

# undercurrent

*The Private, Exclusive Guide for Serious Divers*

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## Solmar V, Baja California, Mexico

*a 24-hour steam to wild diving at the Socorro*

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Dear Fellow Diver:

On a Saturday last December, I boarded the Solmar V in Cabo San Lucas, showed my c-cards, and signed a release that was so remarkably simple, straightforward and reasonable that Charlie, a Los Angeles lawyer, couldn't sign it fast enough. I received tank and dive station assignments, and settled in for the 24-hour run to Islas Revillagigedos, commonly known as the Socorro Islands, about 250 miles south of Cabo. Socorro is the only real island; the other three are starkly beautiful volcanic rock outcroppings with the names San Benedicto, Roca Partida and Clarion.

As I enjoyed the welcome margarita and mini-buffet of cold shrimp, guacamole and chips, the beauty of the salon struck me -- all red mahogany, polished brass rails, glass panels etched with marine scenes, and Art Deco-style, leaded glass light fixtures. Solmar V's outer hull is green and yellow, and the color scheme runs throughout; green carpet, yellow roses on the console, brass lamps with green glass shades, even the tablecloths are green. I was stoked. That shattered quickly, however, when I was shown to my tight cabin, probably the smallest I've ever had on a so-called luxury liveaboard. I just hoped the big-fish diving was as advertised. For me, the cost of a trip sets the standard for just how luxurious the trip should be -- and this was an expensive one. The Revillagigedos beckoned me as a place where I expected mantas, hammerheads and dolphins on every dive. But "luxury" also means amenities to add to a diver's comfort, and Solmar V fell a bit short in that area.

Despite the horror stories I'd heard about



*Solmar V*



how rough the crossing can be, this one was smooth, enabling the crew to provide their orientation -- they emphasized safety and respect for the marine environment -- on Sunday while we were still under way. Divemaster Daniel explained the diving routine, which sounded exceptionally regimented: an initial checkout dive, two days with three dives and three days with four dives. I would be assigned to and required to stay with a group of seven, and follow the divemaster. The Mexican government has mandated no gloves or lights (except camera strobes and video lights) for this protected area, so there would be no night diving -- which makes sense because it's all open-ocean diving in strong currents.

I also learned that towels in the cabins would be changed only twice during the nine-day trip. That meant each diver would get a single deck towel per day, resulting in a soaked towel after the first dive. So no warm fresh deck towel after each dive? Wait a minute -- \$3,299 for five days of diving means a luxury liveaboard, right? Still, soggy as my daily deck towel always was, I somehow made it work for three or four dives, but I was annoyed, especially when others hogged extra towels or stole the one I had hanging over a rail to dry. The crew never did figure out how to manage the towels.

We arrived late Sunday afternoon at San Benedicto for the check-out dive, which is all it was worth. Las Cuevas was dark and murky. I did see large Moorish idols and a couple of turtles, but at least I got my weight and buoyancy adjusted. The best part was returning to the salon for frozen margaritas. With no night diving, most of us sampled Steward Luis's cocktail du jour -- strawberry or mango margarita, pina colada or daiquiri -- along with appealing appetizers such as quesadillas, sushi and barbecue ribs. Wine, beer, and soft drinks were always available. After a dinner of sautéed chicken breast and fresh green beans, I headed for my bunk.

My dive buddy and I managed in the tight quarters, but not happily. The shower and toilet share the same tiny compartment; downright uncomfortable, especially when having to put up with the squeeze to the knees while seated. Despite the toilet paper being encased in a "waterproof" container, it stayed damp. The tiny sink was in an alcove so small that I had to wedge my shoulders between walls in order to brush my teeth. My roommate had similar problems, evidenced by toothpaste drip on the floor. Okay, no more whining. I was tired, so I settled in, anticipating good diving ahead.

On Monday morning, I was ready to dive at 6:45 a.m. after a mini-breakfast of fresh fruit, yogurt, and sweet rolls. (After the first dive each morning, it was a full breakfast of eggs, pancakes, French toast or omelets with ham, bacon, hash browns and refried beans.) It was dark when I suited up, but by the time I got in the water, the sun was bright, although it soon retreated behind clouds. The air and water temperatures varied between 68 and 78 degrees, and there was more cloud cover and wind than sun and calm. I was comfortable in my 5-mil, but a few who expected tropical water came without sufficient rubber. Brian, the oldest and thinnest guy on the boat, was constantly cold, and was often on the sundeck trying to warm up, still encased in his wetsuit.

We spent the first day at San Benedicto with two dives at El Canon, where visibility was 20 feet. I saw an abundance of large black and trevally jacks, walls of orange Creole fish, several free-swimming morays, but no mantas. The next two dives were at El Boiler, where divemaster Juan guaranteed I'd see mantas. I did indeed see one, which came right up to me and did a little ballet. I also observed schools of sleeping white-tip sharks, and a few lazily swimming around. After the second morning dive, Luis, the steward, greeted divers with hot chocolate and brownies or cookies. At the rate, I was consuming the treats, I figured I'd be adding more lead to my weight belt.

The 112-foot-long, steel-hulled Solmar V started out as a long-range sport fishing boat, but was converted to scuba in 1992 (its age is the reason for its tiny cabins, as newer luxury liveboards provide more spacious quarters). The dive deck is spacious, with out-of-the way hanging racks so one doesn't have to negotiate pungent wetsuits while crossing the dive deck. The extra-large photo gear table holds plenty of cameras. I thought it odd, however, that they didn't provide small camera towels. Instead, they offered a roll of toilet paper to dry camera gear, so many photographers stashed deck towels to do the job.

The boat holds 22 divers in 12 cabins, and my trip was a full charter with a crew of 10, plus a videographer. One crewmember for two divers was an impressive ratio. Jose Luis Sanchez, who purchased Solmar V about six years ago, was also aboard with his wife, Leslie. My fellow divers were four Spaniards, one Russian, one Israeli, and the rest American. All were very experienced -- six older divers had each been diving for more than 40 years. Jack, a doctor from California, still used a horse-collar BC and 1960s backpack. Ron, a diver who harbored strong opinions, started a lively political discussion the last night that made the Spaniards glad they didn't understand English, and had me wishing I didn't either.

After a five-hour night run, Solmar V was required to check in on Tuesday at the Mexican navy base on Socorro Island, 50 miles from San Benedicto. Officials boarded, verified that we passengers were who we said we were, let a small dog sniff around, then bid us farewell. That stop took some time, so we did only three dives at Socorro's Cabo Pierce, a manta cleaning station where orange clarion angelfish do the grooming. There were plenty of black and chevron mantas here, but with only 20-foot maximum visibility, it was hard to see them clearly. One enormous black manta, the size of a Zodiac and sporting two remoras on its underside, made a number of passes. At first, I thought 20 mantas came to be cleaned but after my eyes adjusted to the gloom, I realized there were just six continually sweeping in and out. Between

## Manslaughter in Australia, An Acquittal in Alabama

We've written many articles about Gabe Watson, a diver from Alabama charged with the murder of his wife, Tina, while diving in Australia. A month-long inquest concluded that while diving from one of Mike Ball's boats on the Great Barrier Reef in 2003, Watson turned off Tina's air and left her to drown. After pleading guilty to manslaughter due to negligence, Watson, now 34 and remarried, served 18 months in an Australian prison before being brought back to Alabama for a new trial, possibly facing a life sentence without parole. The ending was quite different there. The judge acquitted Watson of murder, ending the trial before the defense had even presented its case, saying prosecutors lacked evidence to prove Watson intentionally killed his wife.

