smelling swamp muck between the only possible approach and the open water of the cenote. Picture where Yoda lived in *Return of the Jedi* and you've gotten the layout. To get to the clear water, we had no choice but to wallow knee deep through the ooze with 130 pounds of twin tanks, lights, back-up lights, primary regulators and back-up regulators wrapped, strapped, clipped, tucked and velcroed about us. Don't even ask about the mosquitoes.

The day before, we had hiked to another unexplored cenote but found no diveable passages. This time our hard work was rewarded. After floating in the cool water to recover from slogging our way through the swamp, I let the air from my BC and descended into a large cavern. Searching the cavern, Steve found a sizable cave passage and we both knew that we were on to something. The tunnel led to a grand chamber, maybe three stories high and more than a hundred feet across. From one corner of the ceiling hung a small field of stalactites. Not far away, tree-trunk-thick stalagmites rose from the floor, cut off sharply at shoulder height by the weathering action of the halocline, the shimmering meeting point of fresh water and salt water that occurs at a depth of about 40 feet in most caves. Beyond this great room (that we later named *Monolith Hall*), we explored further passages.

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Our first reel ran out of guideline about 800 feet into the cave and we began another. In one wide room, the halocline flashed like the Northern Lights above us, creating the eerie and beautiful illusion of a wavy mirrored ceiling. By the time we finished our explorations that day and the next, we had mapped two thousand feet of passage, none of it ever before visited by human beings. There is very likely more to discover in this cave. We are not even certain we were in the main tunnel.

The Endless Deaths in Cozumel Is this an answer to the mystery?

In February, two divers disappeared into the deep in Cozumel. We wrote about that incident in May and, in the last issue, reported another death in Cozumel.

Cozumel has the highest death rate in the Caribbean. Why?

Subscriber Eric Glanz of Steamboat Springs, Colorado, wrote to tell us about his unusual experience on Santa Rosa Wall in Cozumel. Those who visit there should give heed.

I've been diving for five years, having fewer than 200 dives. My dive companion is a new diver, with only 10 dives prior to our mid-April trip to Cozumel.

We stayed at the Club Cozumel Caribe and the dives were quite crowded. Due to the large crowd, many times we were unable to get on the morning dives and instead went out in the afternoon. We always dived well within our tables, even though I also had my computer as a back-up.

One afternoon, the trip was planned to Palancar Gardens but because our boat traveled so slowly, the divemaster suggested we stop at Santa Rosa Wall. We were to drop to 80 feet and drift along the wall for 20 minutes. At 15 feet, we were to do a two minute decompression stop before surfacing and being picked up by our boat that was following our bubbles.

As we sank to 80 feet, we began to drift at a comfortable, customary Cozumel drift speed. Fifteen minutes into our dive, I noticed a radical change in the appearance of the wall in front of me. I could see sand rushing down the wall and all of the soft sponges and gorgonians bent over at a steep angle as they were buffeted by the propelling water and sand. The south-to-north drift carried us into this chaos and I quickly lost sight of my dive partner who was drifting only five feet to my side.

The divemaster who was in front of me also became unobservable as my head was surrounded by bubbles, making my instruments nearly impossible to read. I assumed the bubbles were my dive partner's, as I was immediately over her, but in actuality, the bubbles were my own, being forced down upon me due to the strong downward current! Turbidity also

obscured my vision.

Mild panic set in as I tried to read my gauges and find my dive partner, causing even more bubbles to obscure my vision. Then, what seemed to be an eternity, the downward ride ended at 125 feet. We were then propelled quickly upwards, how quickly I cannot say, but too quickly, ultimately being pushed to the surface where we joined our dive master. Remarkably, all three of us were still together yet separated from the rest of the group who surfaced at least 75 yards away.

We had taken quite a ride. The divemaster, who himself was mildly panicked, returned to the surface with 500 psi as did my dive partner and I.

I still don't understand what happened, but it was explained that due to the time of year, the ocean was changing temperature and generating underwater waves and extreme currents. As we returned on the dive boat, we observed, in an otherwise choppy sea, large areas of placid water, perhaps 30-100 feet in diameter, like glass, surrounded by whitecap rapids. Sometimes in the middle of this calmness we could see a funnel directed downwards like a tornado.

The Cozumel drift must have carried us through the downcurrent to a point where we were propelled upwards. It all happened so quickly it is difficult to say. None of us had any nitrogen problems however.

Actually we should never have dived since the tell-tale signs of the undertow currents were observable to an experienced diver from the surface! We had entered the water without any briefing or warning of what to do if we experienced such a situation.

In discussing the experience with other divers at the hotel, I learned that the undercurrents could be so powerful that even inflating your BC vest will not raise you to the surface. You must drop your weight belt. Hopefully, then with an inflated BC one could rise to the surface, perhaps not too quickly if you spread eagle to slow the ascent.

Any advice you can give to your subscribers about this type of situation, which apparently is not all that uncommon, would be helpful. Perhaps this phenomenon occurs during very limited periods of time during a year, but if it occurs again, we will be better prepared to deal with it.

