

undercurrent

The Private, Exclusive Guide for Serious Divers

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Aldora Divers, Cozumel, Mexico

conciERGE diving . . . and the other Cozumel

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San Francisco Wall is not one of Cozumel's big-formation sites, but it's always on my list of second-dives because it never disappoints. On my February trip, the Wall had a perfect mild current, so with my light, I checked out the underparts of every ledge. Right off, I spotted the heftiest fish of the week: an outsized cubera snapper, then near the top of the ledge, a turtle ignored me as it munched algae.

But San Francisco mainly rewards me with critters. My Aldora divemaster, Mauricio Gaona, pointed to a bright blue lettuce slug, while I watched a free-swimming yellow stingray. He later spotted a shortfin pipefish, which I eyeballed with my magnifying glass, a good device to study critters. I stayed clear of reef-touches, but made an exception for a gently wiggling finger in a giant anemone, where a clinging crab scurried into hiding.

San Francisco had an abundance of greenish overgrowing mat tunicate (a.k.a. strangler tunicate), a sign of sickness on the reef. On all my dives, I try to track the percentage of live coral cover, which, since I started diving 30 years ago, has precipitously declined, due to human activity, which includes everything from sewage dumping to climate change. But Cozumel's reefs



One of Aldora's six dive boats



seem to be faring better than most of the Caribbean's, despite the burgeoning island development and the half-dozen cruise ships that arrive daily.

I played with the razorfish that routinely dived under the sand and then scooted out, and then drifted past an aggregation of grunts: blue stripe, Caesar, cottonwicks, white grunts, and others, diversity as great as the streets of New York. While studying a cute three-rowed cuke adorned with chocolate-chips, my partner yelled at me (she talks pretty well at depth) to check out a hydroid zoanthid. I was unimpressed, but she's mighty good at finding unusual inverts, including some not listed in Paul Humann's book. (Aldora Diving

does not stock them on their boats, so I lugged both Caribbean Reef Fish and Creatures for the daily 90-minute interval at an eatery on the beach.)

San Francisco had been a good second-dive show, and at 70 minutes I had both air and bottom time to spare, but I was thinking about heading up when an eagle ray swooped over me and slammed into the sand. I couldn't see if it scored lunch, but two big permits shadowing it jostled over scraps. The ray circled and headed back, so all seven us -- the divemaster and our six-pack of divers -- settled into the sand bottom at 35 feet to watch the ray, oblivious to us, make a half-dozen strikes, in fact almost brushing us. Her entourage of shadow-fish included a queen trigger, whose colorful make-up had darkened to almost black, a pretty puddingwife, a remora that bobbed on and off the ray, and the two permit. On a final dive, the ray emerged from a sand cloud with a big shell, perhaps a conch, and headed off. It was a fantastic conclusion to my 87-minute dive.

Dives like that keep me coming back to Cozumel, which I do every few years (I've dived some 20 Caribbean areas from the Bahamas to Tobago). Besides the A-list Caribbean diving, Cozumel, Mexico's diving capital, has a list of benefits: it's easy to get to, it's inexpensive, and the on-shore possibilities are more interesting than dedicated dive resorts, even good ones like Itza Lodge in Belize, Maria la Gorda in Cuba, or CoCoView on Roatán, each of which I've dived.

This trip, I had arrived at the Cozumel airport in the afternoon and hopped in an inexpensive collective taxi-van for the short ride to my hotel. Later, I dropped off my gear at the shop and didn't touch it again until I headed home. Aldora gives concierge service: you pay a bit more, but considering the cost of a vacation and one's precious vacation time, the extra is negligible. You get a good boat, reliable crew, amenities like warm parkas on the boat, and -- importantly -- 120 cf tanks, a plus when I'm doing only two dives a day on Cozumel's deep walls. In the past, I have also used (and reviewed) Living Underwater, a similar but smaller operation, and if you haven't been to Cozumel, you may find this April 2012 review, still accurate, quite useful.