Circuit Judge Tommy Nail agreed with defense arguments that prosecutors failed to show Watson drowned Tina for insurance money. Another diver who was the one eyewitness present before Watson swam to the surface told the jury he did not see Watson switch off Tina's air supply, and that he thought Watson was trying to save her. Mail said the state's evidence was "sorely lacking" and did not prove Watson had any financial

motive. Jurors never got to deliberate. "I don't think anyone knows for sure what happened in the water down there," said Nail, who repeatedly clashed with prosecutors during the trial and earlier hearings.

He hobbled the prosecution by refusing to allow the jury to see video of an underwater re-enactment Queensland police did at the shipwreck, and surveillance footage of Watson using bolt-cutters to remove flowers from Tina's grave. Defense attorneys said Tina's death was an accident, and that Watson didn't stand to gain monetarily because Tina's father, Tommy Thomas, was the beneficiary of her life insurance policy. Nail blocked Thomas from testifying about Watson's alleged desire to increase Tina's insurance policy, saying it was hearsay. That was a blow for prosecutors, who earlier had been barred from presenting other evidence about Watson's actions after the death. "It was pretty evident by then he was going to bounce it," said lead prosecutor Sam Vaselka. Prosecutors aren't allowed to try Watson again.

Most of the discussion in the dive community always assumed Watson's guilt. We carried a piece last August by Dr. Carl Edmonds, who wrote a strong piece stating that Watson was innocent. It's interesting to reread now that Watson is off the hook ([www.undercurrent.org/UCnow/dive\\_magazine/2011](http://www.undercurrent.org/UCnow/dive_magazine/2011)).

## Solmar V, Baja California

Diving (experienced)	★★★★★
Diving (beginner)	★
Snorkelling	★
Accommodations	★★★
Food	★★★★★
Service and Attitude	★★★★★
Money's Worth	★★★★

★ = poor      ★★★★★ = excellent

*World Scale*

manta encounters, Daniel coaxed an octopus from its crevice (this is all rocky bottom diving without coral) and pointed out the small stuff and other things I would have otherwise missed, like a couple of Galapagos sharks. Poor visibility aside, it was an exciting dive and a great opportunity for photography and videography, but 22 divers plus three divemasters on the same site at once made it crowded. On the third dive, seven show-off dolphins cavorted at 60 feet. I was so caught up in trying to photograph one that I let it seduce me down to 110 feet, my limit on Nitrox. Dives were generally in the 60- to 90-foot range.

Daniel, David, and Juan inspired great confidence as divemasters. They were friendly, accommodating, knowledgeable, attentive, and happily assisted with equipment problems. David, trained in marine

biology, shared a wealth of information. Chef Tony prepared creative, beautifully presented and remarkably good meals, emphasizing tasty soups, fresh veggies and crisp salads to accompany entrees like filet mignon or grilled fish. Tony saw to it that we divers never went hungry -- a bowl of fresh fruit and baskets of cookies, pretzels, or mixed nuts were always available. Every crewmember pitched in where needed. Even Captain Gerardo often helped to serve the sit-down meals or was at the dive platform to take my fins and help me on board after a dive.

We next headed for Roca Partida, another long run of 9 hours. I awoke Wednesday to the sight of that gigantic split rock covered with snow. What? Oh, wait, it's actually decades of bird droppings splashed on the stunning rock rising from the sea. The day dawned with heavy cloud cover that stayed for the two days we spent there. No mantas at Roca, but I felt like I was swimming in an aquarium. Large black, green and amber jacks; trevally; thousands of Creole fish, parrotfish and trumpetfish; lobster; octopus; spotted boxfish; a school of big tuna whizzing by; and so much more that I couldn't identify. Descending the wall, I came upon crevices in which 30 white-tip sharks snoozed, and then I saw the rest of the shark population -- silver tips, Galapagos, hammerheads and even a couple of silkys. I saw migrating humpback whales breaching the surface, and could hear, but not see, them underwater.

Previously, we had descended stern lines hanging from the boat's swim step to dive, but getting to the Roca Partida wall required travel in two Zodiac pangas, in which crew loaded our gear and cameras. Drivers Geronimo and Luis maneuvered through heavy chop to get us to the right spot, and assisted us in donning our tanks before we backrolled into the water. But 12 divers plus tanks and cameras on a panga struck me as not only overweighted, crowded and difficult, but inconsistent with Solmar V's commitment to safety. Heavy surge and strong currents sprouted divers surfacing with orange safety sausages all over the place. Nevertheless, the highly experienced and competent "pangeros" handled it all affably and drove us without a mishap. Clarion Island was skipped, as it was not offering good diving. So on Friday, we returned to San Benedicto for the first dive at El Canon and the next two back at El Boiler. Better visibility, but just a couple of mantas. Between dives, Geronimo offered a panga ride to view San Benedicto up close and see the arches and rock formations sculpted by the sea. For the final dive, the crew decided to try Cape Fear, but the current was so strong they couldn't secure the anchor lines. Jose Luis and Captain Gerardo pulled the plug as it was way too dangerous to put divers in the water, so we went back to El Boiler to finish up. Nobody complained.

Late that afternoon, we started the 24-hour run back to Cabo San Lucas (another smooth one), where I said goodbye to a wonderful crew and my fellow divers. I've been on luxury dive boats where the last dinner is not included, the last breakfast is sparse and the crew pretty much ignores passengers after the tips are paid. However,

the meals, service, and attitude never waned on Solmar V, and the crew's attentiveness was top-notch right up to the moment I disembarked.

Despite less than ideal visibility, strong surge and raging currents (you need to be an experienced diver in these waters), the diving was spectacular for the most part. I was impressed that every crewmember went out of his way to be helpful and see to it that we had the best diving possible. I was fed well, enjoyed lounging on the sundeck between dives, and slept in a comfortable bunk. In retrospect, the tight cabin, deck towel fiasco, overcrowded pangas and the few other inconveniences seem minor, especially in light of the world-class diving.

-- S.M.



**Divers Compass:** A superior cabin on Solmar V costs \$3,299 (standard cabins are \$100 less) for five days of diving on a nine-day trip, with a total of 19 dives, including the checkout; a 10 percent discount is offered to return guests . . . All meals, snacks, and alcoholic drinks are included; airport transfers and a \$15 chamber donation are extra . . . It's cash only, as the boat does not accept credit cards; a professional trip video was offered for \$85, payable directly to videographer Adil, who only accepted credit cards . . . It's easy to get to Cabo San Lucas from just about anywhere, as it is served by multiple

airlines, including Alaska, United, American, Delta, Mexicana and Aero Mexico . . .

Website: [www.solmarv.com](http://www.solmarv.com)

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## Kerama Islands, Japan

### *exotic, challenging dives between Okinawa and Taiwan*

From time to time, we get such unique reports from readers, we feel compelled to share them with you, recognizing that few divers -- and that includes me -- will ever travel there. However, diving in southern Japan is intriguing, and even more so when we read what our undercover reporter, who has been just about everywhere, has to say.

-- Ben Davison

Dear Fellow Diver:

It was my second trip diving on the island of Zamami last September, and I was just as impressed this time as last. After a high-speed ferry from Okinawa, 25 miles away, my buddy and I were greeted by Momo, premier divemaster at Heartland Dive Shop. Dive sites were selected based on the currents and waves, so we had easy diving with 150-foot visibility and no current in 81-degree water.

