

undercurrent

The Private, Exclusive Guide for Serious Divers

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Tawali and *Spirit of Niugini*, Papua New Guinea

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choose the liveaboard over the resort

Dear Fellow Diver:

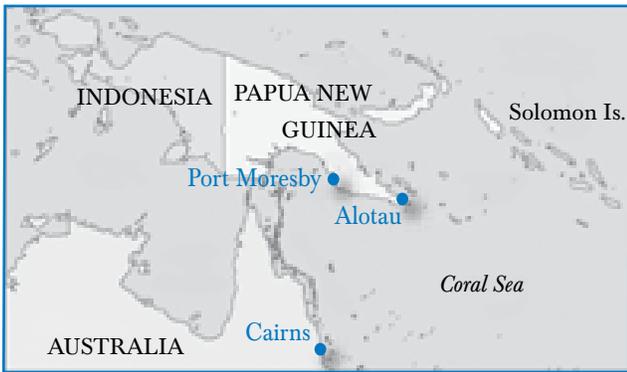
My trip to Papua New Guinea started off with a bang - literally. I arrived in Port Moresby at 4:30 a.m., after 24 hours of flight time from the U.S., and was heading to the domestic terminal for my flight to Alatu, when POW-POW-POW - gunshots! I dived under a table behind a flimsy screen. The airport workers disappeared. A man lay on the floor, shot in the arm. Supposedly, an attempted robbery happened just outside the exit door where I was headed. Another tourist went to the downed man, surrounded by locals, and asked for a first-aid kit, but there was none. He told them how to stop the bleeding, and they helped the injured man out. "It usually quiets down when it gets light," a worker told me.

Yes, Port Moresby deserves its infamous reputation; the crime rate is high and it's no place to linger. But I can also say that the cost, the long flight time and the dive under the table were worth the diving. I spent three weeks at Oceanic founder Bob Hollis' mini-empire in Milne Bay -- 10 days aboard his 115-foot liveaboard Spirit of Niugini in January, followed by a week at his upscale eco-resort Tawali. It's a lovely spot with efficient, quick-action staff, although the liveaboard and resort dive boats could use some work. While it's far from Port Moresby, Tawali isn't remote enough to be spared from the crime wave, as I'll explain.

The 50-minute flight to Alatu was uneventful, as was the 90-minute van ride and the 20-minute boat trip to the resort. Upon arrival, I was greeted by a pod of spinner dolphins, then by Tawali managers Marnie and James (they're no longer there). After a couple of days of relaxation



Spirit of Niugini



and a sneak-preview dive off the dock -- a 400-foot drop with crocodile fish, batfish and clownfish peeking out of nooks and crannies -- I boarded the Spirit for the southern route to Milne Bay. My 15 other dive buddies were a mix of Americans, ranging from business owners to retired teachers. Instead of giving us the hour-long orientation immediately, British managers Lisa and Richard, newly arrived from the British Virgin Islands, let us roam the boat.

It was five dives a day, including the night dive. Two dives were often at the same site, fine if you wanted to explore the site further, not so fine if once was enough. Little China was a coral mound easy to fin around in one dive. There, Bale, a friendly but reserved young Papuan, introduced me to one of the many pygmy seahorses I would see during the trip. In the strong current, I went over the bommie to the lee side, in time to see a manta cruising by. The current calmed down on the second dive, so I hung out on the top at 18 feet, watching multitudes of fish go about their business. Hard and soft corals were prolific and healthy. Divers were welcome to follow Bale and Junior, another young local, but I usually lagged, taking pictures of various types of clownfish. Leslie and Richard were also on dives but they had never seen a lot of these creatures, so Richard seemed as interested in photographing as in guiding.

In the mornings, cereal and toast were offered at 6:15 a.m., followed by a 7 a.m. dive. Then a hot breakfast of eggs, toast, bacon, sausage, fruit and occasionally pancakes or French toast, followed by the 10 a.m. dive. Lunch and dinner were similar - spaghetti, rice and vegetables served with either chicken, fish, beef, lamb or pork. Soup and yummy desserts were served at dinner. Beer was \$3 a bottle; wine bottles were also extra but not overpriced. The special was \$25 for all the soda you could drink, so Sprite and pineapple soda disappeared. Fruit and vegetables were purchased from locals approaching in dugout canoes or at markets near moored dive sites. Chef Billy, who tried to accommodate everyone's dietary needs, produced good meals, especially considering his small galley and limited supplies.

Besides gorgeous reefs, PNG is great for muck diving. Over the course of four dives at Bunama Reef, including a night dive, I saw flamboyant cuttlefish; waspfish; scorpionfish; fish living in soda cans; a thick-legged, eight-inch spider crab; pipefish; the list goes on. Bale and Junior were amazing at finding critters and planted sticks to mark interesting finds. For divers who don't like muck all the time, especially nonphotographers, the Spirit can tailor dive trips to balance the percentage of reef versus muck diving. Some muck sites had the "ewww" factor. Samarai Jetty was one of the ickiest, with trash galore on the bottom. Regulator firmly clenched in my mouth so as not to swallow any water, I discovered four-inch hopping scorpionfish, a juvenile black crocodile fish slithering on the bottom, dozens of red-banded pipefish, and a three-foot pufferfish. Abundant crabs and scorpionfish came out at night.

Water averaged a balmy 86 degrees. It was an easy climb up one of two sets of wide steps to the cushioned flooring of the dive deck, which had four warm showers. I stowed my gear in a big basket under my seat, and hung my wetsuit after dipping it in the rinse tank. There were two camera rinse tanks and a smaller one for masks and regulators. A short staircase led up to a camera room/lounge area with a three-tiered camera table and lots of charging stations and adapter plugs. There were so many cameras that they also took over the nearby bookshelves, coffee table and part of the couch. An outdoor lounge area had more camera tables and two air hoses. It has a canvas top but the outer perimeter bench seating was usually in the intense sunshine, so divers crowded into the one shady corner table.

Also on the main deck were four, large-windowed cabins, two with queen beds and two with side-by-side twin beds -- no bunk beds on this boat. Stairs led down to our cabins, each with a small porthole, a bow-to stern-facing twin bed and a port-to-starboard twin. One of two generators was on the other side of the wall, but luckily it was

"white" noise for me. Beds in the bow cabins were higher and difficult for short divers to hoist themselves into. Cabins had individually controlled A/C, drawers, hanging closets, reading lights, and bedside storage. The shower water was always hot.

The August 2008 issue of *Undercurrent* addressed problems with the *Spirit's* renovation. Five months later, I can say it's a good boat overall but considering it was in dry dock for eight months and only in service for five, there were still too many things going wrong. Ripped seat cushions in the dining area, one broken AC unit out of three, toilets that stopped flushing, diesel fumes in the lower cabins and a wet floor in one from an untraceable leak. The downstairs cabins need spiffing up -- mine had stained and ripped wallpaper -- but stewards Yvonne and Harriet kept them neat and clean. Richard told me those cabins were scheduled for a renovation. The crew quickly addressed problems and Philip, the mechanic, ensured that mechanical problems never interfered with the diving. The nice touches that kept divers happy -- triple-filtered drinking water with a large icemaker, self-serve pop and beer (honor system), doing most dives from the mother ship and being allowed to stay in the water as long as air and computer allowed.

Currents were unpredictable, sometimes shifting during a dive. At Boirama, I backrolled off a dingy for a relaxing drift dive with little current, cruising by a

Stranded At Sea? Buy Yourself Some Time

Undercurrent frequently reports on divers stranded at sea. Those who are fortunate to get rescued report extreme hypothermia and dehydration, both of which contribute to delirium, incoherence, and the inability to make good decisions. Brad Bowins (Toronto, ON), one of our loyal readers, has read our many pieces, and tells us how he prepares himself should he be so unfortunate as to find himself adrift.

* * * * *

The article in the August 2008 *Undercurrent*, "Rescue Devices for Saving Your Bacon," concisely summarizes options for being spotted when adrift. While certain devices such as flashlights, mirrors and folding fluorescent yellow flags are of assistance, nothing guarantees you will be spotted and picked up sooner, later, or at all. However, there are precautions one can take to stay alive and coherent for two to three days while lost at sea, which theoretically will significantly increase the probability of rescue or reaching land. Here are my suggestions for a \$20 practical and reliable survival kit.