Aldora owner Dave Dillehay and his manager, Memo Mendoza, have an efficient operation with a helpful and competent staff. The fast and well-equipped boats always arrived on time with full tanks (3200-3400 psi). They pick up at their dock in town, and then at any resort dock where divers are staying along the 30-minute ride to most sites. If you select a 120 cf steel tank, your lead requirements diminish; I used six pounds of lead, seven pounds less than with an aluminum 80.

Silent Rebreather Diving Doesn't Make You Invisible

Does a closed-circuit rebreather give you Harry Potter's Cloak of Invisibility? We hear so often that selling point for Closed-Circuit Rebreather courses — that CCR diving doesn't scare away the fish. However, you are still a big, obtrusive animal in the underwater world, whether emitting bubbles or not. Fish are not blind.

The conventional way to survey fish populations, by noisy open-circuit scuba, might mean that fish get frightened away from the survey zone. Scientists have studied the effect by comparing results from both traditional scuba surveys and those using closed-circuit silent diving techniques.

For this study, orchestrated by the Australian National University, researchers conducted 66 paired

scuba and rebreather fish surveys at locations in the Hawaiian Islands with relatively high, moderate, and light fishing pressure. They found no significant differences in biomass estimates between scuba and rebreather surveys when data were pooled.

However, there were differences at the most heavily fished location, Oahu, where biomass estimates from scuba divers were significantly lower for several targeted fish groups, including surgeon fish, wrasses, and snappers, as well as for all targeted fishes combined. In fact, they amounted to only 32% and 68% of the mean rebreather biomass count.

The conclusion seems to be in pristine waters, scuba divers see just as many fish as rebreather divers.

With back-roll entries and staff help in taking off the gear in the water after the dive, the heavy tank was no problem.

DM Mauricio was not the best creature scout (I have high standards -- I want new entries on my life list, but perhaps that's too much to ask of a place I've frequented), but very competent, and he adapted to my group's slow diving style. He was no babysitter, but divers were to be within sight and behind him, and if one wished to surface before the group, he would put up a surface buoy and both the diver and his buddy would ascend. Because Aldora runs several boats, they can separate groups appropriately: I had three inexperienced friends traveling with me, who were placed on a separate boat and had a great time, while we more experienced divers could visit deep sites and not cut bottom time. My only beef was their report that their divemaster over-handled the animals. Pouring sand into giant hermit crabs to make them exit their shell isn't my idea of role-modeling for new divers, and I passed that on to Memo.

My fourth day, I requested a favorite site, Punta Sur -- Sur (Punta Sur South). I back-rolled into the 79-degree water, dropped to 75 feet and had to kick over deep sand; it's rare in Cozumel to have the captain miss the drop point. At the reef, seven eagle rays hovered above, bobbing in the current. (I had seen so many eagle rays on my various dives that I dropped my request to head north one day to Eagle Ray Wall to watch the migrating rays.) The current varied from Cozumel-brisk to nonexistent as I snaked around pinnacles and through tunnels. In one alcove I found a huge school of copper sweepers, in another, big hogfish glimmered when I shone my small light on them. As



Villa Aldora

Aldora Divers, Cozumel, Mexico

Diving (Experienced)	★★★★★
Diving (Inexperienced).....	★★★★½
Snorkeling	Varies by location
Accommodations	★★★★
Food (in the “Other Cozumel”)	★★★★½
Service and attitude.....	★★★★★
Money’s worth	★★★★★

★ = poor ★★★★★ = excellent

Caribbean scale

we exited a long tunnel into the blue at 100 feet, my computer went into deco, an indication to begin rising. While I used nitrox, I had set my computer to air, but my partner was on air, so I signaled to Mauricio, who was already easing upward. (Nitrox cert comes in handy for Cozumel diving, especially with big tanks.) Several black groupers patrolled the reef edges. At the safety stop after 52 minutes, a huge school of bar jacks zipped past, while an eight-foot nurse shark cruised below. My favorite dive of the trip. While winter weather can be a factor in Cozumel, especially if a north wind blows, I had sun for most of my dive time in the first week of February.

Owner’s Split-Personality Disorder?