The checkout dive was not ho-hum, as the first thing I saw was a rockmover wrasse in hunting mode, and a baby wrasse measuring a quarter-inch erratically skirting along in the sand. Too early for the humpback whales to return to these waters to give birth, but Zamami's undersea world was still alive with colorful fish, although no big ones. Sleeping black-headed sea snakes could be awoken from their communal slumber with a gentle tail tweak, and the golden cuttlefish languidly posed while we took in its nuances. On the same dive, a group of squid treated us to their color transformations. Brilliant blue and red 15-inch sea stars could be seen on all dives, but the one that most captured my attention was a quarter-inch-long red miniature. Three feet away, an



Sa-Wes Diving's boat in Yonaguni Island



inch-long cryptic comet star hung from coral by a "thread." Juvenile three-spot dascyllus darted about with the half-dozen species of anemonefish. There were many sweetlips, but my favorite was the juvenile many-spotted mimicking a toxic flat worm. There were the usual suspects, seen on most dives in the tropical Pacific, and then the just esoteric enough that I wondered if it were another species.

My dive buddy and I each had our own western-style rooms at the Miyamura Pension. It was super clean, with air conditioning, fridge, and a small balcony to hang stuff to dry. Trying to figure out which was shampoo and which body soap was challenging, as it was written in Kanji. Such language challenges were common

throughout this trip. Within the same block was the restaurant where we were served set meals; sashimi, rice, and soup graced both breakfast and lunch. The dive shop was within steps of the restaurant and hotel. Fresh fruit ices were sold across from the bench where we put on our wetsuits before being driven to the dive boat. After the afternoon dive, I scarfed them down as quickly as their coldness permitted.

A thousand miles southwest from Tokyo, Zamami is part of the Kerama Islands, with a population under 1,000 and a popular destination for Japanese divers. We arrived on the day of the celebration of the Ocean God. Although I had no sake as a gift for the Shrine, I eagerly went with Momo, joining the entire community as they told stories, and the elders sang traditional songs and danced. Each guest was given fried fish, fruit, and rice; beer was plentiful. The community caught 750 fish the day before, and the old women fried it (one reason for the scarcity of big fish). Japan is a very homogeneous society, with very few foreigners. However, visitors will be pleasantly surprised that many places in tourist areas will have signs in English, and there is always someone who knows enough English to help you find your way. My dive buddy and I were on our own, with only a dozen Japanese words between us, but we did fine.

The next destination was Yonaguni, the furthest island of the Kerama Islands and only 60 miles from Taiwan. One ferry ride and two flights later, we arrived, were served lunch by Sa-Wes Diving in its hotel's dining room, and then were quickly on the 60-foot dive boat with twin 320hp engines for two afternoon dives. High waves were rolling from a couple of directions, current was strong and the surge nothing to snicker at. But I came here to see the Yonaguni Monument -- an underwater rock formation that no one is sure if it's natural or man-made -- and that I did, but not without doing exhausting dives. Before coming here, one should have dozens of dives in strong three-knot-plus currents,

## Thumbs Down: DiveNav's Fake Nitrox Class

Nitrox certification is a snap. I can't imagine than anyone has ever failed a course. But now comes along a group called DiveNav. Its email advertising says, "You probably heard about nitrox during your OW course, but are a bit concerned that a nitrox class may be too difficult for you. We are here to help!"

Its "Introduction to Nitrox" online class teaches "everything you need to know about nitrox ... physical and physiological aspects of diving nitrox ... the important limits of nitrox ... how to determine the best gas mix ... the use of nitrox tables and how to calculate oxygen exposure limits ... how to analyze the content of a nitrox tank ... the class includes both quizzes and a final test. All of this for just \$4.99 ... Complete the class, then visit your dive store, easily pass their agency-provided nitrox course, get a nitrox certification card and then .....become a Nitrox Diver!"

Take this course and exam for pretend, then do it all over again for real?

and experience with big surge. Equally important is being fit. I used every bit of my energy and skills, and I enjoyed every moment. Unfortunately, my dive buddy did not fare as well -- her poor fitness level contributed to her missing half the dives.

The next day, I was the only diver on the boat for two very tough dives. The divemaster spoke little English -- my instructions were, "Go to 80 feet and hold on." When I spotted him underwater, he was 20 feet ahead of me, finning hard into the strong current. I found myself with nothing to hold onto until huge slabs of bedrock at 104 feet. After two athletic dives at 100-plus feet, I called uncle before a third, not wanting to take a chance of DCS.

Still, those two days of diving were awe-inspiring. Some people think the Yonaguni Monument is an artificial, or artificially modified, structure built 2,500 years ago. Is it a lost city? I came to Yonaguni a doubter and left a believer. What convinced me were the sculpted "pyramid" stairs, steps leading up from a confined passageway, hieroglyphic-type writings on the walls which looked hand-hewn and very similar to other ancient writings I saw on an island stone. As I looked at the cliff walls, it was easy to imagine faces, similar to Mt. Rushmore. One in particular had eyes that contained pupils. The archway was impressive, as were the huge booms from waves hitting the rocks above. Interesting photos are at [www.pbase.com/the\\_underwater\\_world/yonaguni](http://www.pbase.com/the_underwater_world/yonaguni).

I can well imagine Sa-Wes Diving founder Kihachiro Aratake's amazement in 1985 when he came upon these ruins while looking for dive sites. I was fortunate to have him serve as boat captain, and I got a first-class tour with my 11 dives. A young Japanese couple on board with me had just finished their Advanced certification, so Aratake found less turbulent dive sites for the next two days, with almost no current in the 83-degree water. Instead of the current-polished bedrock, I was treated to total bommie coral coverage with many colorful tropical fish, nudibranchs, tunnels and caverns.

Sa-Wes Diving provided transportation to the dive operation each day, and arranged a horseback-riding tour on indigenous Yonaguni horses and an extensive tour of the island. They had a last-night party that defies description in the variety of sake, excellent wine, and interesting foods prepared by Aratake himself, including pig's tongue and dried squid in threads. All this was accompanied by ingenious karaoke, drumming, and playing of the traditional sanshin, a three-string, banjo-type instrument of the region.

The Ailand Resort, a new, nicely appointed, Western-style hotel, accommodated us very well. It offered large rooms, outdoor pool, bathhouse and a very good buffet restaurant offering a variety of western and Japanese dishes. The sashimi was excellent and fortunately, one of the dozen staff members spoke English very well.

My trip was arranged by Lisa Slater from Open Coast Travel. As a former dive instructor, Lisa spent years diving in Japan, and knows the ins and outs of traveling within the country and the best dive operators to use. It is an expensive trip, but if you are up for something different and diving you will never forget, consider Japan's southern Kerala Islands chain. I've dived all over the world, and consider Zamami and Yonaguni among the top three diving adventures I have had.