The first component is an oversized contractor's bag or heavy-duty garbage bag with dimensions about 36 x 58 inches, to reduce heat loss. With fins off, divers of small to moderate build can place one or two bags around themselves to shoulder height, tying the open end to BCD straps. I have experimented with this and it works with knees bent. The water in the bag will warm up from body heat, and it should discourage any unwanted attention from sharks because waving limbs emit vibrations characteristic of wounded prey. Drawing the top of the bag tight around your shoulders and neck will further minimize heat loss. The bags fold up compactly and can be carried within a survival pouch. You can

also use one to cover your head to protect against wind, rain, cold and sun exposure, problems that can contribute to heat loss, dehydration, and fatigue. Unfortunately, an oversized diver will not fit in an oversized garbage bag, but an extra large plastic bag from a source such as industrial wrappings might be located.

The next items for your survival kit are small screw-top plastic bottles filled with fresh water, which can be carried in a pouch or your BCD pockets. Fill the bottles prior to your first dive; carrying more than one bottle means if you spill one, you have another. An average-size diver might need as little as 200 ml. of water per day to excrete wastes on a short-term basis. Most divers can comfortably store 500 to 1,000 ml. of water per day for two to three days. Please lift your own BCD and tank out of the water if you overdo the water supply, otherwise you will be sacrificing the back of the boat-hand for your excessive survival resources.

The final item is power bars, perhaps one per day. They are light, well wrapped, not prone to going bad, and pack substantial calories. Also take a piece of aluminum foil; placed inside your aluminum mask, it can provide a reflective surface if you face the sun or searchlight. If nothing else, the observer will be curious to check out a marine creature with such large reflective eyes. All these items fit in one or two large zip-lock bags placed in the pockets of your BCD. Alternatively, a pouch can be clipped onto your buoyancy compensator to store the survival kit.

What happens if you are stranded with a group and you are the only one who has read this article? In all my years of diving, I have never really found a use for a dive knife. Could this be the first truly valid one?

Spirit of Niguini, PNG

Diving (<i>experienced</i>)	★★★★1/2
Diving (<i>beginners who can handle current</i>)	★★★★★
Accommodations	★★★
Food	★★★
Service and Attitude	★★★★
Money's Worth	★★★★

Tawali Resort, PNG

Diving (<i>experienced</i>)	★★★★★
Diving (<i>beginners</i>)	★★★★★
Accommodations	★★★★★
Food	★★★★
Service and Attitude	★★★★
Money's Worth	★★★★

★ = poor ★★★★★ = excellent
Worldwide Scale

cuttlefish, a Napoleon wrasse, a school of barracuda, a black ribbon eel, crocodile fish, tiny yellow pygmy pipefish and lots of schooling tropicals. But on the next dive, the current was wild and I was too busy avoiding bumping into things to enjoy it. Soft and hard corals were abundant, with huge plate corals eight feet across, healthy staghorn, six-foot sea fans, beautiful whips, and large areas of colorful soft corals waving from the bommie tops. Still, PNG wasn't immune to some coral bleaching and rubble.

Due to stormy weather, we anchored at Tawali one night. In the morning, I wanted to go ashore, but was told no. Eight robbers had invaded the resort the day before at 7 a.m., hitting the safe and guests' rooms. It was an inside job; one of the perpetrators was captured, some of the money recovered. What would have happened if we had docked one night earlier?

At trip's end, the Spirit docked in Alatou and my dive buddy and I headed back to Tawali for a week's stay. We were greeted by resort co-owner Rob van der Loos, a 25-year veteran of Milne Bay who owns and operates Tawali's other liveaboard, the 60-foot Chertan. Tawali staff was young locals, friendly but

subdued, probably due to the robbery but also because of limited English skills.

Locals carved the woodwork and lofty totems featured in the main lodge, where we had buffet breakfasts and dinners. The glossy rosewood dining room featured a wall of glass bottles found on dives in Samurai Bay. Lunches were served on the dive boat when three dives were on the agenda. Food choices were similar to meals on the Spirit, but the quality was better. Special dietary requests were attempted but not always successful because food supplies weren't always fully stocked. My favorite dinner was juicy roast beef from Vanuatu, green beans, carrots, potatoes, salad and delicious lemon cheesecake. The spacious rooms have two queen beds with views of Hoia Bay, jungle or both. My air-conditioned room had several drawers, hanging space, two night stands, a sitting area with two chairs and a table, and an outside porch with drying rack and a table for two. The roomy bathroom had hot water nonstop.

Each day I went to the lobby to put a peg in a board to indicate which of the two boats I wanted and whether I wanted Nitrox. The resort's 60-foot boat comfortably handles 20 divers and did three more distant dives. Cookies were served after the first dive and lunch after the second, a 90-minute surface interval for salad, a couple of lukewarm entrees and the remaining cookies. The covered deck area had a camera table, four permanent seats on each side, and several unstable plastic chairs. The cabin had a table with bench seating. There was a head but no shower. The 71-cu-ft. steel tanks were out in the open, blue gear baskets slid under the seats. Oddly, only three-pound weights were available, making precise weighting tricky. The 37-foot catamaran handled 12 divers close to the resort, with an option to return after two dives.

During my week, the wind was blowing the wrong way, typical for January, making waters nearer the resort too choppy to dive. That meant we dived many sites I had already dived from the Spirit. I didn't mind because those were great diving, but hour-plus rides each way got tiresome. Crinoid City, a coral mound rising from 120 feet

deep, was a 90-minute trip each way. Crinoids were everywhere, and the front slope was covered with black coral trees. Circling the bommie, I came across two pygmy seahorses on the same sea fan, while a school of barracuda and three white-tip sharks hovered in the background. Usually we returned to Tawali by 4 p.m. but that day the boat had battery trouble, so it took the crew over an hour to restart the engine, getting us back at a dusky 6:30 p.m.

Dive crew at Tawali were all locals, some more skilled and organized than others. Sebastian, an older vet, had the best English so he mingled with divers the most. The guides didn't touch marine life or corals but when they saw gloved divers put their hands on coral, they didn't say anything about it. On one dive, my air tasted bad, as did a couple of others' tanks, but the problem was fixed the next day. Unfortunately, the boat's battery problem wasn't and it made for an interesting experience on my last day when the boat drifted toward shore, actually scraping the bottom. The crew happened to have a small skiff along, and it managed to pull the boat back into deeper water to reanchor, but we couldn't go back until different batteries showed up.

Finally, when weather permitted, I got to dive closer to Tawali, 10- to 30-minute boat rides away. At Coral Gardens, a football field of healthy staghorn, I saw two lacy scorpionfish lying together, then two unusual grey nudibranchs actually "doing it." A half-inch nudibranch was laying eggs. Schooling fish swarmed everywhere. At the wall dive at Barracuda Point, the sea life ranged from muscular sharks and three-foot elephant ear seafans to pipefish the size of toothpicks. I also did a couple of shore dusk dives, looking for mandarin fish to do their mating ritual, but unfortunately the smallish males couldn't find any females to mate with.

On my departure day, it was the resort van's turn to cause problems -- a wheel bearing went bad halfway to the airport. When I arrived, I literally had to run for the

Why Your Old Aluminum Tank May Be Rejected for Testing

Reader Ed Leiter (Bar Harbor, ME) wrote in to tell us that when he sent four tanks to a company that handles hydrotesting, it refused to test two of them. The reason given was 'weak alloy.' "I was very surprised because the two MKII U.S. Divers Aqualung tanks, 54- and 64-cu-ft. aluminum tanks respectively, had been sent out for testing in the past. The note on them when they were returned untested was 'Alloy 6351-T6/No test.' Is the 'weak alloy' issue something new to the diving community?"

No, Ed. In fact *Undercurrent* has written about it before, and because many divers have old 6351 aluminum alloy tanks, it's a good time for an update. We asked Mark Gresham, CEO of cylinder inspection firm PSI, Inc., about the problem and here's what he told us.