The chance to explore virgin caves doesn't come every day. But, even if you never explore an uncharted cave, take up cave diving and you will soon come to know wondrous spaces, some monumental, some close, which will find their way into your dreams and daydreams. Each has its own architecture and its own spirit. Vast tunnels bore through the earth. Narrow passages snake their way through the limestone. Silent cathedrals lie hidden in the furthest reaches of a dark and beautiful world. All of it perfectly independent of human purpose. Occasionally, you will encounter eyeless cave fish or remipedia, strange tiny crustaceans. I have never spent one minute in an underwater cave when I didn't feel lucky to be there.

It's a fair bet as a reader of Undercurrent that you are not a certified cave diver-- fewer than one diver in a thousand is. So, if you decide to visit these caves, your first stop will be a 14-dive, cave-certification course for \$600-\$900. Let me tell you about my course.

I flew to Cancun, on the tip of the Yucatan, where I was picked up for the hour drive south to Villa de Rosa, beachfront apartments owned and run by cave divers Tony and Nancy de Rosa. Mike Madden appeared the next morning and he turned out to be a fine instructor. Serious and responsible, but not rigid, he likes teaching and he's patient. For all his intensity, Mike didn't forget the point is to have fun.

The course began with an introduction and land drills: we ran guide line

Cavern Diving as a Sidetrip from Cozumel

Visiting Cozumel and want to take a cavern dive? You're a 45 minute ferry ride and a \$20 cab ride from your first Akumal fresh water cavern tour.

Cavern diving differs from cave diving in that you remain within 130 feet of the cavern's entrance, within the reach of daylight, and no deeper than 70 feet. Several cave diving instructors will gladly take you on a cavern tour — the cave equivalent of an open water resort course. You need no special equipment — they'll provide a light — but most people find that a wet suit is required for the 70 degree plus water.

Take the 9 a.m. ferry from Cozumel to Playa del Carmen then a 15 minute ride to Tony and Nancy's place in Aventuras Akumal. Call ahead and they will have arranged for Steve Gerrard to meet you when you arrive.

Steve can take you to Ponderosa (a beautiful cenote) for a cavern dive and the next morning far into the selva to Dos Ojos for what is probably the most exciting cavern dive. More than likely, you'll have time for a visit to swim/snorkel in another cenote or two, then ferry back to Cozumel in time for dinner.

The Temple of Doom is one site serving as a cavern tour. The adventure movie entrance is a 50 foot circular opening in the jungle floor. Fifteen feet below is the water reached either by a log ladder or a long step

(quite a plunge for cave divers toting 135 pounds of equipment). Down under, a wonderful, tall, white passage is like a narrow wash along some side canyon in the American Southwest.

Car Wash is a popular site. Despite its unromantic name (it's located near the road and close to ground level and local folks had built a pump at the waters edge to wash their cars), it's a pretty enough spot. From the surface, it seems to be a crystal clear pond about 15 feet at its deepest, with fish and graceful water plants. But Car Wash is not a pond; it is a window into an underground river. Across the cenote from the pump, the first explorers discovered the cenote's spring (upstream side), which has a wonderful cavern area. Cave divers continue through narrow passages to another cenote — Luke's Hope — and onward to an underwater cathedral called Adrianna's Room and Cell Block or to the west through the winding Madden-Turner Passage to the Crystal Palace, The Room of Tears, The Lotus Room, and Dreamland. Just below the pump is the siphon (downstream) side and rooms and the Chamber of the Ancients, Satan's Silt Hole and The Drum.

To contact Mike Madden or others for cavern diving, see Divers Compass in the accompanying story.
O.R.

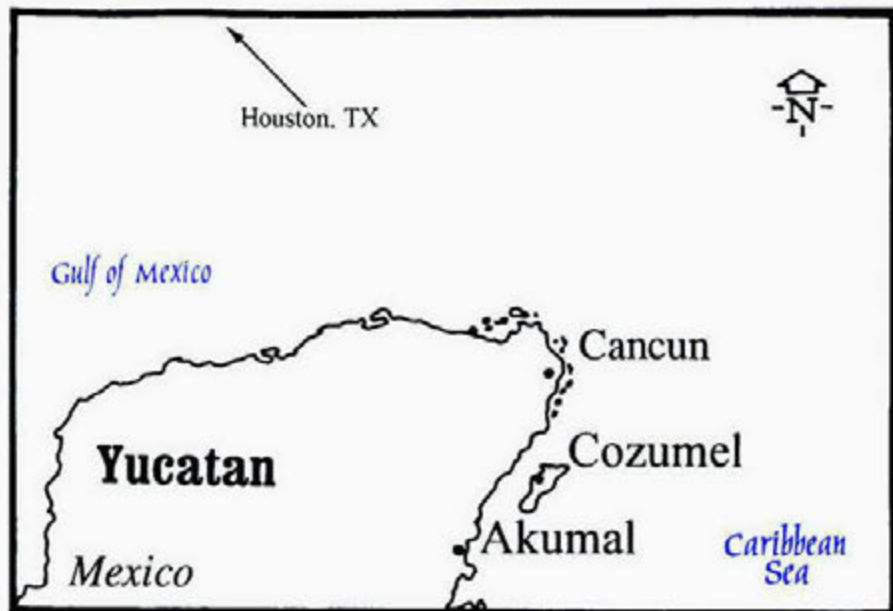
around the beach furniture and the trampoline at Tony and Nancy's, and then followed it blind-folded. Later, in the open water of one cenote, we practiced buoyancy control, guide line management, non-silt stirring swimming techniques, hand signals and safety procedures. Cave dive equipment is very different from open water gear and takes some getting used to. Slowly, I started to catch on.