## Zamami Island, Japan

Diving ( <i>experienced</i> )	★★★★★
Diving ( <i>beginner</i> )	★★★★
Snorkeling	★★★★
Accommodations	★★★
Food	★★★★1/2
Service and Attitude	★★★★★
Money's Worth	★★★★★

## Yonaguni Island, Japan

Diving ( <i>experienced</i> )	★★★★★
Diving ( <i>beginner</i> )	★★
Snorkeling	★
Accommodations	★★★★1/2
Food	★★★★1/2
Service and Attitude	★★★★★
Money's Worth	★★★★★

★ = poor      ★★★★★ = excellent  
World Scale



**Divers Compass:** A United Airlines flight from Los Angeles to Tokyo's Haneda airport currently averages \$875 . . . My package price of \$4,250 included: round trip flights to Tokyo-Okinawa-Yonaguni; 13 nights' accommodation in Tokyo, Zamami and Yonaguni; ground transfers in Zamami and Yonaguni; eight boat dives in Zamami and 11 boat dives in Yonaguni; and tanks, weights, and surcharges . . . Breakfast and dinner were included in Zamami; in Yonaguni, breakfast was included at the resort, lunch provided by Sa-Wes Diving, and dinner was on our own, as were meals in Tokyo . . . Getting to the ferry from the Okinawa

airport and round-trip ferry rides to Zamami was out-of-pocket . . . Food everywhere was excellent, but you have to like fresh fish and sashimi to appreciate it; alternatives were available, however . . . It is not custom to tip in Japan; instead, I honored their omiyage tradition of gifts, and they reciprocate -- a great system . . . To book a similar trip, I recommend Lisa at Open Coast Travel ([www.opencoasttravel.com](http://www.opencoasttravel.com))

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## Cape Eleuthera, Fiji, Maui, Mexico

### *two more Baja boats, a new dive shop, and a great night dive*

**Two Other Baja California Boats.** In addition to our opening story about a trip aboard the *Solmar V* to the Revillagigedos, we must mention the *Nautilus Explorer*, another excellent craft that dives there, which subscriber Michael J. Millet (Dublin, CA) took in January. With more than 1,000 dives under his belt, his reports can be counted on. "This was my fifth trip aboard, but it began a bit dicey. One of the diesel engines was in need of repair, and the boat was having difficulty getting the necessary parts. So on the first day, we did a couple of dives in local waters near Cabo San Lucas. It was cold and dark -- not an uplifting experience. Fortunately, the engine was repaired by the next morning and we headed out. We spent one day diving at the Boiler at San Benedicto Island, an awesome location for mantas. We encountered several on most dives, including large black mantas. The water seemed a bit colder this year, between 70 and 73 degrees, and the visibility has been better on past trips. The next day was spent at Socorro Island with three dives at Cabo Pearce; we didn't get to Punta Tosca for some reason. More close encounters with mantas and a brief encounter with dolphins; lots of octopus. Visibility ranged from 25 to 75 feet. The next two days were spent at Roca Partida, known for its shark encounters -- hammerheads, silvertips, whitetips, Galapagos, dusky, silky. Visibility was much better. The last day was spent back at San Benedicto. We attempted to dive the Canyon but the current was too strong, so we enjoyed the mantas at the Boiler for a second day. I am pleased with the service and the diving offered by the *Explorer*, however, the camera table needs to be expanded, and I thought the food did not have the variety as in past trips. Nevertheless, I will probably make a sixth trip." ([www.nautilusexplorer.com](http://www.nautilusexplorer.com))

The *Rocio del Mar* is another craft that makes the trip and, like the *Nautilus Explorer*, travels the Sea of Cortez in the summer. David J. Inman (Devon, PA) was aboard in November and reports, "Our group traveled from Punto Punasco to Cabo San Lucas, cruising 800 miles down the Baja peninsula and making 25 dives along the way. Conditions varied greatly in terms of water temperature, current and visibility. The northern areas were generally cooler than the southern areas in terms of water temperature. A 5-mm suit and full hood kept me comfortable the entire time. The boat is sturdy, roomy and well appointed. *Rocio del Mar* is owned by a family, not a corporation, and most of the current crew were involved in the boat construction. The staff is very responsive to suggestions by guests, and many changes have been made to the boat since I sailed with them just a year ago. A rebuilt camera table on the dive deck is roomy and well appointed. Laptop stations in the lounge are quite nice for uploading and working on photos." ([www.rociodelmarliveaboard.com](http://www.rociodelmarliveaboard.com))

**Cape Eleuthera Divers.** While the water in the Bahamas can be downright chilly this time of year, it gets warm later on, and there is one great dive, the Current Cut, that I'll always remember. Peter Formanek (Scarsdale, NY) was at the Cape Eleuthera Resort & Yacht Club in November in nice 80-degree water, and says, "Best dive of my life: a half-mile drift dive at 75 feet, awesome wall, great visibility, awesome guide, huge coral heads, and awesome night skies for stargazing. The unique location supplies calm diving even when winds are 20 mp.h. or more. Neal Watson Jr. is the son of Neal Watson in Bimini, and he is the real deal. Picks you up right at your luxury condo dock. Dozens of solid dive sites are a short boat ride away. Stop at Rock Sound grocery store and stock up on food. The resort has new full kitchens, phenomenal ambiance for divers, and a great setting for non-divers, too. A very good value and experience." ([www.capeeleuthera.com](http://www.capeeleuthera.com))

**Wananavu Beach Resort, Fiji.** Divers who have come to love this resort were concerned when Ra Divers pulled out, but our readers report it's as good as ever. John Bayless (Malibu, CA) visited in November and reports, "The resort is an interesting two-and-a-half hour ride by van from Nadi's airport and located far from any significant towns. It consists of 34 very nice bures built on the side of a hill looking out on the surrounding islands. The grounds are lush with many palm trees, and there is a nice tidal beach. The staff is friendly, helpful and knowledgeable. Jeremy and Kristen David expertly manage the Reef Safari dive operation. A couple we were traveling with completed their openwater certification with Kristen; I have never seen a more thorough and attentive instructor. The dive staff was quite friendly and capable, and divemasters were good at pointing out many of the critters we might have missed. They take care of everyone's gear from the time you arrive until you leave. The diving is some of the best I've encountered in Fiji, with wonderful, densely packed soft and hard coral reefs in excellent condition. The access to the Vuta-I-Ra Passage is what attracted my interest. Some of the most interesting reefs in this area are about an hour's boat ride east. Although we were limited to two days in this area because of rough seas, what we saw was outstanding. Although I saw few large fish or sharks, others at the resort had swum with whales and dolphins on the two days before we arrived. On the first day of diving, or when rough seas prevent access to Vuta-I-Ra, the dive boats go to Sailstone Reef, 30 minutes northwest of the resort. Very impressive reef formations, many swimthroughs, and many interesting life forms, including Spanish dancers, cauliflower soft coral, leaf scorpionfish, and blue dragon nudibranchs. The resort is well

## A Trip Insurance Update

In our January issue, we did a story on travel insurance, and how it's wise to research visas, fees and travel issues with your travel supplier, because you may not be covered if that supplier makes a mistake that affects your travel plans. That's what happened to reader Jonathan Blake (La Verne, CA), who wrote how he missed his Andaman Islands liveaboard trip because his travel agency didn't know the visa requirements, and TravelGuard wouldn't refund him his plane ticket because it was a documentation error on the travel agency's part (read the full story at [www.undercurrent.org/UCnow/dive\\_magazine/2012](http://www.undercurrent.org/UCnow/dive_magazine/2012)).

In the February issue, another reader suggested that he file a case in small claims court to get reimbursed. Here is Blake's reply:

"I did take the airlines (Thai Air), the travel agent (Classic Blue Water Destinations in San Jose, CA) and

TravelGuard to small claims court. After hearing my story, the judge commented that he did not understand why this case did not end up on *Judge Judy*. He ruled in my favor for all travel expenses against the airline and the travel agent. But because no claim reimbursement was necessary, nothing against Travel Guard (although their flimsy excuse of it being a "document" issue and not a travel interruption is still dubious to me).

"Worldwide Dive and Sail was most gracious in helping me when I was stuck in Bangkok. They offered me local diving, a rebooking of the trip or a selection of another of their dive destinations when they could have easily said it was not their problem.