"While the U.S. government states that no recall of the nearly 25 million 6351 alloy cylinders out there is warranted, the Department of Transportation (DOT) and the National Institute for Occupational Safety and Health called for annual inspection by trained inspectors in 1999.

"Twenty-one recreational and firefighter cylinders have ruptured explosively in the U.S. from sustained load cracking (SLC), with an additional four internationally. SLC usually occurs in cylinders that remain filled for long periods of time.

U.S. manufacturers that used 6351 alloy included Luxfer, Walter Kidde, Cliff Impact, Norris Industries (SP6688) and Kaiser (SP6576). The permits for both Norris and Kaiser have expired and those cylinders are no longer approved for use in the U.S. but are valid in Canada. Luxfer stopped using 6351 alloy by 1988.

"SLC is a slow progressing process. Government findings on a ruptured cylinder showed one crack had progressed over 8.7 years and the other over 9.3 years. For this reason, the DOT specifies all cylinders made from 6351 alloy be carefully inspected by trained inspectors with special attention given to the threaded neck area.

"Some air stations no longer fill 6351 cylinders and some hydrostatic retesters won't test these cylinders. While a few dive businesses and hydrostatic retesters have informed divers that 6351 alloy cylinders have been recalled, that is not true. And it is illegal to condemn a cylinder without proof that it is damaged beyond allowable limits. All high-pressure cylinders contain phenomenal energy and should be given great care. Every ruptured cylinder had obvious damage whether it was a crack in the threads, damage from excessive heat, extensive corrosion or other abuses. The solution to safe cylinders is regular quality inspections by trained inspectors and diligent fill station operators."

So, Ed, if your hydrotester didn't find any damage but just won't fill the tanks on principle, you might find another hydrotester who will test them for you.

plane as it was boarding, otherwise I'd miss my connection and that once-a-week flight back to Tokyo. I'd hate to be stuck in Port Moresby.

The diving exceeded all expectations. Gorgeous reefs mixed with critter-filled muck sites meant fun dive days and a good assortment of pictures. Diving is good all year but water temperatures are warmest November through February. However, dive site choices depend on the winds, as I found out during my January stay. Next time, I'd dive from either the Spirit or Chertan, with just a couple of decompression days at Tawali. Still, Hollis and his team need to get the Spirit fixed up as it should be for the hefty price they're charging. And wherever you travel in PNG, keep your valuables sparse and close at hand, travel in packs and look for areas to duck for cover in case gunshots ring out.

-- R.J.

P.S. from Ben Davison: Parts of PNG have been like the Wild West since we started writing about diving there in the 80s. You can't ignore the risk, which is a reason why many people prefer to travel there in groups. While resorts throughout the country do what they can to safeguard their customers -- most have guards, some are fenced in -- the robbery in Tawali was apparently far more serious than simple breaking and entering. Having to duck and cover in Port Moresby while watching your back elsewhere is surely adventure travel but not the kind of adventure many traveling divers seek. I've loved my trips to PNG and would go again, but there are certainly other destinations with equally good diving and nowhere near the potential threat.



Diver's Compass: Spirit of Niugini charges \$340 to \$360 per night; extras are a \$75 port fee, \$8 daily reef and chamber fee, \$15 daily fuel surcharge and \$12.50 daily Nitrox charge . . . Seven nights at Tawali cost \$2,334 for three dives and three meals daily, not including taxes, fees and fuel surcharge of \$15 per day . . . From the East Coast, I flew Continental to Tokyo, then Air Niugini to Port Moresby and Alatou for \$3,100; depending on the season and if you have the time, you can fly Los Angeles to Sydney for a stopover, then Port Moresby for under \$2,000 . . . Don't walk around Port Moresby during the day alone or at night at all, even in a group . . . Tawali's non-diving activities are weekly guided walks to the rainforest, local villages, waterfall and skull caves . . . Mosquitoes weren't too bad at Tawali and they spray weekly . . . You'll need to take a malaria prophylaxis; I took Malarone . . . Web site: www.tawali.com

Thinking About a Dive Trip?

a few money-saving updates

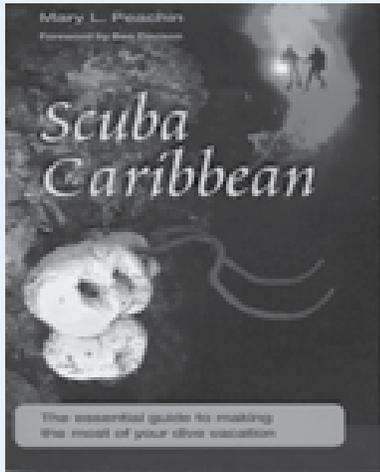
Bonaire. Of course, you'll find the Caribbean's best shore diving on Bonaire, and subscriber William Whitman (Peekskill, NY) says the best deal is with the Dive Friends operation based at Yellow Submarine. "They run a friendly operation and a week's worth of unlimited air diving was \$170. The same package with Nitrox limited one to three dives a day for that price. The big plus is that Dive Friends runs four different operations spread around the island where you could pick up or drop tanks. Dive Friends left us to our own devices after the first dive buoyancy check and purchase of marine park dive tags. The

site right in front of Yellow Sub was a nice dive with a super-easy entry and exit, and the convenience of walking right out of the water to the tank drop and picking up tanks to take with us for the next morning." (www.dive-friends-bonaire.com)

As we have reported for many years, Bonaire has a crime problem. According to Whitman, "Friends of ours in a rental house, perhaps four doors down from the Yellow Sub location, had their house broken into while they were out to dinner, and returned to find cell phones, laptop computers, cameras and other items stolen. The police were polite and quick to respond,

Scuba Caribbean

This is the guidebook I wish I had when I first dived the Caribbean. Peachin, who also wrote *The Complete Idiot's Guide to Sharks*, wrote *Scuba Caribbean* for traveling divers to find the best destinations for their skills, interests and pocketbooks. In her 30 years as a globe-trotting diver, she has visited nearly every Caribbean dive destination. And as an *Undercurrent*



subscriber and contributor, she used *Undercurrent* articles and reports as a source for this book. She knows where the truth lies.

Each chapter includes the destination's history, some topside geography description and basic travel facts. In the "Where to Descend" section, Peachin lists her top dive

site choices, preferred dive operators (liveboards aren't featured), and a relevant dive tip, from Cozumel's drift dives to Cuba's sketchy dive regulations. In the "Where to Hang Your Regulator" section, she names her favorite diver-friendly accommodations. The text is pretty neutral commentary, although Peachin doesn't neglect important need-to-knows, like the rules to follow viewing whale sharks at Holbox Island. Don't expect a critical review of destinations (she leaves that up to *Undercurrent*), but she does throw out a few zingers like, "Belize's Blue Hole is considered a 'once-in-a-lifetime' experience that a diver only wants to do once."

Whether you're new to diving or new to Caribbean diving, *Scuba Caribbean* is a great resource. While divers who've been there, done that, may be familiar with what Peachin has written about, it will still be a useful addition to your library..

You can buy Peachin's new book, plus her past one on sharks at www.undercurrent.org, and you'll get it at Amazon.com's lowest price. Plus, our profits from your purchase of this or any dive books we list – as well as anything you buy from Amazon through our website – will go directly to projects that help save coral reefs. (239 pages, 16 pages of photographs, paperback, \$25 list price.)

-- Ben Davison

but ultimately not encouraging. Even more distressing was that several people claimed to know who had done it but wouldn't volunteer names out of fear . . . We rented a beautiful villa called Yellow Crown Villa in the Sabadeco area, with private pool, air conditioning, modern kitchen, ocean view and even a private entrance to the (dry) cave system underneath! It was great." (www.bonairenet.com/yellowcrownvilla)

And Kenneth Smith (Sebring, FL) reminds us why people like Bonaire shore diving so much. He stayed at Divi Flamingo Beach in February and reports: "The only negative was the *extreme* control imposed by the divemasters on most trips. Our group dove all week, and all of us were experienced, but the controls never let up. They'd say, 'I'll go down and check the current, then we all go the same direction.' There was never any current. So we all herd along in a scattered group in one direction, then back across the same stuff to get back to the boat. Maximum depth was 50 feet but I always went 20 or 30 feet deeper (divemaster waving me up, I waved back), just so I could sweep a different area on the way back. Kind of boring, after a week . . . The shore diving can be more adventurous but requires more logistical work, and you can't get to Klein Bonaire, where the reef is much more intact. The main island suffers from 20 to 40 percent die back, in my observation."