Within a few days, we began to enter the caves. By the time the course was over, we were visiting distant and fragile reaches.

I remember exactly when I realized that I was hooked. Near the end of the course, I was leading the way through a deep tunnel. Mike was following behind, occasionally signalling with his light to ask if I was OK. Then he was gone. I turned to look for him...not there. I shielded my light against my chest to see if I could see his light (you don't turn off your light in a cave because it may not turn on again; even though you have backups, you don't press your luck). Still no Mike. I was alone in a vast underwater maze deep beneath the earth surrounded by world class darkness. I guessed that Mike was testing my ability to use the strategies I'd learned to find him, if I could, or find my way out of the cave, if I couldn't. I waited a minute, then doubled back and began searching. In a few minutes, I located Mike. Still, the immediate impact of the situation, the sense of isolation and the imperative for careful self reliance was incredible. I was powerfully moved but I was not frightened; I was thrilled. I knew I was going to love cave diving.

There were other tests. Mike took me through a passage called Satan's Silt Hole. Named to discourage novice cave divers from entering, it is low and narrow and, as advertised, the bottom is deep with ooze. It provides a good test of a diver's ability to swim in the characteristic cave diver non-silt position (head down, legs bent at the knee). Lose control of your buoyancy or fall back into an open water flutter kick and visibility will go from unlimited to zero in seconds.

A few words about safety. It's not my habit to tell others what to do and what not to do lightly. But, please take this warning seriously. Entering an underwater cave without proper equipment and training could easily turn out to be a fatal mistake. Hundreds of divers including many open water instructors have died because they bet their lives that their experience in open water diving would allow them to find their way into and then out of an underwater cave safely. Some were lost near the entrance. The fact is that no amount of open water experience or training can prepare you for cave diving. On the other hand, deaths among trained cave divers who respect the limits taught in cave training have been extremely rare.



Of the caves I visited during the training, Nohoch Nah Chich was the most elaborately decorated, the most beautiful. We entered from an unusually long and narrow cenote two kilometers down a jungle path. Mike arranged for horses to carry our equipment and we walked along with a group taking the Indiana Jones' snorkel tour. As with almost all the cenotes, the water surface is some 20-40 feet below ground level, so we descended via hand hewn stairways and platforms.

Whale Nearly Drowns Snorkeler: Photographer charged with harassment

Last fall, a nationwide "I Witness Video" television audience watched in horror as a 20 foot pilot whale closed its jaws around Lisa Costello's leg and dragged her 40 feet under the sea off the Hawaii coast. A large species of dolphin, just a bit smaller than killer whales, pilot whales are not known to attack humans.

Attorneys for the National Marine Fisheries Service watched in horror too. The California woman, in their eyes, was clearly harassing the whale, violating the 1972 Marine Mammal Protection Act, which says that anything people do that alters the natural behavior of whales constitutes harassment. Harassment is viewed as seriously as capturing or shooting them.

It all began when Costello and Lee Tepley, a California professional underwater photographer, went out in his 15 foot inflatable boat off the island of Hawaii. They encountered about a half dozen pilot whales, so Tepley grabbed his video camera and, with Costello, leaped in to snorkel with the animals.

When a young male whale swam slowly over to Costello, she reached out and stroked its back. She spent about 20 seconds with the animal, while other whales in the group milled nearby. The whale, after drifting off a short distance, returned and grabbed the woman's right leg, whirled her around and pulled her down to 40 feet for nearly a minute. In the dim depths at the limit of the camera's range, she looked like a slender, fluttering bird in the jaws of an immense retriever. Finally, the whale slowly brought her up as the terrified woman continued to struggle. With Tepley's help, she climbed back into the boat, exhausted, bleeding and nearly unconscious. She had no broken bones or muscle injuries and recovered in a week or two.

Tepley's footage earned him \$10,000 from NBC, which he split with Costello. Federal officials interviewed Tepley and Costello after the incident, but it was the broadcast that led to charges and a proposed \$10,000 fine against Tepley. (In return for Costello's testimony and guilty plea, and her promise to stay away from whales for a year, the government has suspended any penalty against her).

Federal attorney Lisa Caplan, representing the National Oceanic and Atmospheric Administration, said that as a professional underwater photographer, "Tepley

should have known that the law forbids any close contact between people and whales in U.S. waters without a permit. It is the same law used to keep whale watching tour boats from getting too close to whales."

Tepley and his lawyer, Chris Sullivan of San Francisco, says the government is going overboard, even though they concede that he did not have a permit for whale research, which would have allowed him to interact closely with the creatures.

Tepley told *Undercurrent*, "The government rests its case on three points. First, that I had encouraged Lisa to pet the whale, which both Lisa and I denied.

Second, that I photographed the whales without a permit. But, Judge Dolan Kaplan admitted that there was no such law not even a regulation against touching a marine mammal.