There’s more to Cozumel than diving: in fact, a little bit of nontouristy Mexico that few divers seem to notice. While sitting with friends in a nice, open-air restaurant, enjoying lionfish

ceviche and Negra Modelo beer, we discussed a disease we see among many of our fellow divers: split-personality disorder. The question we puzzled: why are many divers so adventuresome underwater and yet so timid on land?

For example, I never see other divers -- at least not American divers -- at Bahia del Caribe, which is called “the fisherman’s cooperative restaurant” by Cozumeleños. Most seem to be at Señor Frog’s -- just like a “Mexican” place back home in Detroit -- paying twice as much and missing out on the real Cozumel.

So, why is it that the same people who eagerly head down the dark tunnel called Devil’s Throat to 130 feet, or hang tenuously on Eagle Ray Wall in a ripping current, take their drinks in a Taco-Bell-with-beer?

If you want to get off the malecón (the waterfront Avenida Rafael Melgar) and dodge the overpriced jewelry shops and chain restaurants, I’ve got a tip. Try the Other Cozumel: that’s the Cozumel that’s just a couple blocks away.

First, get a hotel room in town, near the zócalo (central plaza). One good choice is Hotel Mary Carmen; for \$35 + tax, you will get a clean room with A/C and a continental breakfast in their interior courtyard. (Avoid the nearby Agave Azul, formerly named Suites Elizabeth. My friend’s room was OK, but the loud disco next

An Inter-Agency Blacklist Needed?

Undercurrent received a story from Henri Hemmereichs, who invested in a diving business running instructor courses in Dahab, in Egypt’s Sinai, only to later discover he had been the victim of a person who had falsified his SSI Instructor Certifier certification. It turned out that the [Egyptian] perpetrator of this fraud also made a habit of getting holiday girlfriends to invest in his imaginary businesses. The sorry tale was brought to a conclusion only after he was

arrested by the police on a range of charges including possession of hard drugs, for which he was convicted.

That was three years ago. However, it seems the miscreant has turned up again and is back teaching diving in the south of Egypt. With no governing body to regulate the training agencies (that jealously guard commercially sensitive information), isn’t it time that diving training agencies shared intelligence about proven criminals in their midst?

door was not.)

This trip, my partner and I went "upscale" to Casa Mexicana, across the malecón from the Aldora dock. I paid \$77 + tax via Expedia for a nice room, with an excellent breakfast included.

For an altogether different version of the Other Cozumel, if you are diving with Aldora, have a homey experience in a quiet condo neighborhood at Villa Aldora. For Aldora divers and their families only, they offer nice rooms with kitchenettes, right on the water, where one can snorkel. The town center, a half mile away is easily reachable on one of the free guest bicycles. And, on arrival day, they'll even drive guests to the market to shop for food. Prices range from \$95 to \$295, and you'll hang out with other Aldora divers.

For meals, ditch the cookie-cutter bars and eateries. Take an afternoon walk and try one of many interesting "loncherias" along Avenida 5 (one block in from Melgar) or stop at a stall near the town market (el mercado), a good option. For happy hour and dinner, try just about any interesting local restaurant in town. My friends and I walked to the busy Chilango's Taqueria (about half a mile from Rafael), where for \$1.50 I got a delicious "huarache" (a Mexico-City-style stuffed tortilla) too big to finish. The bill for seven people, with beers: \$25.

Another evening I enjoyed the more upscale and quiet Sal de Mar, where I had the huachinango (snapper), and they served whole fried lionfish with their fins outstretched, a lovely presentation. Other tables were occupied by American ex-pats, Cozumeleños, and a few divers who passed on Señor Frog's. And put the Fisherman's Coop on your list for lionfish any way you want it.

You might check out cozumelmycozumel.com, a site written by ex-pats living in Cozumel, with some good recommendations. (By the way, why is it that Americans living in Mexico go by the comfy term "expats," while Mexicans living in the U.S. are called immigrants or even aliens?)

If you take a day off from the reefs, rent a bike -- or take an



Taqueria Chilangos, where \$1.50 fills you up!

Are You Ready to Drop Your Weights?

In reviewing a previous Australian DAN report, I was appalled at one recurring theme regarding dead divers: the vast majority still have their weight belts or integrated weights in place when their body is recovered. In many emergency situations, establishing positive buoyancy can make the difference between life and death. So it is patently clear that training in weight belt ditching is inadequate.