Cozumel Internet Discount. Dave Dori (Pasadena, MD) went out with Dressel Divers at the Iberostar Cozumel in January and says, "I wish I knew you could get a 15 percent Internet discount by booking in advance. They take credit

cards and offer a 5 percent discount for cash. Very well-run operation. Special trips to Maracaibo are no extra charge. Paul (British) is the manager and his staff is excellent. We dove six days, and had different divemasters every day, all very qualified. Nice big dive boats able to handle up to 16 divers but we never had a group larger than eight, including the two divemasters on each boat. Good fish life. They offer a trip to the Playa Del Carmen Iberostar to do a bull shark dive in the morning and a Tortuga Reef dive in the afternoon (\$120 per person). We saw four huge bull sharks at 70 feet on a sandy bottom. The second dive is a fast current, and we did see six or seven turtles." (www.dresseldivers.com/en/mexico.htm)

Flying to Palau. Sandy Falen (Topeka, KS) reminds us there is a much less expensive way to get to Palau than to island-hop on Continental -- if you have the time, that is. "I took the 'scenic route' to get to Koror, traveling American and its partner, Japan Air, from Dallas to Tokyo to Manila, where I stopped for a night before catching Continental Micronesia from Manila to Palau. At the end of my stay, I flew Continental to Guam, spent another day, then it was back to Japan Air/American to Tokyo, Dallas and home. It took longer but I enjoyed the stopovers and it saved a ton of money -- it cut my Continental fare by more than half, compared to the usual Continental routing from the U.S. mainland."

Bargains in The Philippines. As we've reported before, once you get there, hotel and diving costs are among the least expensive anywhere. There are plenty of good reports online

at www.undercurrent.org, but Jennifer Widom (Stanford, CA) says Peter's Dive Resort is a standout. It cost her family of four \$65 a night to stay in the family house for New Year's week. "It's a beautiful, spacious, modern place -- a separate bedroom with king bed, plus two pairs of single beds in a big area that also includes a living room (couches, coffee table, TV) and a full kitchen. The house would sleep six comfortably. In addition to the house, there are free-standing cottages and rooms adjacent to the restaurant, dive operation and swimming pool area. The dive operation was extremely well run. Dive sites range from one minute to 45 minutes away, and there's a house reef. Boat dives were \$24 each, although we got a 10-percent bulk discount. The diving was varied and generally excellent. The Napantao Wall across Sogod Bay has healthy soft and hard corals, and hordes of small fish. Whale shark trips (\$72 each, minus the 10 percent discount) are run every few days during the season, from November to May. We had four magical experiences swimming with two of them." (www.whaleofadive.com)

Widom's family spent another week at Polaris Beach and Dive Resort, spending \$1,850 for a seven-night package that included a two-story, air-conditioned "family room," daily breakfast, and 11 dives each for the four of them. "The resort grounds are extensive, the food consistently good. The dive operation was run very efficiently and competently. Don't expect to see pelagics or even large numbers of fish at Cabilao, but the macro and interesting critters are exceptional, and the house reef on the resort's doorstep was one of the best. Relatively shallow and low-current diving." (www.polaris-dive.com)

Kona's Pelagic Magic Night Dive. Bob DeFeo (Novato, CA) tells us about a must-do dive he made last fall with Jack's Diving Locker. "Three miles off Kona, while drifting in the current with a parachute in the water attached to the bow, you descend down to 60 feet, tethered to a weighted line attached to the boat. You are in complete darkness, broken only by dive lights and the camera lights used by the crew. My dive time on air was 86 minutes, multi-level, wearing a full 3-mm suit with 3-mm hood and vest underneath, reef gloves and boots. Almost fully protected from jellyfish and nicely warm, I saw creatures that come right out of your wildest imagination. These gelatinous animals are mesmerizing to watch and possess incredible colors and movements. This dive is not for the faint-hearted, as it takes some gumption to go into 6,000-foot-deep water at night, tethered to a line that makes you look exactly like bait on a hook to whatever chooses to come by. The crew cautions you not to urinate in your wetsuit because they have seen it attract 'toothed predators.' They also advise that you will be getting out of the water if any show up. I saw none but I did see a variety of drift fish, box jellyfish, squid, and the assorted and amazing gelatinous creatures. On Jack's other advanced dives, I saw 10-foot-long hammerheads and five white-tipped reef sharks up to five feet long, as well as large mantas off in the blue and near the shore. Advanced dives started at 100 feet. Drift dives with the boat following above were in light currents south of Kona near the Red Hills dive site. Nitrox 32 is available at \$15 per tank. The Pelagic Magic dive was \$165 and well worth it." (www.jacksdivinglocker.com)

A Personal Perspective on Dive Innovation

has the dive industry run out of new ideas?

When diving as a sport emerged in the mid-1950s, almost all equipment had to be created from scratch or modified from similar activities such as surfing (think fins and wet suits). Because diving was a fringe-interest sport, the spark of innovation had to come from within since no real money from outside the industry was streaming into development. Like skiing or mountaineering, diving derived its biggest and best ideas from a cadre of committed, hardcore, first-generation innovators who pushed equipment design, technique and training protocols largely from their own desire to advance the sport. By the time I started diving in 1959 at Key West, new divers could wander into a handful of dive shops and purchase off-the-rack masks, fins, snorkels, tanks and regulators. The choices were few but the stuff worked pretty well for the most part.

In the 1960s, manufacturers and training agencies emerged that began to bring professionalism to the forefront. This fueled some spirited competition that helped drive innovations.

When Dick Bonin and Gustav Della Valle founded Scubapro in 1963, no one knew it would become the most innovative diving company for nearly three decades. In the 1970s alone, they introduced the Jet Fin, the revered Mark V regulator with a flow-through first stage piston that dramatically improved breathing performance underwater, the first low-pressure BC inflator, the first silicone masks, the first analog decompression meter, the first integrated inflator/second stage device, and the venerable wraparound style BC called, simply, the Stabilizing Jacket. Meanwhile, other companies came up with their own versions of equipment breakthroughs in wet suits, dry suits, diver propulsion vehicles, underwater camera housings and strobes, depth gauges, submersible pressure gauges, and a long list of accessory items that divers scrambled to buy.

Meanwhile, retailers adopted vastly improved methods of training divers from early national certification agencies. Standardized certification smoothed out regional differences

Two More Divers Stranded for Hours on Great Barrier Reef

It seems to be an annual event for a male and female diver to get separated from their Great Barrier Reef liveaboard and stranded at sea for hours. Last year, it was Allyson Dalton and Richard Neely who spent 19 hours overnight in the water, after they failed to be spotted by their liveaboard, the *Pacific Star*, after surfacing. (They told us their story in the July 2008 issue of *Undercurrent* and last month, the Australian officials officially charged the boat's company with failure to ensure the divers' health and safety.) This year, it was Michele Turner, 42, of Lititz, PA, and a 40-something male diver from California who went adrift while on a seven-day trip aboard the Mike Ball liveaboard *Spoilsport*. Fortunately, they only spent seven hours at sea and were rescued before sundown.

On February 6, Turner and the other diver were buddies for an hour-long morning dive at Ribbon Reef #10 near Lizard Island. Mike Ball told *Undercurrent* what happened next. "At the dive orientation, the plan was to keep hold of the descent line until everyone met at the reef, then swim upcurrent and

return with the current. They descended at 10:09 a.m. What happened was one diver let go of the line and drifted down-current, followed by the other diver. At 11:15, we notified the closest vessel to assist search, and at 11:45, we notified the Australian Maritime Safety Authority of missing divers."

Turner's husband told the *Express Times* in Bethlehem, PA, that the divers surfaced at 10:20 a.m. and were nowhere near the boat. The current pulled them eight nautical miles from the dive site and they tread water until 5:15 p.m., when they were picked up by the Lizard Island-based *M/V Fascination*.