The third point, that I had harassed the whales, is what they base the \$10,000 fine on. Harassment is not clearly spelled out but they define it as 'any act which leads to a change in natural behavior of a marine mammal.'"

"This whale was not harassed," Sullivan said. "If anything, that whale was enjoying it. That video tape has done more to discourage harassment of whales than anything the government has done in twenty years." The government attorney responded by saying that the whales seemed to be having fun and that Costello was nearly killed is legally irrelevant. "It is still whale harassment", she said. "We are not here to protect humans. We are here to protect the animals."

Susan H. Shane, a marine mammalogist at the University of California, suspects that the whale may have been protecting his "toy" from the attention of other whales that came near. Scientists agree that the footage of the pilot whales reveals behavior never seen before and is a valuable guide to further research into their nature.

Shane agrees that Tepley was violating regulations. But, she said, "There are so many animals in dire need of help, that to go after these two people who had such a frightening experience....is misplaced priorities."

The case may take a year to decide.

From a San Francisco Chronicle article by Charles Petit and our own interview with Lee Tepley.

The "Guinness Book of World Records" lists Nohoch as the biggest underwater cave in the world. At the time the book went to press, more of Nohoch had been mapped than any other cave. Later, divers mapping nearby Naharon pulled ahead. Mike organized Nahoch '92, a month long exploration project that added 35,000 feet of passage to the map of Nahoch making it, once again, on paper at least, the world's most extensive underwater cave at 65,000 feet and counting. But, as long as so much remains unexplored, the record is only nominal. It is unlikely that we will know which caves are actually the biggest in our lifetimes.

There are good hotels in Akumal, but if the purpose of your visit is cave diving, Villa de Rosa is your best bet. It is a three story condo-style building with two suites, full kitchens, and two modular add-on or leave-off bedrooms on each floor. The suites (bedrooms a/c; living rooms fan/breeze cooled) are large, clean, and open onto a nice though developed beach. The modular layout allows you to have a one bedroom suite or one with two or three bedrooms. Prices are better than those at the hotels, and, except for the absence of a swimming pool, the accommodations are better too. When there are enough takers (about four), an optional food plan is available and costs \$25 per day. (When not available, I've made breakfast in my suite, had lunch at a beachside restaurant, and enjoyed a hearty buffet dinner in the hotel down the beach.) Every day the rooms are cleaned, beds made, towels changed and dishes washed; so Villa de Rosa turns out to be part hotel, part apartment and part rooming house. The best thing about it is that it's a hangout for cave divers and a good place to share stories and pick up information.

Instructors from the National Association of Cave Divers (NACD) offer cavern, single tank cave and full cave certifications. The full cave certification course is offered to experienced, certified, open water divers and takes six to eight days. It pays off with much more adventure and fun than the intermediate courses. It costs between \$600 and \$900, depending upon group size, etc. If you can't squeeze it all into one trip, you can take the training one step at a time. The course provides realistic and practical preparation for cave diving. A newly certified cave diver would be wise to build his experience level before attempting challenging caves.

P.S. While there is open water diving in Akumal, it doesn't compare to nearby Cozumel. But, there is no shortage of beautiful beaches. Cancun, with its nightlife, is a little more than an hour up the road. Tulum, Coba, and other ancient Mayan cities are nearby.

O.R.

Divers' Compass: Villa de Rosa Price List: December 1 to April 30, from \$85/night for a studio condo to \$190/night for a two bedroom beach house villa (50 percent more for two Christmas weeks); May 1 to November 30, from \$65/night for a studio condo to \$160/night for a three bedroom beach house villa. . . . Available upon request: airport transfers, house vehicles, guides, jungle tours, catering services, and discounts on scuba diving and deep sea fishing. . . . Tony and Nancy will set you up with a guide with a car to get you to the cenote, and two sets of double 80's, for \$110; equipment is another \$50 a day; Tony and Nancy de Rosa/Villa de Rosa (phone/fax is 011-52-987-41271)Mike Madden and Chuck Stevens (CEDAM Dive Centers, Postal 117 Playa del Carmen, Quintana Roo, Mexico 77710, phone/fax 011-52-987-35129. . . .Steve Gerrard (Postal 25 Tulum, Q. Roo Mexico 77780) or through Tony and Nancy. . . .Jim Coke instructs through the National Speleological Society's Cave Diving Section (NSS/CDS); Playa del Carmen Q. Roo, Mexico 77710).

Diving updates from our Readers:

—Tobago, a new inn on Little Cayman, whale sharks galore

My report on the *Blue Waters Inn* in Tobago (May, 1993) compelled several readers to write about their experience. No doubt about it; it's a special Caribbean dive destination that few divers visit. For \$100 - \$150 a day, you get accommodations, all meals and two to three tanks.

Bill Troyer (Seattle) dived with Blue Waters but was "very unimpressed with the crews on the boat (no help with anything)." Reader Evan Whitehouse says, "I agree almost completely with your assessment of Blue Waters. So, we dove with Redman. We had little trouble with currents or swells. Redman uses a 25 foot open boat (dual Johnson outboards). He is informal and friendly, and did not push us, but since we were all beginners, he had no need or desire to. He and the boatman helped us load our gear (standing in the surf and clambering over the side) when they met us on the beach every morning. I would recommend him for intermediate and advanced divers."