Even when one considers this action inappropriate, it still might not be. World-renowned diving physician Prof. Simon Mitchell and Dr. Barbara Trytko reported the case of a technical diver who, when losing consciousness at 80 feet (24m) deep after a 260-foot (80m) dive, was sent to the surface by his buddy in what might have been considered a dangerously fast buoyant ascent. The diver survived when he almost certainly would have died with his weights still on.

Taking the precaution of ensuring your weights are unobstructed should you need to drop them in an emergency should be part of every pre-dive buddy check. Better to risk injury at the surface than be dead on the bottom!

- John Bantin

More Snake Oil?

Scientists at the University of Southern Denmark say they have created a material that can store oxygen in high concentrations and release it when needed. They say a bucket-full is enough to soak up the entire oxygen content of an average-sized room. Dubbed "the Aquaman Crystal," the material, which contains cobalt, is able to absorb and release oxygen many times over without losing that ability.

Professor Christine McKensie explains that once it has absorbed the oxygen, that gas can be released sim-

ply by applying heat or low pressure, and they've also seen it do the same when a vacuum is applied. "We are now wondering if light can be used to trigger the material to release oxygen," she says. "A few grains contain enough oxygen for one breath, and it can absorb oxygen from the water around it. A diver would not need to carry more than a few grains."

Could this be the scientific advance that replaces tanks of compressed air? Not in our lifetimes, one would wager.

Aldora freebie -- and ride straight east across the island to the windward-side beach. Perhaps stop along the way at San Gervasio, the small Maya site on the island, for a lovely, uncrowded walk.

I took a taxi a couple of miles north to the golf course and went birding, my pocket binoculars in hand. I'm not a real birder, but I spotted about 15 species in the scrub forest and on the pond, including the endemic Cozumel emerald hummingbird. Another trip, I rented a moto and headed to Parque Ecológico Punta Sur to see lots of birds as well as crocs sunning themselves.

And for smart money management, change U.S. dollars to pesos. Pretty much every restaurant and business on the island will accept U.S. dollars and credit cards, but will charge a very inflated exchange rate. I carry a wad of greens to Cozumel, then head for either the Elektra appliance store (on Calle 11) or the Santander bank branch next to the church just off the zócalo to get the best rate for pesos. You'll get the worst rate at the airport.

I could conclude by saying "take a walk on the wild side," but there is nothing wild about Cozumel any longer. It's safe, fun and gringo-friendly. High-school Spanish is helpful, but you even will do fine if you all you know is "gracias" and pronounce it grassy-ass.

So, say adios to the cruise-boaters and visit a fun slice of Mexico. After all, even using Aldora's big tanks, you'll still be underwater for only 10% of the 24 hours in a day.

--M.A.

Our undercover diver's bio: *The author has made annual Caribbean trips for 30 years, with Cozumel being his first and best love. He's the guy with a magnifier and light dangling from his wrist and expecting his partner to find the critters. He has written several reviews for Undercurrent.*



Divers Compass: Cozumel is easy and relatively cheap to get to. From the Midwest, I arrived at 3:30 p.m. and was at my hotel at 4:30. It is on Eastern Standard Time ... Aldora Diving charges \$95+tax = \$111 for two tanks and suggests a 10 percent daily crew tip (I tipped a bit more) ... got a discount for using cash instead of a credit card ... Nitrox (EAN32 for the first dive, EAN36 for the 2nd) is \$10 per dive ... their staff was extremely helpful by phone and via email to get everything set up in advance ... I could call locally and to the U.S. for free, thanks

to AT&T's new policy of free calling and data usage in Mexico. www.aldora.com
www.casamexicanacozumel.com www.hotelmariyarmen.com.mx

MV Pelagian, Wakatobi, Indonesia

near perfection, but with safety glitches

It was good news when my first full day of diving simply got better and better with each subsequent dive. I dived sloping reefs, then a wall, with each dive fishier, which meant a school of two-dozen bumphead wrasses, two banded sea snakes, an orangutan crab hanging out on bubble coral, half a dozen turtles, lots of Clarkii and pink anemone fish, a nest with a porcelain anemone crab. Bright yellow trumpet fish, damsels, and schools of surgeonfish swarmed the reefs. Endless coral species with eye-popping colors, textures, and patterns, from brain corals to gorgonia, all the colors of the rainbow. And, on one dive, an eagle ray zoomed by, then did a stop-on-a-dime-U-turn in front of us, as though it wanted to make sure we saw it. After all, some say, Wakatobi is located -- at or at least close to -- the world's epicenter of coral reef biodiversity.