One good takeaway from this incident: It's not a bad idea to wear bright-colored gear. Rescue crews said Turner's pink diving suit helped them find her. "They are two very lucky people," Cairns police inspector Brent Carter told the *Cairns Post*. "Another hour and a half and it would've been dark and a different proposition." Ball said the two divers rejoined the *Spoilsport* for the remainder of their trip, "and they had a great time."

and by the early 1970s, training no longer consisted of a handful of lectures, a few pool skills and a single "check out" dive in the ocean or a quarry. The macho methods that tended to exclude women, older participants, and all but the most athletic were modified to bring a wider audience to the sport. Divers became more confident, better trained and wiser about safety.

In the 1980s, diving grew rapidly, sparking a revolution in manufacturers. Every show put on by the Diving Equipment & Marketing Association (DEMA) saw the introduction of new equipment previously unimaginable. Diving travel matured with the first modern liveaboards, exotic resorts and access to remote regions of the world's best diving that had been previously accessible only to filmmakers and photojournalists.

The first modern electronic diving computers introduced in the early 1980s meant that divers would be free from the limitations of square dive tables and allowed on-the-fly dive planning in real time. Even so, some conservative industry members condemned computers and just about every innovation that followed. By the late 1980s, a bitter schism developed over whether diving computers, nitrox, technical diving, etc. should even be allowed in the sport. Further controversy raged about the supervision and control of experienced certified divers. Some places like the Cayman Islands implemented absurd rules that limited all divers to precise shallow depth limits and prohibited independent diving completely. This policy of setting the bar for all divers to the ability of the least experienced spread and participants reacted strongly. Diving magazines took sides with thinly veiled agendas based on pleasing advertisers.

Eventually, diving consumers voted with their intellect -- and their wallets. Resorts that restricted experienced divers

floundered. *Skin Diver* magazine was sold as its "advertorial" business model crumbled and it folded a few years later. Even the Divers Alert Network (DAN), which had allowed its executive director Peter Bennett a soapbox on which to oppose just about every new idea that came down the chute, removed him and installed a refreshing policy of objective discourse based on actual scientific, medical and field evidence. Diving computers, nitrox, technical diving, and other innovations became mainstream. Suddenly, controversy stopped. It seemed Bennett's ouster from DAN nearly a decade ago was the equivalent of the last dinosaur's demise.

Do We Really Need Another Model of Split Fins?

Today, diving is still in its second generation. The leaders of the first generation are in their late seventies or eighties and many have passed on. Those of us who were part of the second generation of diving entrepreneurs are pushing 60. Many have cashed out and moved on, and with some of the best minds opting out, industry leadership has suffered.

I'll turn 58 this year, too young to become an Andy Rooney-like curmudgeon, but I lament the days when manufacturing companies were run by real divers. What happened to the spirit of innovation? Have we run out of new ideas? Where are the new products that should be emerging from this exciting technological period? There has to be something more original than being able to listen to your iPod underwater. Most of the innovations achieved in the last five years are in applications of digital photography, and these have largely been borrowed from the camera technology industry. Sure, photography has been responsible for both creating new interest in our sport and keeping existing divers fired up and

Thumbs Up: Divetech, Grand Cayman

Subscriber Mark Thorne (Raleigh, NC) posted his reader report about Divetech in Grand Cayman and we featured his comments in our article last month about some dive operations, Divetech included, don't always treat paying customers with proper respect. Thorne later contacted us and said that Divetech had been in touch with him.

"A few weeks after I posted my comments about Divetech in the online Reader Reports section, I received a professional, respectful e-mail from owner Nancy Easterbrook. The gist of it was an apology that my experience there was not up to par. She added that everyone got the message, she took this information very seriously and it would not happen again. I was impressed with Easterbrook's quick response, and it made me feel better about her operation." And for that, Divetech deserves a big thumbs up.

So Mark, we'll add these comments to your report, both online and in the upcoming Chapbook. And a word to other divers: If you post a report online and want to make a significant modification later, let us know. Subscribers and online members can post reports by going to www.undercurrent.org and clicking on "Submit a Reader Report."

PS: Mark said, "I never communicated with Divetech managers before posting my less than positive comments. Thus, I did not give them an opportunity to comment or act on my experience. In the future, I feel I owe it to any dive operation I use to at least try to make it right before I post words that make an impact on their livelihood."

active. But where are the real next-generation innovations in diving equipment?

Where's the next revolution in thermal protection? How about workable submersible tracking devices employing EPIRB and GPS locators for missing divers? Can't we do better at downsizing equipment packages for use in warm-water regions? What happened to affordable advances in rebreather technology? And how come my fins wear out in a couple of years, when I still have a pair of old 1970s Jet Fins on a shelf with about 10,000 dives on them that may never give up the ghost?

It seems that the industry is engaged in a lackadaisical era of "tail-chasing" each other's products without any real advancement. I mean, do we really need another model of split-fins? This "design breakthrough" may be the single biggest joke

perpetrated on the diving consumer since someone tried to sell "buddy mirrors" back in the early 1970s. These gadgets attached to your tank pressure gauge or console so you could look over your shoulder to see where your buddy may have wandered off to or if he had been eaten by a marauding predator (a huge concern in the era of bang-sticks and shark-darts).

Yes, split fins are easier to kick. So are your bare feet. But if you want to go up-current or catch up with the disappearing whale shark, you want fins with some "oomph" that will do the work. Meanwhile, a new crop of divers buy these ridiculous things and then wonder why they can't swim back to the boat when a little surface drift appears in opposition to their intended path. No one had that problem with Jet fins.

New Technology Should Mean More Affordable Gear

We live in an age of advancement in component resins, plastics and polymers that lessen weight and add strength and durability to fins, masks, BCs, wetsuits, etc. We have minuscule semi-conductors and micro-chips, almost endlessly variable algorithms for decompression computation and dive planning, but all that comes out the door is another version of the same stuff that was cutting-edge back in 1996 when I was running Uwaterc. We led the world in diving computers then by integrating tank pressure transmitters to display screens, and added adjustable conservatism to deco models based on ascent rates, breathing workload and predicted skin temperatures, as well as programmable oxygen mixes. Computer screens displayed more vital information in larger fonts so middle-aged geezers could actually read them without bifocals. That wasn't bad back then, but hell, we should have a computer by now that has an EPIRB, sonic alert, GPS, and an iPod built in. And just maybe it wouldn't cost over \$100 for a damn battery change.

Is there no way that a regulator can be simplified into a package that integrates with a BC so everything doesn't dangle in a mess of hoses trailing beneath, behind or elsewhere? Why is it that Atomic seems to be the only company that can manufacture a regulator with a lifespan longer than bananas on your kitchen sink?

While high-definition televisions and DVD players have dropped nearly 70 percent in price in the past three years and almost every new car comes with a navigation system option at an affordable rate, the diving industry can't seem to utilize the same technology applications to make gear more affordable – and thus entice more people into the sport – without the sometimes staggering initial price investment. So consumers opt for other pursuits that cost less. No wonder diving certifications are down and the sport is withering in participation.

Why can't agencies and companies communicate database information with each other in order to share the consumer who takes a class with a magazine, a travel operator or a camera vendor? Oh no, those customers are sacrosanct, proprietary and are never to be shared with another entity, lest a potential sale be lost to a competitor. If DEMA would sponsor a consolidated database that could be accessed, how

many more customers might buy things, go on trips, read a magazine, attend a dive show event, or access an online information site with tips on how to refine their photo technique? Or go see the latest Howard Hall underwater IMAX film with their family and get so turned on that they sign up for dive training? We would then come full circle and the training agency gets a new customer, along with the store that provides the lessons. That moves a sport forward and keeps the consumer informed and excited.

In today's global economy, competitors are no longer limited to a 10- to 15-mile radius. The Internet changed the playing field and today's consumer in Oklahoma is just as likely to make a purchase from a New Jersey, Florida or California vendor. Or even Europe or Asia. Dive businesses better get used to it -- information cannot be limited to the neighborhood dive retailer anymore. Use the technology, don't whine about it.