"Man Friday Diving is the most refreshing, personable, no nonsense, operation I've run across in six years of frequent Caribbean diving."

But, let me quote from a longer report by Brant Shenkarow (San Anselmo, CA): "My perception is close to yours. What struck me about diving North Tobago is that nobody goes and it appears that way because life undersea appears undiscovered, certainly undisturbed. It sparkles! My description of the ancient brain coral would have been 'As big as a small duplex apartment'.

"Man Friday Diving is the most

refreshing, personable, no nonsense, operation I've run across in six years of frequent Caribbean diving. Fred Good and Doc Radewski have demonstrated to me that mutual respect between divemaster (proprietor) and diver (customer) is a very important element in the business of recreational diving.

"Man Friday Diving offers that respect. I don't need to be pampered. I like to participate. The divemaster calls the shots, but I don't want my hand held or to be scorned for dropping 5 feet below our agreed depth for a minute or two. I felt freedom and respect from the folks at Man Friday Diving.

"So who is Man Friday Diving? Bjarne Olesen is a PADI instructor and divemaster from Denmark. He speaks a few languages, so we settled on English. The owner is Finn Rinds, another Dane. After morning diving with Finn, Bjarne, and Anne (girl friday), the pipe smoking Finn and I generally sat in the sun on the steps of his neat as a pin, spartan, modern beach front wooden dive shop. We talked philosophy, drank coffee, and discussed his change in lifestyle from progressive Denmark to what felt like the Caribbean, 1940.

"We went out when I wanted to — generally one or two morning dives and an afternoon dive. I was the only paying diver. I couldn't believe that they didn't come up with some excuse to cancel the dives, but they had me written down for three days of diving and three days we dived.

"Man Friday is in Charlottesville, but we loaded up the Landrovers and drove a few minutes to the boat in Charlottesville, then unloaded and walked in our gear and provisions (water and fuel) in waist deep water to the wooden dory or Boston whaler type boat." [Eds note: some dives are taken directly from Charlottesville]. "Seas were choppy

and currents and surges and changes in visibility are reason to recommend this to the experienced diver only. We used the 'orange float on a tether' tracking system so the boat doesn't drop anchor (reef saving) and the boatman follows the float. Visibility ranged from 30 - 80 feet. I saw lots of great stuff, but the sensation of diving and all the activities before and after are what really make the dives worthwhile or not. I give "Two thumbs and two big toes up" to Man Friday Diving.

"More impressive are the 2-3 foot angels, 6 foot barracudas, huge Jew fish and morays, and various tunnels and cut-throughs that enhance this dive site."

"For accommodations, I called Man O' War cottages in Charlottesville and spoke directly to the owner, Pat Turpin. She gave me the cottage that just happened to be 100 yards from the dive shop. My cottage was a modest two bedroom, fully equipped, comfortable place on an acre of private beachfront (my acre and beach)—\$40 US/night. I could hire a cook, baker, laundry persons, or maid if I wanted. There is an honor system commissary amongst the cottages. Charlottesville is small and quiet, it's people friendly and helpful and are not used to nor impressed by tourists. This is not a resort. There is little to do except dive, swim, watch birds, hike, read, sleep, listen to cricket matches or Southern Baptist preachers on the AM radio (bring your own), and live pretty much as the locals do."

Redman Melville once worked for Man Friday, but now owns his

own modest operation in Speyside. He's dived the area for 20 years. He's located near the Speyside Inn, whose proprietor — Donna Yawching — writes "his diving skills are excellent, his manner extremely personable, and he will not hesitate to dive with a lone diver. I have literally never met an unsatisfied customer of his."

By the way, the Speyside Inn, a short walk from Redman, has modest and clean accommodations running from \$50/double (\$60 winter), breakfast included. Sitting between the road (little traveled) and the beach, each room has an ocean view balcony. A great bargain.

Tobago, I'll be back.

Blue Waters 800/888-3483; 809-660-4341; fax 809/660-5195). . . . Man Friday Diving: 809/660-4676 (toll free to Pan Caribe Tours, 800/525-6896). . . . Man-O-War Bay Cottages (809/660-4327; fax 809/660-4328). . . . Speyside Inn (809/660-4852).

Guadeloupe:

For those of you who studied French in college, Dean Clark (West Hartford, CT.) updates us on Guadeloupe in the French-speaking Caribbean, where there are many hotels and Relais, beautiful beaches and hundreds of restaurants for the Francophile diver to enjoy.

"About half way through the dive, a 35 foot whale shark swam by and I was able to catch it and ride it through a school of hammerheads."

"Les Heures Saines in Pigeon is still the best for the Reserve Cousteau, and reasonable at about \$28 per dive. Experienced divers are allowed freedom, especially with divemaster (monitor) 'BuBu' (who speaks some English) and instructor 'LuLu' (an older gentleman who does not speak English). I was with LuLu at 140 feet where we waited for his student to complete mask

removal and buddy-breathing exercises! There is a shipwreck now at about 125 feet, but not much growth or fish action yet. (Les Heures Saines, 590-988663; 590-987017; FAX 590-902187).