"Please remind readers when buying travel insurance that they can buy an "annual" coverage package. That means no matter how many dive trips you make in one year, you are covered up to the limit of your policy. No need to buy insurance for every trip, if they're taken in one year."

set up for beach snorkeling and diving, which can be very nice although the visibility is not as good as on the outlying reefs. The restaurant has a wonderful view and serves many fine dishes to the accompaniment of local musicians.” ([www.wananavu.com](http://www.wananavu.com))

**Divers versus Fisherman.** Mario Mizrahi from Mexico City tells us, “Every winter in Playa del Carmen (a 30-minute ferry ride across the channel from Cozumel), pregnant female bull sharks arrive, most likely to give birth. As soon as dive operators start seeing them close to shore, a big happening starts, with divers passing the word and flocking to get a look at this occurrence. I take a small boat with Scuba Playa 200 meters from shore to get into the water with a group. Previously, the dive operators have fed fish to the sharks to keep them interested. As soon as we jump into the water, we start seeing them. Depending on your luck, up to 12 can appear at a time, and sometimes they will swim very close (watch my video on YouTube by searching for “Mario Mizrahi Bull Sharks”). The depth will vary from 70 to 90 feet. I did this two days in a row last December and saw eight sharks, plus remoras and a turtle. The sad part that upon hearing of the sharks, fishermen from nearby Puerto Morelos arrive promptly to fish them out and sell them at market. Authorities have been powerless to stop them and thus the story ends every year, until they’ll come no more.” ([www.divingplayadelcarmen.com](http://www.divingplayadelcarmen.com))

**Maui Night Dive.** Perhaps the first commercial dive spot in Maui during the 60s was Black Rock, by the Sheraton. Lynda Durfee (Alexandria, VA) says it’s still a winner. “This was a shore dive, max depth about 40 feet. I saw turtles, lobster, crabs, lots of big eels swimming and feeding, nudis and small fish. Easy entry from the Sheraton’s dive shop at the Sheraton. Rob, our guide, knew where the critters were and pointed them out after giving us a heads-up in the briefing about what to expect. The \$99 dive includes all gear and wetsuit. I did this during the full moon, so maybe that’s why it was even better than last year’s dive.” ([www.sheraton-maui.com](http://www.sheraton-maui.com))

-- Ben Davison

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## The “Discover Scuba Diving” Programs

*here’s where the deaths happen*

Recently, there has been a furor within certain segments of the diving industry over issues of dive safety and what direction the incident and fatality rate has been moving. Is diving getting safer? Or more dangerous? The answers depend on whom you ask and what stake they have in the industry.

When aging sport divers kick back after a day of diving, it’s not uncommon to discuss the old days, when learning to dive meant a rigorous training course. Resort courses started a trend toward truncated courses, then came the so-called “Discover Scuba Diving” programs, which allowed tourists to try diving before obtaining certification. These programs were developed by Caribbean dive operators who taught only the most basic skills needed to dive briefly under supervision. This “teaser” could serve as the catalyst for further training, equipment sales and repeat customers. When launched initially, little attention was paid by the fledgling diving industry, leaving the Caribbean operators to shepherd the programs independently. In essence, they were neither endorsed nor legitimized by training agencies or industry leaders, but they flourished anyway.

Bret Gilliam, who founded the dive agencies TDI and SDI and also served as chairman of the board for NAUI, told *Undercurrent*, “In St. Croix in the early 1970s, it seemed that every beach bar or hotel property had some rudimentary version of the resort course. From my store, we serviced close to 20 hotels, with our staff conducting classes right off their beaches. We probably ran 8,000 to 10,000 people through resort courses annually. Throughout the Caribbean, there were no accidents of any kind except maybe someone stepping on a sea urchin. In the early 1980s, the training agencies decided to codify the programs and extend

insurance coverage. They took our input and left us alone. The problems began with the next generation of diving instructors.”

Herb Farrar, another instructor from that era, notes, “We used to have two or three instructors take as many as 35 students off the beach. They learned to clear their ears and mask, breathe from a regulator, and maybe a few other very basic skills. All this while standing in chest deep water on the sandy bottom. Then we’d swim them into deeper water, usually never more than 20 feet deep. The whole thing lasted about 30 minutes. Never had the slightest problem. But... the instructors of that era were far more professional and aware. Now it’s different.”

By all logic, the safety record should have remained excellent with today’s mandated lower ratios. However, in the last decade, incidents and fatalities have soared, even with student/instructor ratios reduced to four students per instructor. Litigation has also increased, and insurance companies are closely monitoring their exposure due to insurance payouts.

*In the last decade, incidents and fatalities have soared, even with student/instructor ratios reduced to four students per instructor.*

### **A Fatality Case History Examined**

On July 13, 2011, a 12-year-old boy, a 13-year-old boy, and an adult (the father of the 13-year-old) participated in a Discover Scuba Diving program led by a PADI instructor. During the dive, all participants followed a line, first for the descent and then to ascend and return to shore. During the ascent, the adult apparently had buoyancy issues, and began a panicked ascent to the surface. The instructor signaled to the two boys to stay together and hold on to the line while he dealt with the adult. After catching the surfacing adult and getting him under control, the instructor returned to the safety line to find both boys missing. One boy was found safe on the surface, but the other was found unconscious on the bottom and subsequently died. None of the participants’ families will ever forget this event, and all will forever wonder whether there was something more they could have done to prevent this tragedy. And if there are resulting lawsuits, they will be expensive and ugly.

Interviewed about this exact accident, Bahamas-based instructor Chris Hadley says, “My gut tells me the parents of the deceased 12-year-old -- and their lawyer -- are going to suggest that the odds were unacceptable, and they are going to try to get someone to pay for setting up those odds in the first place. If that is the case, whom should they be pursuing? The instructor who followed all of the standards provided by his training agency, or the agency that created the standards and advertised them as being safe? I’ll bet you can guess my answer.”

Michele deSouttaine, a French citizen living in St. Barts, believes that what worked in the past when instructors were better trained and more experienced will not work today. “I have been an active instructor since 1975. I have taught junior programs and dozens of introductory programs for children. After seeing the problems encountered by adults in regular openwater classes, I cannot believe that it is safe to take a child -- or anyone, for that matter -- into open water as part of a larger group after only a brief orientation to diving. Those who developed this particular modern program advertise ‘direct’ supervision with a 4:1 participant-to-instructor ratio, but they do not discuss what happens to their ‘direct’ supervision if one of the participants has a problem.

“There was direct supervision in this case, until someone had a problem the instructor had to deal with. At that point, ‘direct’ supervision of all the participants was simply impossible. How could those who developed this program not see that obvious flaw?”

### **Ratios Went Down, Deaths Went Up**

Ratios did change (from 6:1 to 4:1 around 2001), and then came an amendment that prevented the guiding instructor from taking photos while supervising his 4:1 participants. How obvious is that?

Regardless, the so-called Discover Scuba Diving programs (DSD) are still the most dangerous of diving programs. PADI's Drew Richardson provided an overview of his agency's accident data at the 2010 Diving Fatality Workshop held by Divers Alert Network. Prior to 2001, when it had a 6:1 instructor/student ratio, the Discover Diving program was more than six times as dangerous as entry-level training. Today, with a 4:1 ratio, it is at least twice as dangerous.

Another number that is a little disconcerting is the 36 DSD fatalities that occurred from 1992 to 2008. This is the program that is offered to the public -- individuals, families and children who are typically on holiday -- and these fatalities have occurred under "direct supervision." Most agencies have a minimum age of 10 years in place for participants, but others allow even younger children.