"These Kids Today" Are the Next Innovators

I made it my practice in the professional diving industry to embrace innovation and technological advancement. It was good business to be on the leading edge whether in manufacturing, training, resorts, liveboards, publishing or even writing the occasional piece for *Undercurrent* that tried to articulate objective assessments of various controversies. Now it seems the naysayers have faded away and left a playing field unfettered by their past obfuscation and deliberate misinformation campaigns. By all reasoning, we should be enjoying a renaissance in diving with all the current tools at our disposal. But I'm still waiting to be impressed.

Now this might sound like a snarky lecture on "these kids today" and "the good old days" but these kids are the next real innovators, having matured in an age of almost incomprehensible tools of knowledge and empowering information. The key is getting them interested in diving. And this is where the current

"leadership" of the diving industry needs to step up. Diving is in decline as a sport. It has not acted decisively to attract today's youth and has thusly undermined the sport's growth. The active diver is an aging demographic. We need the teenagers and 20-somethings in diving. Their intellect and enthusiasm should not be limited to designing the next computer game.

I'm not optimistic that the current leadership is up to the task. About the only real diver left running a big manufacturing company is Oceanic founder Bob Hollis. And he's just turned the corner on 70. Too many are largely run by accountants or others who only get their hair wet when they take a shower. Look at what happened to the once proud Scubapro line when the corporate suits decided to oust founder Dick Bonin; they haven't produced a noteworthy product since. We need more leaders with saltwater in their hair -- and the vision to mentor the next generation of diving's leaders.

The future of diving needs a proper generational hand-off, just like the baton in an Olympic relay race from one runner to the next. And the dive industry cannot afford any drops. I hope to see a smooth pass and the race continue. Then we can all take pride again as diving progresses into its third generation. The challenge lies with the current "leadership" to let the new players on the track and give them the coaching to succeed. If the industry is to regain its health, we have no other choice.

Bret Gilliam was the founder of TDI/SDI training agencies, Chairman of NAUI, CEO of Uvatec, and publisher of Scuba Times, Deep Tech and Fathoms magazines. He also operated Virgin Diver, one of the first Caribbean liveboards, and ran Ocean Quest International, a 500-foot cruise ship dedicated to divers. He currently lives on a semi-private island in Maine. His most recent book is Diving Pioneers & Innovators: A Series of In-Depth Interviews. He can be reached at bretgilliam@gmail.com.

The Shark Hunt Continues at Cocos Island

poachers hack off the fins, rangers lack resources to stop them

"In 100-foot visibility, 50 hammerheads, two dozen white-tips, large silkies, huge marble rays, a dozen green turtles, five-foot wahoos, a quarter-mile-long school of jacks, bait balls that block out the sun, streams of rainbow runners, then 300 hammerheads turn into view . . . This is Cocos Island, 350 miles off the Costa Rican coast."

I wrote that for *Scuba Diving* magazine in 1994. In October 2008, most of the hammerheads are gone; there are no silky sharks, no dusky sharks, no sailfish. In 30 hours underwater, I saw three tuna, some white-tips, marble rays, two dolphin, three mantas, a few dozen eagle rays and a small school of jacks. Most anything that will eat bait on a hook or swim into a net

is long gone. A more common sight is rays, sharks and jacks trailing hooks and fishing line. Even in these 300 square miles, we managed to descend upon eight dead sharks -- two baby hammers, two silvertips and four whitetips -- dangling from abandoned long lines.

At Cocos (and in other protected areas like Colombia's Malpelo Island and the Galapagos), poaching is rampant and the profits attract high-rolling traffickers. Sushi bars are flush with fish from these waters. Asian communities worldwide have rediscovered shark fin soup, a status symbol and an alleged aphrodisiac. As a result, this last refuge for many noble pelagic species is losing its battle for survival, while the Costa Rican

Get Shark Fin Soup off U.S. Restaurant Menus

If you call Chinese restaurants in your area, you'll most likely find some that serve shark fin soup. We called three restaurants in Sacramento, CA, and they all served it. Of the four we called in San Francisco, two served it. Olivia Wu, former food writer for the *San Francisco Chronicle*, told us: "The Chinese restaurants I know in the Bay Area are feeling little pressure. The Chinese community is just barely getting wind of the environmental effects. The Chinese, as a culture, haven't been particularly receptive to nature conservancy of any type. If you look at elephant tusks, rhinoceros tusk, etc., the Chinese have basically eaten and used them to extinction."

So this is not a problem isolated to Hong Kong or Shanghai. Shark fin soup is available throughout the U.S., made perhaps from the fins of sharks from one of your favorite diving places, like Cocos Island. But you can stop its sale, as did one of our fellow scuba divers, whose story is profiled in the *San Diego Union Tribune*.

When Carl Robbins (San Diego, CA) read the Chinese New Year menu in an ad from Barona Valley Ranch Resort & Casino, shark fin soup was proudly featured. Outraged, he sent e-mails to Barona and alerted fellow scuba divers, offering Web sites and documentaries details why it's inhumane to offer such a menu item. In his e-mail to Barona's executive chef Dean Thomas, he explained his stance.

"...The negative impact seen in our world's oceans through the ruthless slaughter of sharks for nothing more than their fins has been well-documented. It is a practice

that has long been identified with organized crime, not to mention the inhumanity toward the sharks as well as the enormous impact to our oceans and therefore to our world. . .The Native Americans associated with the Barona culture often emphasize their natural heritage and strong association with the natural world. As their ancestors would never tolerate such blatant waste and destruction, neither should the living sons and daughters of the Barona Band of Mission Indians. You can help make a difference in maintaining healthy oceans, and therefore a healthy world, through the simple act of not purchasing and then providing shark fins at this celebration."

E-mails from Robbins and others drew an immediate response from Thomas, who removed shark fin soup from Barona's Chinese New Year menu and wrote, "I can only state embarrassment in the decision to menu this 'culture' item with our Asian New Year Celebration. I totally agree with the belief and can assure you (I) will support the education of our planet's sustainability in all the ways possible as a chef. Please forgive my mistake and oversight on this occasion. We have removed shark fin soup from our menu."

Want to do something to stop the slaughter of sharks? If you live near any metropolitan area, it's likely that many Chinese restaurants there will have shark fin soup on their menu. Follow the lead of your fellow diver Carl Robbins and let them know about their culinary sins.

- Ben Davison

government turns a blind eye toward foreign fishermen preying within the 12-mile limits at Cocos. Rangers even allow poachers to anchor in the protected bays of Cocos Island. While they cannot refuse safe harbor for vessels 300 miles offshore, the rangers get nothing in return. After a peaceful night sleeping in the lee, the fishermen are refreshed and ready to string hooks across the many miles of Cocos' ledge.

In May 2003, Costa Rican Randall Arauz's marine conservation organization, PRETOMA, secretly captured footage of a Taiwanese vessel landing 30 tons of shark fin at a privately owned Costa Rican dock. Some 30,000 sharks were killed to provide this haul. In his 2007 film *Sharkwater*, Rob Stewart provided disturbing footage of shark-finning in Indonesia, Guatemala and Papua New Guinea. Stewart discovered that the Taiwanese Mafia - known better as "The Shark Fin Mafia" -- was the mover and shaker behind most of the shark finning done in Costa Rica. He filmed hundreds of hammerheads dying on thousands of miles of long lines. Officials traced shark fins from all over Asia back to Costa Rica, but Taiwan continues to import its shark fins from Costa Rican waters.

For a short time in 2008, two patrol boats went out every night. Neither had radar, though the fishing boats are often loaded with radar, GPS and powerful engines. When a patrol boat appears on their radar, they pull in the fishing line and retreat to the park boundaries. Unfortunately, the "navy" today has been reduced to a kayak and a decommissioned aluminum boat with a rusting 40-hp outboard. Rangers have been threatened by fishing crews with machetes and Molotov cocktails. In June, a Coast Guard boat actually opened fire to scare away four fishing vessels that surrounded the patrol boat. The rangers had stumbled onto illegal longlines attached to 91 floating radio buoys, had hooked yellowfin tuna, five hammerhead sharks, a pink marlin and several white tip sharks. The same day, 10 illegal fishing boats were spotted within the 12-mile protected zone.