I was diving from the MV Pelagian, which is more than 50 years old, but you'd never know it. Originally designed as a 35m (115-foot) luxury motor yacht (it does not handle rolling seas well) and once used by the Duke of Westminster for family vacations in the Seychelles, it carries a maximum of 10 guest divers. We had only eight. It runs from the Wakatobi Resort, making it a popular way for divers to have the possibility of both a liveaboard and land-based vacation in one convenient stop.

When we arrived at Wakatobi from Bali -- about the only practical way to get there -- I checked in at the resort lounge, showed my dive credentials (and a DAN card) and I signed my release. I then learned that Nitrox was \$27 per day! I was shocked! So what's a diver to do this late in the game? I shrugged my shoulders and enjoyed the buffet that awaited. Soon, a dive boat ferried us to the air-conditioned Pelagian, where the crew greeted us with smiles. After a quick briefing, I headed aft to my cabin, where my luggage had been stowed. Because the Pelagian was not designed as a charter boat, the cabins vary from a large suite to a cramped single, all with ensuite bathrooms (I soon learned that the inefficient shower door allowed water to puddle all over the bathroom floor). I had been assigned a sizeable cabin with both a double and single bed and plenty of storage space, but my female dive buddy, who was sharing with another woman, had been assigned a cramped bow room with little storage space. (Had I announced I was a travel writer, my solo cabin might have been a perk, but they had no way of knowing; I had paid full fare and was traveling unannounced.)

Our first Zodiac ride that afternoon was only five minutes to a nice wall with a sloping bank at the bottom. This was our "check-out dive," and while we were to clear our masks and share an octopus, our guide ignored the requirements, perhaps because the four divers in my group had maybe 8,000 dives between us. The site was a typical Indonesian mix of soft and hard coral, with plentiful small fish, swirling striped eel catfish balls, a couple of white pygmy seahorses, a long-snouted shrimp and a few nudis that our sharp-eyed Indonesian dive guide pointed out. Water was warm -- 88°F (31°C) at the surface, dropping to 86°F at 70 feet



Pelagian's shaded aft deck.



(21m). Visibility was 75 feet (15-23m). The Pelagian then motored eight hours that that evening to dive sites to the north.

The next day's dive briefing was to be at 6:45 a.m., the normal time, but after long flights -- we were four Americans, a Dane living in Dubai, a woman from the UK, and an Australian couple -- we all wanted to sleep in. We requested a 7:45 a.m. briefing, and offered to skip the night dive while making all three regular dives. Ramon, our Spanish cruise director, had no problem with that. Another Spaniard, Judith, was a dive guide, as was Yusuf, an Indonesian. They gave good briefings and efficiently accommodated

our requests. The comfortable salon as befits a super-yacht had spacious sitting areas, both near the bow and the stern (with a large TV and DVD player) as well as up top, where there is a shaded seating area. The appropriately sized salon has dining tables and a long, L-shaped, comfortable couch where eight people can

Pelagian and Fantasea II – A Bit of Diving History

Originally called *Harmony*, *MV Pelagian* is a grand old lady with a long diving history. Built in 1965, the vessel was adapted as a liveboard dive boat in the Red Sea during the early '80s. Renamed the *Fantasea II*, it was managed by Red Sea diving pioneer Howard Rosenstein (who is still selling Fantasea Line underwater photography equipment today). The doyen of Red Sea liveboards at that time, the vessel was popular with well-heeled American divers, but it was beyond the means of most European divers, who had to content themselves with trips on less luxurious boats.