"Direct supervision" is likely one of the issues that will be debated because of this

incident. As deSouttaine reflects, "What do you think that term means? I think it should be defined as 'close enough to offer assistance' in the event of any difficulty. In many cases, problems have arisen when one participant has an issue (buoyancy, mask flooding, panic, etc.) and the instructor ends up focusing on that individual instead of the overall group. The unfortunate reality is that any other participant who develops his or her own problem after the instructor's attention is diverted is actually left alone. There is no 'direct supervision' and there is simply nobody there to help."

Peter Meyer, vice president at insurance firm Willis Canada, which insures a significant market share of diving entities in North America, says, "I have serious concerns about how fast things go downhill once a student has a problem. And even with a low student/instructor ratio that sounds good on paper, once separation occurs, there will be some students left completely alone. That's when the accidents happen. We didn't see these problems years ago, but now it happens routinely. The standard needs to change to require that at least two instructors are in the water with any group."

Gilliam shares Meyer's concerns. "There is no easy answer, but mandating two instructors is obviously needed. Forty years ago, when we conducted resort course programs, we used very high ratios. But we had other protocols that tended to mitigate risk. All skills were taught in shallow water, and there were at least two, sometimes more, instructors in the water. This way, if someone had a problem, another instructor could take over the remainder of the group, and the nearest instructor took control over the problem student. And all activity ceased until the problem was solved or the student was removed from the water.

"Also -- and no one likes to talk about this today -- the instructor of that era was a genuine professional. They typically worked in diving seven days a week, full-time, year-round. They made a good living at it, owned homes, saved money and pursued this vocation as a career path. They also tended to have far greater 'situational awareness' about initial signs of stress or when students were going to have problems. They expected the worst, and were prepared mentally and physically to deal with that as a matter of routine. Today, we see instructors who are less experienced and not conditioned to expect contingencies. That is a failure in the system that has to be corrected."

## Historic Fatality Ratio in Training (fatalities per 100,000 dives)

Program	1989-1998	1999-2008	Average
Entry Level	0.341	0.415	0.378
Advanced Openwater	0.74	0.589	0.6645
Discover Scuba Diving*	2.898	1.14	2.019
Rescue Diver	0.143	0.091	0.117
Specialites (deep, night)	0.287	0.82	0.5535
Divemaster	1.016	0.031	0.5235

\*ratio was reduced from 6:1 to 4:1 in 2001

In the case above, all three participants were under “direct supervision” until one of them had a problem. Then there were two participants with no supervision at all, and one of them died. Had the remaining two divers been under “direct supervision,” it is very likely that whatever occurrence caused them to leave the safety line could have been prevented. Consequently, if you must have direct supervision to provide safety with respect to DSD participants, then you should have a one-to-one ratio. Those who place statistics above moral common sense would argue that the odds of more than one participant having a problem at any one time are huge, but that is exactly what happened in this current incident and others before.

A similar case involved Ann Jordan, an adult on a DSD dive in Hawaii a few years ago. There were two participants being supervised by a divemaster, and one of them surfaced with the divemaster due to some difficulties. This left Jordan, as the second diver, on the bottom. Jordan made it to the surface by herself, but she then sank and subsequently died.

### How to Improve “Direct Supervision”

All interviewed say that when more than one instructor is involved, the ratio could be expanded because a contingency for direct supervision would then exist. Gilliam concludes, “What we’re really talking about has now gone full circle back to the 1970s. We used multiple instructors for precisely those reasons. We never wanted one instructor to be forced to decide who to save -- and who might be left alone. In those days, there was no agency telling us what to do, and we had no insurance coverage. So we proactively put our best effort forward based on our daily first-hand experience. It worked. I’m not aware of a single fatality -- ever -- anywhere in the Caribbean from the late 1960s until the modern era in the 1980s.”

As Gilliam implies, this is not about ratios, but about “direct supervision.” PADI and other agencies clearly recognize that it’s the key, but then they have created ratios that defy the ability to provide that required level of supervision when an issue develops. As per the above examples, a one-to-one ratio would

## Flying After Diving: A Threat Worse than the Bends

In an earlier issue of *Undercurrent*, I commented on the death of a healthy 28-year-old woman who, following a dive trip to Australia, died from a deep vein thrombosis (DVT) during her long return flight. DVT, an inactivity-related blood clot in the deep veins of the calf or the thigh that works its way to the lungs or heart, can be caused by sitting in the cramped seat of a plane for an extended period. Among the signs of DVT are calf pain upon extension of the foot, redness and hardness at the site of the clot, and swelling of the lower extremity.

The February issue of *Chest*, the journal of the American College of Chest Physicians (ACCP), contains an article that revisits DVT and makes revised recommendations for prevention. The authors suggest that the common usage of the term “economy-class syndrome” to describe this condition is inaccurate, as there is no definitive evidence to support that simply traveling in economy class can lead to the malady. Evidence does, however, support the danger of remaining immobile for long periods of time, no matter which class of seat you are flying.

The article also indicates that while flying-related DVT is quite unlikely in the healthy traveler, odds of an event are increased by a history of previous DVT, malignant cancer, recent surgery or trauma, advanced age, use of estrogen or oral contraceptives, pregnancy, obesity, immobility and sitting in a window seat (most likely because you don’t get up as often).

In terms of prevention, keeping the legs active tops the list. On flights of six hours or more, the ACCP recommends that individuals who have an increased risk for DVT frequently stretch their calf muscle and walk around, sit in an aisle seat if possible, and hydrate regularly. Also recommended are below-the-knee graduated compression stockings. Aspirin or more powerful anticoagulants may be prescribed for flyers at significant risk. The ACCP does not recommend compression hose, aspirin or other anticoagulants for those who do not have one or more of the above risk factors.

For those of us who enjoy an alcohol beverage while flying, happily the article notes that the evidence does not support a recommendation of abstinence.

-- Doc Vikingo

“New DVT Guidelines: No Evidence to Support ‘Economy-Class Syndrome,’” *Chest*, February 2012, volume 141.

obviously work. But it also seems quite clear that other ratios would also work for larger groups. Four students with two instructors, six students with three instructors, or another combination would work just as well, as long as there is still direct supervision available for all participants if the primary instructor becomes occupied with a student problem that manifests suddenly.

Underlying all this is simple economics. It costs good money to put one or more additional instructors in the water, and getting small groups to pony up may be extremely difficult. For small shops, maintaining direct supervision may not be economically viable. The only question is, whether failing to maintain direct supervision is morally viable, given the rate of fatalities. That kind of assessment is required as the industry considers what acceptable risk is for programs to attract new candidates for training -- and to keep the industry alive.

-- Ben Davison

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## A Shock to Divers' Hearts

### *can portable defibrillators lower heart-related dive deaths?*

Jan Raczycski was diving the *James C. King* in Ontario's Fathom Five National Marine Park last July, when he became distressed 90 feet down. Pulled from the water, other divers tried to save him with CPR on the charter dive boat (there was no divemaster) and back on land, but their efforts were no use. Raczycski, 49, died, and the coroner said a pre-existing heart condition likely caused it.

The calamity reveals how self-reliant divers are expected to be, and that when things go wrong on a dive, it's up to the dive buddy and any others to attempt a rescue, regardless of their ability or experience. Also, the Baby Boomer generation that popularized scuba diving is aging, and that increases health risks during dives. According to Divers Alert Network (DAN), at least one quarter of the 80 to 90 diver fatalities in North America annually are attributed to heart problems.