"Of most interest is the group of sea mounts discovered midway between Guadeloupe and Iles Les Saints. It's over an hour ride from Pigeon on a fast, all aluminum, diesel powered boat, built and operated by Pasqual of Aux Aquanautes Antillais (telephone 590/988730). His boat

is also chartered by Les Heures Saines for a Saturday run to the sea mounts, which come up from the depths to about 35 feet. There are all sorts of beautiful corals and sponges etc. More impressive are the 2-3 foot Angels, 6 foot Barracudas, huge Jew fish and morays, and various tunnels and cut-throughs that enhance this dive site."

Little Cayman:

While it's my humble opinion that the addition of one more hotel to Little Cayman only mucks it up, one more has opened. Reader Stanley Gettles (Miami) reports that "the Little Cayman Beach Hotel, still in the final stages of construction, has rooms with excellent air conditioning and satellite color TV. You dive the walls of Little Cayman three times a day. Forty-two foot custom jet exhaust dive boat was comfortable. Dive master courteous and competent, as was entire hotel staff." While I can't imagine staying anywhere other than Pirates Point with Gladys Howard, she offers but

Florida's Ninth Annual Underwater Music Festival

The barracudas liked the Beatles as much as 500 snorkelers and divers who were treated to "Yellow Submarine" and other watery tunes piped into the waters off Looe Key's Marine Sanctuary for the ninth annual Underwater Music Festival. "It was fantastic and incredibly clear," said Andrew Sneath of Worcester, England. "Underwater you can't tell where (the music) is coming from. You're surrounded by all these fish and coral and it certainly adds a new dimension."

Radio station WWUS used eight underwater Lubell and Sonalure speakers for four hours of music and public service announcements on coral reef etiquette and preservation.

The commercial free broadcast featured a combination of rhythmic reggae from the tropics and ethereal new age compositions. Divers listened to such selections as the Beatles' "Octopussy Garden" and "Yellow Submarine;" "Well-Equipped Diver" by Barefoot Man; Jimmy Buffet's "Jamaica Farewell;" classical selections from Mozart and Vivaldi; and "My Island Home," a tune by a local group dubbed the Key Lime Pie band.

two tanks a day, at times not enough for when that marvelous Little Cayman wall beckons. Reservations for either: call any travel agent.

Western Australia for Whale Sharks:

As I've said before, if it's whale sharks you want, then Western Australia is heaven. Says Richard Friedman, M.D. (Dallas, TX) after his trip on the North Star IV, "Whale sharks til you drop, coral spawns, turtle hatching, schooling fish. Government restricted diving on pier where one dive produces schools of lion fish, stripped catfish, jacks rare black cat fish 12 to 20 inches long. Sometimes in two knot current with poor visibility and two days later 50 foot visibility and no current. A star fish every square foot. Deep dives had 5 foot cod, 3-4 mantas together, multiple angelfish, numerous nudibranchs and giant clams. One-half the price of other whale shark trips and the air conditioning works and there are four crew members for eight passengers."

La Paz, Mexico

Call Tropical Adventures 800/247-3483; 206/441-3483 Most people heading to Baja, Mexico, go to the tip: Cabo San Lucas. But some divers like it better, 90 minutes north, at La Paz, a town of 14,000.

Walter Dudley dived with *Baja Diving Services* in July: "The Captain and dive master were great. The boat was quick and the crew took care of our needs. We did not have to lift a finger. The owner is building a two story complex (including a chamber) and boat ramps. They have 16 employees and fill sixty bottles in an hour. Sandwiches and drinks were provided and the boat had a spartan head. The half-mile from hotel to boat launch area was not bad. Dive sites were about an hour from the ramp. We dove the 1976 sunken 'Salvatierra' ferry boat. There were many fish, morays, coral, sea fans, star fish and wreck debris. We dove the 'El Baja'

sea mount and found many fish, big and small, but no sharks on this dive. The wreck and sea mount were about 60 to 70 feet. An exciting dive occurred at 'Lobera Vieja' (old sea lion cave) where the bull sea lions kept us at bay while the younger swam in and out of our group. There were plenty of fish, lobsters, fan coral, eels and a guitar stingray."

Another diver reports that he stayed at the Gran Gaja (south of town) and "it was adequate but nothing spectacular. We moved to La Concha and liked it very much (\$80 per night). On the outskirts of town, it's a 5 minute cab ride to the restaurant and business areas. La Concha is also the headquarters of the Aguilar Brothers' Baja Diving and Service, who I highly recommend (\$70 to \$80 for two tank dives—depending on dive site.)

"I had terrific dives at El Bajo, a sea mount with a top at 80 feet. It is an enjoyable two hour boat ride.

Visibility of approximately 80 feet with 68 degree water temperature. Must have five divers to make the trip to El Bajo. Saw numerous 8 to 10 foot hammerheads and lots of other large schooling fish (tuna, amberjacks, etc). About half way through the dive, a 35 foot whale shark swam by and I was able to catch it and ride it through a school of hammerheads. Words cannot describe the experience. Dive master said seeing both is extremely rare and finding hammerheads is about a 50/50 proposition. Outstanding dive and outstanding dive operator.