Not surprisingly, tales of capture and prosecution are rare. To date, there has been one serious prosecution for illegal fishing within park boundaries; the ship's captain and owners were fined \$668,000. The ship's lawyers are appealing. Captains, rangers and fishermen are quick to report that everyone is on

“the take” -- park rangers, Coast Guard leaders, government officials, even state environmental officers. Bribes are usually just enough to allow a fisherman a few hours to set long lines off Manuelita, a stoic rock 200 yards off the main island of Cocos that used to be famous for the schools of hammerheads that filled its cleaning stations.

Today, despite the dogged efforts of the Imaging Foundation (partnering with American Express), Cocos’ status as a UNESCO site, and worldwide press, Costa Rica still does almost nothing to solve the poaching problem. A proposed Shark Finning Prohibition Law states that the whole shark must be killed and used instead of today’s practice of cutting off the fins and throwing the animal back in the water, where it is left to suffer an agonizing death. If this law passes, anyone caught handling shark fins without the rest of the carcass will be subject to up to three years in prison. While this parallels the law in the United States, forcing the fishermen to kill and butcher the entire animal will only slow the slaughter. And there are real concerns that the government will not enforce fisheries regulations due to strong Taiwanese interests in Costa Rica.

As many as 40 divers a week visit Cocos Island, perhaps spending as much as \$20 million annually for diving support, air travel, landing and docking fees, salaries, fuel,

food, lodging, shopping, ground transportation, entertainment and gambling, but Cocos remains unprotected. The government has printed flyers and posters prompting us to vote for Cocos Island, recently nominated by the New Seven Wonders Foundation as one of the new natural wonders of the world, but that’s a public-relations ploy. An effort to protect Isla del Coco and raise \$100,000 in funding for increased patrolling of the island is backed by The Fundación Amigos de la Isla del Coco. Airport money-boxes collect donations from tourists. The sponsors have delivered equipment to the park rangers aimed at enhancing their performance and reducing the risks, including special diving suits and equipment. However, it’s unclear whether the rangers are even trained to use them.

While rangers I spoke with seem to care that the waters off Cocos Island are being ravaged, they are hobbled by ineffective and ill-conceived laws, broken equipment, lack of funding and resources (and the fact that their cousins are on these fishing boats). They are severely and critically outmatched, outwitted and unmotivated. So the slaughter continues, day in and day out, as it does around the world.

-- David Leonard

Why Divers Die: Part I

fatal errors, all preventable

Since 1980, we have been reporting cases about diver fatalities, hoping that by describing the incidents, our readers will become more careful divers and avoid fatal accidents. This year, we are reporting on cases from the Diver Alert Network’s latest report, detailing dive fatalities in 2006 (we included names and additional details printed in news sources). In the cases that follow, divers made fatal errors, mainly in judgment. Each of these unfortunate deaths could have been prevented.

Many divers see diving like riding a bicycle: once you learn how to do it, you’ll never forget. That assumption, however, can be fatal. Stephen Radlein, 39, was an experienced diver with rescue and instructor certifications, but he had taken a 15-year break from diving. Then he went diving in Victoria, B.C., with a man and a woman he had met the day before. They planned a dive to 40 feet for 45 minutes but Radlein got separated from the other two at the 40-minute mark. They found him a few minutes later, floating face down and unconscious on the surface with a partially inflated BCD and an empty tank, and Radlein couldn’t be resuscitated. His dive computer showed that he had done a rapid ascent from 33 feet. He was also wearing 54 pounds of weight, although he told his two dive buddies prior to the dive that this was how much he typically used.

Cold Water Is Not Like the Caribbean

Many divers make the assumption that all bodies of water are the same, as did this 51-year-old fellow, who had many specialty certifications but only moderate experience and nearly all in tropical water. His first dive of the year was to be a night dive on a wreck in a freshwater lake. Visibility was poor, the water was cold and he forgot to bring a hood. Still, he and his buddy entered the water and went to 97 feet, but he was underwater only 14 minutes when his air was down to 1,000 psi. They went up to 60 feet but got separated, so the buddy went to the surface but couldn’t find the diver. His drowned body was recovered the next day with 20 pounds of weight in his BCD that would have been difficult to drop. His tank was empty and an evaluation of the regulator showed that it wasn’t working well, taking increased work to breathe through the second stage.

In another incident where a warm-water diver figured he could handle the cold, this 43-year-old male diver, certified for less than a year, was using a drysuit with which he had little experience to make a solo dive from a boat while others waited on the surface. After 10 minutes, the people on the boat noticed his bubbles had stopped. He drowned and his body was recovered the next day at 75 feet. He didn’t have the auto-inflator

hose connected, and he wore a total of 37 pounds of weight, including ankle and pocket weights.

Medicated Divers Shouldn't Have God Complexes

In many cases, divers with all sorts of physical maladies think diving is like a walk in the park, but the stress of diving can cause any number of problems. Dwight Blackwelder, 58, was an experienced diver with a history of seizures and blackouts during dives. He was also taking morphine for chronic shoulder pain and had a pacemaker implanted to control abnormal heart rhythms. Nevertheless, Blackwelder made solo dives to gather lobster five miles off of Fort Pierce, FL, while three friends stayed on the boat. On his second dive, Blackwelder descended to 50 feet but after an hour of bottom time, his friends noticed a lack of bubbles coming to the surface. One of them went down and found Blackwelder unconscious. Although toxicological studies found a high level of morphine in his blood, the medical examiner concluded that Blackwelder's drowning was due to an irregular heart rate.

Another medicated diver, three months certified, was on the fourth day of a multi-day dive trip and making his first ever night dive. However, the 24-year-old had been taking several over-the-counter cold medications that day and ruptured an eardrum three weeks prior. After running low on air at 65 feet, the two surfaced but the diver lost his weight belt trying to help his buddy get untangled from kelp. Both of them descended to retrieve it and became separated. The diver was found the next day, drowned on the bottom near his lost weight belt. He had been carrying 32 pounds of weight, but 24 pounds were in various pockets of his BCD. He had also modified his fins, apparently making them less efficient for propulsion.

Unusual Hazard for Young Divers

An inquest in England into the death of a 14-year-old British diver found that while waiting on the surface to be picked up, he was dragged underwater by the weight of his empty tank.

After a dive with his father to collect scallops off Berry Head in Devon, England, last August, Louis Price was treading water while his mother and an uncle tried to restart the engine of their inflatable boat. Price's dive lasted 20 minutes; his 30-cu-ft. tank would have given him 22 minutes dive time. When the air ran out, Price, a trained diver since age 12, lost the buoyancy it gave him, so the weight of his gear dragged him under. His father had a bigger tank, which gave him potentially twice as long underwater. Despite an extensive search, Price's body was not found until 19 days after he disappeared, in almost exactly the same spot where he had vanished.

When Does Drinking or Drugs Ever Mix with Diving?

Jackie Smith, a 47-year-old dive instructor and technical diver, was drinking until 4:00 a.m., then experimented with modifications he made to his rebreather before doing a morning dive at a quarry in Lake Norman, NC. He and his buddy did a shore entry into very cold water with poor visibility. Smith had an equipment problem 15 minutes into the dive after reaching 105 ft. He and his buddy ascended rather quickly, then became separated at a safety stop at 80 feet. The dive buddy made two more stops and went to the surface. Other divers on the surface heard someone yell, then saw Smith floating unconscious on the surface; he couldn't be resuscitated. Apparently, Smith knew his rebreather was malfunctioning and planned to use it in semi-closed-circuit mode to compensate, but an examination revealed it was out of specifications, with malfunctioning sensors and an improperly packed carbon dioxide scrubber. The diluent gas tank was also empty.