George Harpur, medical director of the Tobermory Hyperbaric Facility and the coroner who pronounced Raczycski's death, said fitness to dive has been a problem for the past decade due to divers' increasing average age. The mean age of the nearly 250,000 North American DAN members is in the mid-40s. "One of the biggest differences we see now is that a number of deaths aren't essentially diving deaths - - faults related to diving technique - - they're often deaths *while* diving, because the demographics of divers has changed," Harpur says. Also, they're wealthier now and can purchase gear that lets them do riskier things.

Great strides have been made in equipment and training to reduce diving fatalities from the peak level in the mid-1970s, when 150 deaths occurred. But Harpur said there are two big threats for more divers now. One is cardiac dysrhythmia, where the heart gets out of rhythm. The other is pulmonary edema of immersion, where the force of water's pressure and coldness on divers causes fluid to accumulate in the heart and lungs, forcing both to work harder.

But perhaps Raczycski's death, and those of other divers with heart-related issues, could have been prevented. Given that heart problems are a significant cause of death in diving, having portable heart defibrillators, which automatically reset the heart, on board might be a good idea.

The automated external defibrillator (AED) has recently become an important medical tool. Trained non-medical personnel can use these simplified electronic machines to treat a person in cardiac arrest. The AED guides the user through the process by audible or visual prompts without requiring any discretion or judgment. The American Heart Association states that at least 20,000 lives could be saved annually by prompt use of AEDs. Once priced at \$3,000, AEDs are now priced at under \$1,000 for small office or home use.

Advocates are pushing for AEDs to be placed in public spaces like stadiums, malls, airports and casinos. And state legislatures are getting actively involved, passing laws to encourage broader availability of AEDs.

For divers, the question is should dive boats carry AEDs, or even have medical oxygen aboard? The devices are recommended by DAN, and they're on Coast Guard vessels in the U.S. and Canada (one was used in the unsuccessful effort to save Raczycki when the Coast Guard arrived).

Defibrillators don't seem to be carried on Indonesia-based liveaboards. Travel booker Liveaboards-Indonesia states that none of the boats it represents - including the luxury boats *Seven Seas*, *Seahorse* and *MSY Damai* - have them on board. When we contacted those boats, they didn't reply. Clay McCardell, president of the U.S.-owned Explorer Ventures, says his liveaboard fleet has had AEDs for the past four years, and crew are trained to use them, but they have thankfully not yet needed to use them.

Peter Hughes, a liveaboard fleet veteran who is now running the *M/V Galapagos Sky*, says the same thing, but he questions the validity of an AED as a cure-all. "Dive boat operations and circumstances are different, depending on many variables, not least the difference between a day boat and a liveaboard dive boat. The *M/V Galapagos Sky*, like all Galapagos liveaboards, conducts 100 percent of its diving activities from small, inflatable pangas. There is no safe, secure, dry storage easily available aboard the pangas, so our AED is stored safely and under the watchful eye of our captain -- on the bridge of the liveaboard! In the event of an incident where the AED might 'save a life,' the incident will likely happen while diving or on the surface after diving waiting for pick up. This means getting the patient to the AED will take some time - - getting the diver aboard the panga, figuring out what to do with the other seven divers, transporting the diver to the mother ship and using the AED as required. The time lapse and moving the diver from panga to liveaboard takes time, and creates hardship for the patient. So the question about whether portable AEDs should be common on dive boats is not easy to answer with a simple yes or no."

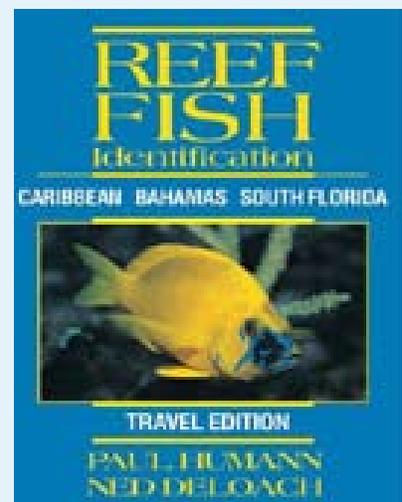
Then there's the matter of training. Non-medical personnel can be trained to use AEDs, but some experts wonder whether these devices that were used only in hospitals till a few years ago are simplified enough, or training is extensive enough. Richard Page, a cardiologist and heart-rhythm specialist, believes they are. He cites a study recently published in the journal *Circulation*. Investigators in Seattle did a small study with both paramedics and sixth graders using AEDs to practice saving lives of mannequins. The

## A New Travel-Friendly Fish ID Book for Caribbean Dive Trips

Today's airline weight restrictions not only limit the amount of dive gear and cameras you can pack for overseas trips, but also those valuable prized marine life identification books. And with spotty Internet access overseas, it's not like you can look a critter or fish up easily online. For the divers who still want a book in their hands post-dive to look up the fishes they encounter, Paul Humann and Ned DeLoach are offering the travel edition of *Reef Fish Identification: Caribbean, Bahamas, South Florida*. It's lightweight enough to throw in your carry-on but rugged enough to withstand frequent saltwater washings on board.

The Travel Edition is the companion to the classic reference *Reef Fish Identification: Florida, Caribbean and Bahamas*. The 132-page, spiral-bound travel book details 281 fish species with 560 brilliant identification photographs in a six- by nine-inch format. Durable, waterproof and tear-proof PVC covers allow for a quick, wet-handed search of species, including their common, scientific and family names, descriptions, identification markings, preferred habitat and the animal's range. Where necessary, multiple photographs display juveniles as well as common color phases.

The list price is \$30. Go to [www.undercurrent.org](http://www.undercurrent.org) and click on "Books" to buy it at Amazon, and our cut of the proceeds goes toward saving the reefs.



sixth graders delivered a shock in 92 seconds, while the paramedics accomplished it in 60 seconds. "So it is better to be trained, but almost anyone can figure out how to use an AED," says Page.

Bret Gilliam, a licensed maritime captain, dive professional for more than 40 years and *Undercurrent* contributor, says the use of AEDs should be standard practice on all dive boats, whether large liveaboards or smaller day boats. "They are affordable, and training is simple. Just like having oxygen aboard was initially resisted by some, the use of such gases for decompression sickness and embolism in the field is a primary tool in first response. Indeed, 100-percent oxygen breathing is such an effective aid that patients can recover from DCS without recompression. In 2005, I treated an embolism victim who was initially unresponsive with positive-pressure, 100-percent oxygen while evacuating from Cocos Island to Panama. We could not recompress an unconscious patient in the water, so heading for Panama 36 hours away and flooding her with oxygen was the only treatment, along with IV fluids. She fully recovered. AED units are the next evolution. All operators should embrace them."

Still, time is of the essence. Every minute that passes without treatment reduces one's chances of survival by 7 to 10 percent, the American Heart Association reports. And as Hughes states above, multiple minutes can pass between getting a distressed diver from the dive site back to the boat where the AED is located.

Gilliam says, "Peter Hughes notes that he has to store his unit aboard the main vessel and that this could be a factor due to delay. The unit needs to remain plugged into its charging station to be ready at any time. But it can be scrambled quickly to a panga via a stand-by inflatable, or the victim can be brought back and the unit could be waiting and used immediately. The timeframes will usually work. AEDs are invaluable in the field, and can mean the difference between life and death. I urge all of my consulting clients worldwide to have these aboard, and for every crew member to be trained in their use with regular safety drills for contingencies of all sorts."

The rate of diving deaths isn't comparable to what's going on in other sports, says DAN research director Petar DeNoble. He says that in jogging, there are an estimated 13 sudden cardiac deaths per 100,000 participants, compared to nine per 100,000 divers in recreational scuba. And 90 DAN member deaths every year "isn't necessarily a crisis in the sport." But, he adds, "Joggers jog year-round, and divers dive 20 days per year . . . You still have to admit that for the exposure, the risk in diving is definitely greater than in jogging."