On one famous occasion in the northern Sudan, it ran aground, and both the vessel and its crew had to be rescued by a covert operation of Israeli armed forces. Israeli-flagged boats with Israeli crews were and are still not welcome in that part of the world.

With political unrest and increasing terrorist activity in Egypt, Howard relocated the vessel to Mahe in the Seychelles, taking the long trip to the spectacular diving of Aldabra, the largest atoll in the Indian Ocean. The big swells of the Indian Ocean did not suit the vessel well, as she has a tendency to roll, but Mike Neumann, a successful Swiss businessman and fanatical diver, today's owner of Beqa Adventure Divers in Fiji, thought it would make a great vessel to take a diving tour of the South Pacific during the Millenium year.

This was when the name was changed to *Pelagian*.

The story here gets cloudy. Originally, Neumann planned to buy the vessel and put it into the hands of American Matt Hendrick and his Thai wife, Jym, who were operating their own vessel in Thailand. For payment, Neumann would bequeath them the vessel at the end of the trip.

The original plan changed. After Hendrick oversaw the refitting of the vessel in 1998, it set sail, but the Millenium trip was delayed and it seems that Neumann only had use of some cabins, while the others took fare-paying passenger divers.

After Hendrick ended up with the craft, he ran trips to Komodo aboard *Pelagian* with pioneer dive guide Larry Smith before eventually putting it up for sale. Rob Bryning of Maldives Scuba Tours was looking for an open ocean vessel to compliment his fleet of liveboard dhonis that operated within the atolls of the Maldives. He took *Pelagian* to Singapore for a full survey and discovered the steel hull had a design flaw — internal scupper drainage — which resulted in great difficulty maintaining it against corrosion. It failed the survey. Bryning didn't buy it and it went to the Wakatobi Resort, where it operates today.

— john@undercurrent.org

sit or two people can nap. The brass everywhere is polished and the portholes and decks always clean. The small, dedicated camera room accommodated about six photographers with big rigs. Next to the camera room is a main wet-area deck bathroom, which is handy when coming back from a dive. The dive deck is a u-shaped stern off the salon that has a cushioned sitting area (to don your laid-out wetsuit), and has the permanent outside eating table where lunches were served. It's small but functional for the 10 divers it was designed for.

The second day of diving included the nice, current-free reef dives, but diving the third day was really excellent, including a decent night dive with lots of small squid that hung out in the blue and shot orange ink at me. A friendly turtle grazed my flashlight as I tracked rays, crabs, scorpionfish, and a two-spotted lionfish. Earlier on the second dive, the reef top could have been our whole dive -- the light and life were great -- with endless schooling red tooth triggerfish, surgeonfish, and blue filefish surrounding me. Two banded sea snakes slithered down the wall in slow motion. Dives were typically 70 minutes long.

But the day was not without problems. An unsecured tank in the Zodiac fell hard on my buddy's thigh, painfully bruising it. Thankfully, it didn't land on her foot and break it. The day before, another unsecured tank fell, just missing a diver, and another day had another near miss by a falling tank. Why in the world they failed to bungee these down properly is beyond me. Ramon said he would take corrective action.

The Indonesian dive crew was quite helpful, drying wetsuits and booties in the sun, then laying them out for each diver. After suiting up, I'd take the easy route down one of the side ladders to a waiting Zodiac, where a crewmember helped me gear up. They called roll before we departed and again after we climbed the sturdy ladders into the Zodiac. Back at the Pelagian, they would help us out of our wetsuits. Divers who drank a lot of predive coffee were given an antiseptic spray for their suits, before getting a freshly baked chocolate chip cookie, a hot towel, a hot drink and a warm water spray hose.