In this double death, toxicology tests found that both deceased divers tested positive for cocaine, which may have contributed to a number of errors. Robert Straus, 37, had a reputation as a reckless diver from people familiar with his diving habits. Having done no dives in the previous year, he made plans to go spearfishing with Cynthia Oquist, 35, off a boat near Boynton Beach, FL. A third person waited in the boat while the two entered the water. The current was very strong and shortly after the initial descent, Straus surfaced and waved for help. The two divers struggled on the surface and got entangled in the buoy line. Straus panicked and used Oquist's alternate air source. Other people arrived at the scene tried to help the divers by pulling in the buoy line, but the line snapped. Both divers descended below the surface and their drowned bodies were recovered an hour later at 50 feet. Straus still had weights in place and was entangled in the line. Oquist had dropped her weights but also was entangled in the line, her mask on her forehead. Both divers' tanks were nearly full, but Straus' BCD wouldn't hold air and his equipment proved to be in nearly unusable condition, while Oquist's gear was also in poor repair.

Most Importantly, Check Your Gear

Perhaps the first rule in staying alive is having the proper gear, which is what one learns in a certification course. So you couldn't expect Todd Hilbert, 36, who was not certified, to get it right for gathering lobster with a buddy near Islamorada, FL. On their second dive, they separated but continued to dive solo. The buddy surfaced but a search team recovered Hilbert's drowned body in only 15 feet of water, his regulator mouthpiece out of his mouth. The tank and regulator were attached incorrectly, the purge button on the regulator stuck at times, the tank was empty and the BCD had a small leak.

You would expect a certified experienced diver to descend with a full tank of air, but George Sipp, 72, diving with buddies at Alligator Reef near Islamorada, FL, didn't. After a wreck dive to 112 feet for 28 minutes, he used the same tank for a shallower second dive. Sipp's buddies descended ahead

Battery-Eating Uwatec Computers

“The Uwatec Aladin Prime and Aladin Tec ‘hockey puck’ computers eat batteries like pigs eating corn,” says Steve Giles of Carlsbad, CA. Giles, who runs the Sheriff’s Department Aviation/Search and Rescue Unit, purchased 15 of these console model computers. Since he acquired them three years ago, factory-supplied batteries began failing as quickly as 60 to 90 days after some of the computers were put into service.

This is serious business to Giles, due to the nature of his unit’s work. “We have 15 scuba-certified crew chiefs who are trained to deploy from a helicopter for drowning incidents,” Giles points out. “If we have to splash a rescue diver, his gear has to be reliable. Getting ready to enter the water in an emergency situation with a computer that will not activate due to the battery being ‘eaten up’ is unacceptable.” In one training session, seven computers failed to activate due to dead batteries.

Originally, Giles was able to return the faulty computers to his dive shop, but the replacements that Scubapro/Uwatec sent back performed no better. His dive shop proprietor indicated that this was a familiar problem with the Prime

and Tec computers. “Now that the warranties have expired, seven of the 15 have developed a voracious appetite for batteries,” Giles says. “To keep them operating, batteries have to be changed out every 30 to 45 days; even then, there is no guarantee that the units will activate when needed.”

Cynthia Georgeson, vice-president of Johnson Outdoors, the parent of Scubapro and Uwatec, told *Undercurrent* this problem was confined to a small number of Aladin computers shipped around the time Giles ordered his units. “A faulty infrared display board supplied by an outside vendor caused the batteries to drain in a limited number of units. Uwatec switched vendors, and has not experienced the problem since. We made a spot check of Uwatec dealers around the country, and did not hear of similar problems elsewhere.”

Although it’s not possible to trace which serial numbers might carry the faulty component, Georgeson assured *Undercurrent* they are covered under Uwatec’s warranty. She advises any diver who gets a low battery warning to take the computer to an authorized dealer for a new battery. If the battery drains again, Uwatec will replace the entire computer. Although that didn’t work for Steve Giles, it should work for you.

-- Larry Clinton, Jr.

of him. He was later found floating on the surface, a half-mile away, dead of drowning. His computer recorded a nine-minute dive to 29 feet. Sipp’s snorkel apparently was in his mouth, but his weight belt was off and his tank was empty.

And you would expect an experienced diver to shy away from foolish record-breaking feats, but then a 27-year-old diver might not be mature enough. This fellow was making a shore dive at night to set a personal depth record using a single tank of air. He had other divers staged at various depths to assist him, but visibility was poor. His buddy became separated from him and aborted the dive due to nitrogen narcosis. When another buddy experienced vertigo at 200 feet, the diver helped him up to 160 feet before turning to continue his descent. His body was recovered nine months later by a solo diver at 200 feet. His death was ruled a drowning due to nitrogen narcosis.

Sadly, too many divers make the simple mistake of not turning on their air. A 40-year-old experienced diver was with a group on the *Salty V*, three miles offshore in the Los Angeles Channel, and using a rebreather for wreck dives. He announced that he wanted to go off alone during the second dive so he could maximize his bottom time. He also said it was his habit to turn off the electronics on his rebreather between dives, and advised the other diver using a rebreather to do the same. The other divers returned to the boat and waited for the diver, but his body wasn’t found until the next day. The rebreather was in good working condition but he had failed

to turn it on for the second dive and he wasn’t carrying a dive computer. His diluent bottle was empty, but a pony bottle had plenty of air left in it.

Janice Smith co-owned the dive shop Mainely Scuba in Wilton, ME, with her husband, though she had only moderate diving experience. Intending to enter Wilson Lake to join a large group, she was in a hurry and had someone else put her equipment together. She descended quickly and immediately had a problem with her air source. Her buddy tried to share her air and help Smith back to the surface but lost her grip on Smith, who sank back down, probably with water already in her lungs. Two other divers brought her to the surface for resuscitation efforts. She spent five days in the hospital before she died of complications of near drowning, which included anoxic brain injury and bronchopneumonia. An examination of her gear showed that the tank valve was closed and the power inflator hose to the BCD was disconnected. The person who assembled the gear said all was in order and the air was turned on when the diver entered the water, but it’s unclear when the air was turned off -- or if it was ever turned on.

Sadly, all of these deaths could have been prevented. In many, the errors were extreme. In the next issue or two we’ll cover more preventable deaths, from problems as simple as overweighting to failing to inflate a BCD on the surface. Let us learn from others’ mistakes, however tragic they may be.

-- Ben Davison



The Private, Exclusive Guide for Serious Divers

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Flotsam & Jetsam

Dive Industry Shutdowns. Dive shops, boats and resorts worldwide are cutting costs and even closing their doors. The Cairns, Australia-based liveaboard *Nimrod Explorer* was sold in October to a group doing research in the Solomon Islands for the World Health Organization. The *Undersea Explorer* also stopped traveling to the Great Barrier Reef, closing operations in February. According to dive industry research firm Cline Group, dive businesses had an average decrease of 10 percent in revenues during the last quarter of 2008, and new certifications decreased 13.5 percent. The photography equipment distributor Inon America has suspended operations; for information, go to www.inonamerica.com.

Two Florida Divers Hit by Speedboats. Rob Murphy, 26, had a dive flag on his boat and his safety sausage up while surfacing in St. Lucie Inlet on January 9, but he was still struck by a passing boat, which severed both his legs. The boat was operated by Roger Nicosia, ironically an emergency room physician. Murphy, who lost nearly half his blood, was spared from death because his dive buddies quickly applied a tourniquet before the helicopter ride to the hospital. Even though doctors couldn't save his legs, Roberts is

doing physical therapy and intends to dive again one day. On Valentine's Day, Joseph Diver, 66, was finning at 10 feet at the Keys' Pickles Reef when a speedboat hit him, leaving severe lacerations on his legs. Divers have created a petition to establish an official state "Dive Flag Awareness Day" that they intend to present to the governor.

Feeling Frisky Underwater? Here's some advice about having sex while diving on British humor Web site Anorak.com : "Potential problems include the inhalation of water droplets in horizontal positions (which can lead to choking), keeping cumbersome equipment in the vertical position, losing buoyancy control when excited, and being unaware of the increased oxygen consumption required. If you do wish to have scuba sex, then equipment should be kept to a minimum. A full wetsuit is not practical, particularly if the zip is on the back. Balance is critical, as trying to grab hold of coral during sex can cause injury to the diver and damage reefs. Stinging organisms, spiky sea urchins, stone fish, and scorpion fish are to be particularly avoided. Finally, make sure your partner knows the difference between your signs of distress and signs of excitement. Thrashing about with your arms and legs could be an ambivalent signal. So if you feel you are in danger, we recommend a punch to your partner's groin. That signal will not be mistaken."