While the merits of AEDs are not specific to the dive industry, neither is heart disease - - and its risks. While DAN supports the availability and training of AEDs, their effectiveness must be kept in perspective, says spokesperson Christine McKittrick. "While their use can prove instrumental, they cannot cure underlying heart disease."

DAN is trying to reduce the risk of cardiac-related dive deaths by doing a survey to determine if members should be required to undergo annual medical exams to qualify for its medical liability insurance. Survey results should be ready this spring.

-- Vanessa Richardson

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## When Crew Disrespects Your Gear

### *what to do when your equipment gets broken or lost*

What do you do when dive operators mishandle your dive gear, *Undercurrent* subscriber Harley Piltingsurd (Cincinnati, OH) asked. "I have had several instances of my equipment being damaged by live-aboard crews. All of these have been when they throw equipment (tanks, with BCs and regulators attached)

into a pile while picking up divers in pangas at the end of dives. I have had second stages crushed, compasses broken, etc. The dive operators don't seem to take any responsibility for this, yet you can't dive without putting your equipment in their hands."

In our monthly e-newsletter, we asked other readers if they've had similar experiences. Most said their dive gear went through crew hands in good shape, but some had mishaps and felt unjustly treated, like Ruth Lindner (New York, NY). "I was on a liveaboard in Raja Ampat, and had an Oceanic computer connected to the air supply with a quick release. Before the dive, I turned the air on and checked that the computer was secure. When I got to the inflatable, the crew said the computer was missing and that it had fallen into the water, about 300 feet deep at that spot. They gave me a loaner computer, and when it came to settling the bill, I negotiated free nitrox, because I knew the cruise director could not refund money, and I didn't want to take a chance with waiting and trying to negotiate with the boat owners. The computer was a year old and cost \$600. I suspect the crew turned off the air and then accidentally banged the computer, disengaging the air lock. But I couldn't prove it."

If you experience something similar, how should you handle the matter and prove the damaged gear was their fault, not yours? We asked our dive gear expert, John Bantin, for his advice.

"When we travel to countries where the level of education may be lower than the country we live in, it's up to us to do our best to guide and educate those we come into contact with. I have found that young crew members in the Third World are ready to soak up information like a sponge, and it's always a pleasure to help them do a good job. Therefore, I take it upon myself to tell people in advance things like, 'Don't pick up my rig by the wireless transmitter for the computer, please fold my regulators inside my BC, please don't put my camera housing down near the gas tank of the boat, etc.' Just assuming that everything is okay is a mistake.

"Americans live in a litigious society where it is always someone else's fault. I live in a different world where you must act defensively to survive. If you don't trust how the gear is carried aboard, do it yourself. This attitude has meant I have had nothing broken, apart from when the dome port fell off my Subal housing just as it was passed to me in the water. I now take my camera in myself."

Melina Piekarski (Pasco, WA) has a similar philosophy. "After one mishap years ago, I decided to take the proactive approach, and it has worked like a dream. Before the first dive, I introduce myself and tell the divemaster and crew I will take care of them if they take care of my gear and me. So in a nutshell, their tip will be a direct reflection of how they treat my gear and me. However, I will say that other than retrieving my gear after a dive (I have a bad back, and remove my BC in the water at the end of a dive), they are not allowed to touch it. I don't let them put my gear together or switch my tanks between dives."

Other readers who had gear damaged or lost on their trip report good experiences with reimbursement from liveaboard crew and management. While Jim Jenkins (San Francisco, CA) was on a trip on the *Atlantis Azores*, one dinghy with eight divers' gear turned over while the boat was underway to the next dive site. "The Zodiacs were tied to the sides of the liveaboard. The captain immediately assured all the guests involved that Atlantis would replace their gear or reimburse them. Amazingly, the crew recovered all but two rigs and the fins, but staff handled the freak event very well."

Sharon Dickinson (Bowling Green, KY) also praises the *Nai'a* for how it handled its clueless dinghy driver. "Perplexed why my tank would not fit into the PVC pipe tank rack when I returned from the dive to the dinghy, the driver repeatedly smashed my second stage with the scuba cylinder, trying to force the tank into the rack. I sat horrified on the edge of the dinghy, screaming, 'Stop!' By the time I jumped up, grabbed my high-pressure hose, with bits of plastic dangling and shattered beneath it, it was too late. Fortunately,

***"I tell divemaster and crew I will take care of them if they take care of their gear and me -- and their tip will be a direct reflection of that."***

he was extremely apologetic; the *Nai'a* took full responsibility, paid me the full amount for my regulator, and gave me use of a Scubapro regulator of similar quality for the duration of my trip."

And stay away of crew who manhandle your gear, as they may also manhandle you, Dickinson adds. "Later on that same Fiji trip, the same dinghy driver, mistaking me for another female diver who needed assistance to get in, grabbed me by the armpits and yanked me belly-side-down over the sunbaked-dry side. My navel ring ripped out completely, and it was excruciating. I did not ask for nor receive compensation for that, but I did get a lovely crescent scar to remind me of diving in Fiji, and I have since abandoned body jewelry. Not a dive gear mishandling, but a diver mishandling, for sure."

- - Vanessa Richardson

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## Flotsam & Jetsam

**Divers, Leave Your Spearguns at Home.** Or place them in your checked luggage, but for God's sake, don't try to bring them on a plane. A passenger flying to Antigua from Newark airport learned that lesson the hard way when a TSA screener discovered a 21-inch speargun and utility knife in his carry-on. The authorities were called in to question the guy, who claimed to be unaware that spearguns were prohibited. It's unknown whether he and his speargun made the flight.

**Speaking of Guns.** An underwater gun is on the Department of Defense's wish list of weapons. Its *Non-Lethal Weapons Reference Book* was leaked online last month by PublicIntelligence.org, and it describes dozens of weapons -- some already in use, others in development or still fantasy. Currently in development is the "Impulse Swimmer Gun," which uses pulsed sound waves to cause "auditory impairment and/or nausea" among divers engaged in "unauthorized underwater activities."

**Another Knock Against Shark Fin Soup.** It's a deadly threat to the human brain. A study in the journal *Marine Drugs* reports high concentrations of the neurotoxin BMAA, linked to Alzheimer's and Lou Gehrig's disease, in shark

fins. University of Miami researchers tested seven species of shark, including blacktip, bull and hammerhead (they clipped tiny fin samples off their living subjects so not to harm them). Says co-author Deborah Mash, "The BMAA concentrations in the samples are a cause of concern, not only in shark fin soup but also in dietary supplements and other forms ingested by humans."

**A Gadget Liveboards Should Carry.** We think they should consider adding night-vision goggles to their search and rescue gear. They worked for the Coast Guard last month while searching for a 46-year-old diver in Hawaii. He went diving with friends in a private boat off Kaena Point around noon on February 19, but got swept away by the current. Thirteen hours later, a Coast Guard helicopter crew using night-vision goggles found him in the dark ocean, in good condition thanks to his drysuit.

**U.S. Sets Catch Limits on Caribbean Fish.** The federal government is now imposing limits on the number of fish that can be caught in the Caribbean waters it controls, saying previous restrictions haven't protected dwindling populations of multiple species. The new limits cover waters off Puerto Rico and the U.S. Virgin Islands, and the Coast Guard is expected to enforce annual catch limits with help from local authorities.

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