MV Pelagian

MV Pelagian, Wakatobi, Indonesia

Diving (Experienced)	★★★★
(No sharks or any big stuff)	
Diving (Beginner).....	★★★★
(Mainly easy diving)	
Accommodations	★★★★
Food.....	★★★★
Service and attitude.....	★★★★
Money's worth.....	★★★★

★ = poor ★★★★★ = excellent

Worldwide scale

The Pelagian has a huge galley, and they used it well. Early breakfast was heavy on carbs, so I ordered a hardboiled egg with my coffee. Full breakfasts following the 7 a.m. first dive included delicious omelets or eggs, with croissants and toast as well as turkey bacon and chicken sausage (this is Moslem Indonesia, and pork is not consumed) and passion fruit, dragon fruit, pineapple, papaya, and mango. The plated lunch and dinners served offered three entrée options: seafood, chicken, beef or lamb (duck one night) plus good veggies, rice, potatoes, and salads. Desserts were only OK, but



Pelagian Camera Room

not worth the calories except for the coconut ice cream. I skipped them for my own 70% dark chocolate. The chefs were flexible mixing and matching food preferences.

We sailed overnight to Buton for muck diving. On my third such dive there, I spotted a wonderpus, as well as a snowflake eel cozied up in a hole with a burr fish and a banded shrimp. The wonderpus hung around in one square meter

of sand, resplendent in his full camouflaged glory. And there was more. Ringed juvenile pipefish, electric sea urchins with Coleman shrimp scampering on them, Chromadis nudis, and a couple of seahorses made this a rich and exciting dive. At Buton pier, I watched a giant green frogfish, red-spotted, slowly descend down a 20-foot-tall concrete wall to the bottom, an opportunity for great shots, and ogled pipefish, pygmy lionfish, a cuttlefish, and several spearing mantis shrimps. We divers typically stayed within sight of each other, but on occasion asked our guide to slow down since there was so much to see and photograph. We did standard five-minute safety stops at five meters (16 feet), and the Zodiacs were always close-by, following our bubbles, and ready to pick us up.

At our mandarin fish dusk dive in a town bay, we watched these little beauties dance through their mating ritual in this underwater junkyard, which was laced with hunks of cement, discarded pipes, plastic, and cans. Among the rubbish, I saw an octopus, schools of razorfish dancing in unison, ornate pipefish, decorator crabs and small lionfish. Afterward, the crew disinfected our wetsuits, but that only made me think of the seawater I inadvertently inhaled.

The Pelagian rolls in anything but a flat, calm sea. One diver was in the bathroom during modest 3- to 4-foot swells when the bathroom door (held closed by magnets, not a hook) popped open and a sharp edge slammed into her heel, ripping off a deep layer of skin the size of a dime. This was my buddy again -- she who had the tank bruise her thigh. This second painful injury caused her to miss a couple of dives. While the crew was helpful with bandages and Betadine, the nutrient-rich waters of South Sulawesi resulted in her needing IV antibiotics when she arrived home, a very sick puppy. All because of a door without a proper hook.

When she couldn't dive, she could at least enjoy the scenery, which often included pilot whales and dolphins! When a pod of pilot whales circled our Zodiac, we jumped in with snorkel gear to watch them pass. Motoring between dive sites, we once happened upon probably a hundred pilot whales and dolphins, which danced in front of the boat for our cameras and videos. The captain followed them for 20 minutes before we anchored. That evening, he moved the boat repeatedly so two of us divers could watch the sunset from the bow.

On our next-to-last day, Friday, my second dive on a lovely wall and beautiful pinnacle was among the best. My guide spotted one macro subject after another -- a hairy squat lobster in the crevice of a barrel sponge, several nudibranchs



Pelagian Salon

Has Your Wetsuit Shrunk Since You Bought It?

Wearing an elastic neoprene wetsuit in dry conditions, before diving, induced small but statistically significant changes both the ability of blood to circulate freely and respiratory function that could affect the physiological responses to underwater activities. That's what researchers at the Institute of Clinical Physiology have concluded.

Twenty healthy divers were evaluated by Doppler echocardiology and spirometry while wearing full wetsuits and experienced a significant drop in heart rate and lung function. The data supported the hypothesis that, due to compression exerted on the chest, neoprene elastic recoil might decrease cardiac output and respiratory function, causing heart rate changes from normal.

No mention of any specific neoprene was made,

and the super flexible chemically blown neoprenes now available might have less significant compressive effects. (Marabotti C, Prediletto R, Scalzini A, et al.)