"Salvatierra Wreck had no current and 20 foot visibility. Lots of soft corals, eels and fish. One of the most interesting wrecks I have dived. On this trip, we dived Los Cabos, Cabo Pulmo and La Paz. The next trip we will skip everything except the La Paz area."

Call Sea Safaris, 800/262-6670; 213/546-2464

Ben Davison

Why Divers Die: Part IV

The National Underwater Accident Data Center (NUADC) at the University of Rhode Island has been recording diving fatalities involving U.S. citizens for 20 years. To further your awareness of the causes of death so that you may dive more safely, *Undercurrent* has been reporting this analysis for 15 years. The 1991 report on scuba fatalities is the second joint effort between DAN and NUADC.

Ben Davison

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Of the 67 deaths in 1991, the youngest was 16 years of age and the oldest was 72. Twenty-one percent of all fatalities were 50 years of age or older. The percent of female deaths was 25 percent.

While a high percentage of deaths can be attributed to drowning, it's important to understand the contributing cause.

The majority of the drowning cases were associated with running out of air. Many inexperienced divers simply ran out of air unexpectedly, and were unable to perform self-rescue.

About half the drowning deaths occurred during ascent or on the surface after the dive. In several cases, divers died while getting into trouble swimming on the surface back to the boat. In two cases, buddies got

separated on the swim and the one who dropped behind got into trouble and drowned.

A female (diving from a charter boat) surfaced with her companion 150 yards from the boat. On the swim back, she became separated from her buddy, who was in the lead and did not realize she was in difficulty. When found on the bottom, her tank was empty and she was still wearing her 16 pound weight belt.

A 38-year-old male had not made a dive since certification one year prior. He surfaced with his buddy after reaching 500 psi, but failed to keep up with his

buddy on the swim to the boat. Recovered from the bottom by the dive guide, he was resuscitated, but died about 48 hours later. His cylinder was empty, his buoyancy compensator not inflated.

Contributing Factor	# of divers
Insufficient air	19
Buoyancy Problem	15
Entrapment	11
Cardiovascular	8
Alcohol/drugs	5
Panic state	5
Nitrogen narcosis	4
Air embolism	3
Hypothermia	1
Obesity	1
Rapid ascent	1

Booze and Drugs

Alcohol and drugs contributed to at least two deaths, while several other victims were found to have either or both in their system. When one of a three member buddy team developed difficulty, the other two escorted him to the surface. Shortly after the diver in trouble was rescued, another buddy was found floating face down in water with his regulator out. An autopsy found a substantial amount of cocaine in his system.

When an individual is excited, as the dead diver was when he was taking care of his buddy, his body naturally produces catecholamine, a neurotransmitter. The synergistic effect between catecholamine and the cocaine apparently affected his heart.

Many inexperienced divers simply ran out of air unexpectedly, and were unable to perform self-rescue.

A male who was attempting to recover a sunken lobster boat was drinking beer before the dive and had a history of drug and alcohol abuse. He was wearing a 40-pound weight belt with a wet suit. Unknown difficulty developed at the surface and he sank. There was no standby diver and the body was recovered about two hours later.

A female on a three week diving trip to a tropical area had made many dives and was taking medications for depression. Reports also state that she "drank heavily" during her stay. She made a dive with a guide to 120 feet and then, apparently narked, she left the guide and went to 250 feet where she began to take off her scuba gear. The guide forced her to the surface, where she died after 15 minutes.

Inexperienced die in caves

Some drownings were due to entrapment in a cave, in a wreck, or under ice. In a double death, a 30-year-old female and a 32-year-old male entered a cave system despite park regulations and warnings from their instructor. The male had several specialty certifications while the female was making her first dive since certification. After conditions became silty, only the third member of the team could find the way out. They did not use guide lines. When recovered, both victims were out of air.

A husband and wife died in a Missouri cave. The husband had "logged over 600 dives," while his wife was new to diving. Neither was trained in cave diving. They entered the system with no guide lines to the surface. The husband carried the main light and the wife carried the backup light. Visibility was generally 30 to 40 feet, but recent flash floods had dropped the visibility to less than five feet. Although this cave system was not complicated, it took the recovery team over one day to find the bodies

Dolphin Love

Federal agencies investigating a Florida park's swim-with-the-dolphins program are looking into a videotape of a dolphin being sexually aggressive toward a woman swimmer.

The tape shows a young female tourist in a lagoon at Dolphins Plus park with a 7-foot male dolphin identified as Fonzi. The Associated Press reports that "the dolphin becomes aroused and repeatedly rubs its sexual organ against the woman.

"The woman laughs and appears to exhibit no fear. When she later tries to get out of the lagoon, the dolphin blocks her exit."

Spokesmen for the National Marine Fisheries Service and the U.S. Department of Agriculture's Animal and Plant Health Inspection Service said the tape broadened an investigation of allegations that animals and people have been injured at the park.

The fisheries service, which licenses marine swim programs, will decide whether to take away or alter the park's operating permit, or take no action, said Brian Gorman, a spokesman. "We don't expect the investigation to be completed until almost the end of the year," said Gorman.

Lloyd Borguss, an owner of Dolphins Plus, said the employees shown on the tape were fired in part for not stopping the encounter. Borguss said the park's policy always has been to carefully monitor the encounters and stop any if a dolphin behaves aggressively.

He also disputed the identification of the dolphin in the videotape. "Fonzi still swims with visitors, and Fonzi is not the animal in the videotape," Borguss said.

Russ Rector, founder of the Fort Lauderdale-based Dolphin Freedom Foundation, said the tape was made in February 1990 by a park visitor who wishes to remain anonymous.

While we don't like the idea of hassling dolphins, no one seems to be able to answer why these consenting adults shouldn't be allowed to continue their romance in private.

which were more than 300 feet into the system and 10 feet off the permanent line. The husband's inflator hose was disconnected. When tested, it caused the buoyancy compensator to continually inflate.

Entanglement can also cause drowning. A 28-year-old male was salvaging lost anchors near a dam site when his buddy experienced difficulty and surfaced. The recovery team located the victim suspended in 15 feet of water by a rope caught on his leg. There were cut marks on the rope and his buoyancy compensator buckle had been unlatched.

Drowned with Air Remaining

Other drowning victims had air available in their cylinders.

A 31-year-old female was diving in a quarry with 46° water, limited visibility, and an unfamiliar dive buddy. They made an unplanned ascent due to cold and lost contact with each other. The victim did not surface and was found on the bottom some time later. One fin was missing and her buoyancy compensator was not inflated. When tested, the tank had 2,000 psi of air remaining.

A 41-year-old male was participating in an advanced class of six students. At 120 feet, the instructor stopped the dive because of decreasing visibility and the party surfaced. The victim was missing and his body was located on the bottom 90 minutes later. His cylinder contained 500 psi and he was still wearing his 33-pound weight belt. This is the case of another drowning victim, who was overweighted and failed to drop his belt.

An 18-year-old male was diving with a companion in a sink hole. On their second dive, the victim indicated a desire to ascend and the buddy team started for the surface. The victim did not appear at the surface. The buddy searched for a short time and then called for assistance. The dive recovery team found him on the bottom with the regulator out of his mouth. The inflator hose for the buoyancy compensator did not match the connector on the buoyancy compensator and, therefore, could not be connected. The cylinder contained 200 psi when turned off.

Diving Alone

In 1991, six deaths were solo diving fatalities. In one case, a 43-year-old male was diving alone from a rocky shore in an area of strong current and rough surf using rental gear. A witness observed the victim in distress. Lifeguards were about one-half mile away and, by the time they could be summoned and reached the scene, the victim was floating face down in the water. He had abandoned his gear and weight belt.

“She made a dive with a guide to 120 feet and then, apparently narked, she left the guide and went to 250 feet where she began to take off her scuba gear”

A 49-year-old male surfacing after spearing a fish, indicated to his friend on the boat that he needed assistance, then submerged. The friend dove in without any gear and unsuccessfully attempted to pull the diver up. A diver from another boat attempted to reach the victim, but was low on air. He saw the victim stop kicking and air bubbles discontinue from the regulator. At a thermocline at 80 feet, visibility dropped from 80 feet to five feet. The victim had allegedly been drinking rum prior to the dive.

A 32-year-old male, a graduate of a commercial diving school and an active instructor, disappeared while solo diving. He planned a dive to 300 feet, using multiple tank harnesses. His body was never located.

Oceanic Regulator problem

Oceanic has issued a “Quality Alert” regarding the high pressure first stage pressure seat in their diaphragm regulators. Shipped to dealers between April and June, 1993

When used with tanks filled over 3200 psi this seat could shift and alter the intermediate pressure from the first stage to the second stage regulator. If the pressure gradually increases, then the regulator will eventually free-flow. If the pressure decreases, the regulator becomes increasingly difficult to breathe.

The problem was determined to be the material in the seat. While seeking the cause, Oceanic found a better material for this seat and alerted their dealers of a change in material and also supplied new seats for those regulators in stock.

Peter Radsliff, marketing manager for Oceanic, told us, “This was in no way a recall. The shift in intermediate pressure is not, life threatening.”

Those concerned about their diaphragm first stage regulator should take it to their local dealer and have the intermediate pressure checked.

Heavy Seas

In some cases, heavy seas contributed to the drowning. A male who was diving with his buddy in the tropics experienced difficulty while surface swimming to the boat. The buddy managed to reach the boat, but the victim did not and drowned. The victim surfaced, called for assistance, then submerged. When recovered, the tank contained sea water and the victim was still wearing his weight belt. Fellow divers reported the sea state was “rough as hell”.

A 31-year-old female receiving instruction in open water certification and surf entry had made one previous similar dive and had experienced an episode of hyperventilation in the pool. She and the instructor swam under the surf, surfaced, and switched from regulators to snorkels. A large wave caught the victim and she aspirated sea water. She was rescued with difficulty by the instructor who initiated CPR, but she still drowned.

Hit by a Boat

A 17-year-old uncertified male was diving in about 30 feet with three friends, none of whom towed a dive flag. When he surfaced he was hit by a boat and lacerated by the propeller. It may be that the victim surfaced because he could not control his buoyancy. The 5’4, 150-pound youth dove in his swim suit and was using an aluminum tank, which provided three to four pounds of positive buoyancy at the time of the accident.

Next Issue: Further analysis