The Journal *Diving and Hyperbaric Medicine* reported on similar research done by Schellart and Sterk with 28 volunteer divers in Bonaire (including 12 women), finding that a wetsuit appears to impair ventilator mechanics — in simple terms, your ability to breathe. Be aware: a too-thick or too-tight wetsuit might be a potential pulmonary risk factor in diving, leading to an increased chance of DCI or even pulmonary edema.

A wetsuit needs to be a snug fit to keep you warm. However, if you feel that your old wetsuit has shrunk uncomfortably since you bought it, the time has come to get a replacement that isn't so tight.

(dusky nembrotha, strigate chromodoris, chromodoris willani), tomato clownfish, a large crocodile fish (we saw many on the trip), popcorn shrimp in an anemone, teeny-tiny bubble coral shrimps, Bath's combtooth blenny, reticulate boxfish, and schools and schools of anthias and redtooth triggerfish.

Dive site Roma brought beautiful rose corals and some unusually heavy currents, (really the only dive with any consequential current all week) which pushed us over a large sandy patch guarded by a large titan triggerfish, which proceeded to attack both our dive guide and my buddy. The dive guide had warned us on his slate, "aggressive Titan ahead," so we got out of the way, but it pursued him anyway. He kicked at it and poked it with his pointer until it finally retreated to the sandy patch to guard its eggs.

As a seasoned traveler, I take special care to mark my luggage, especially for a journey to an outpost as remote as Wakatobi. My compulsion paid off as my checked bag with my BCD, fins, wetsuit, etc., went missing before or after my Hong Kong layover. And that's why I carry my regulators, dive computer, camera equipment, mask, swimming trunks and a change of clothes in my carry-ons. And it's also why I arrive two days in advance of boarding a charter or a boat halfway across the world.

In this case, I had decided to spend two nights in Bali before catching the charter to Wakatobi, and my bag finally turned up, despite missing the handle with the bag tag, my ID tag, and even an itinerary. The Wakatobi/Pelagian rep met me as I arrived and helped me file my lost bag claim, then hooked me up with my driver for Conrad Hotel Bali. I was confident my bag would show up because I had stashed another Itinerary and ID on the outside, a third on the inside. That gave Cathay Pacific enough information to get my bag on the next flight and to my hotel. The following day, my driver picked me up at 6 a.m. for Wakatobi's twin-engine turbo-prop charter, which arrived about 10:30 a.m., and a van delivered the passengers to the waiting Indonesian-built dive boats that spirited us to the resort.

The MV Pelagian provides a great liveaboard experience -- if a tank doesn't fall on you in the Zodiac or a bathroom door doesn't whack your heel. The diving is pristine, the boat lovely, the food great and the dive guides excellent. That it carries only 11 divers is a great plus -- and we saw no other divers during the trip. If they address the safety issues I noted, you shouldn't be disappointed on

this luxury live aboard.

P.S.: I did not see one shark the whole trip. Where were they? And no mantas or whale sharks either. Are they being exterminated?

And a few words about Wakatobi Resorts

After breakfast on the Pelagian, we were ferried at 6:30 am to the Wakatobi resort for our 7:30 am dive, while our luggage was delivered to our rooms. Spacious and long, the resort's six dive boats can each accommodate 18 divers and groups were dropped strategically apart to avoid crowded dive sites.

Shoko, our Japanese dive guide, was thorough, helpful and good at finding small creatures, which are plentiful on the Wakatobi's reefs. There is a wide variety of macro sites, (with a few wide angle opportunities), with plentiful nudis, plentiful crocodile fish, various anemone shrimps and crabs, unusual small fish species (e.g. splendid dottedback, spotted cardinalfish, juvenile spotted box-fish). The coral was healthy and rich, with lots of fishy sites with schooling fry, surgeonfish, black snappers, square-spotted xanthias, (I watched two males lock lips and battle it out for territory for 5 minutes), wrasses, gobies, hawk-fish, Denise pygmy seahorses, bubble anemone shrimp and turtles. I encountered ten turtles on the house reef on one dive.

The ocean front cabins were delightful, well appointed, roomy and with a spacious outdoor shower, porch with couches and padded beach loungers with a large umbrella. A large closet, windows, netted queen beds and fresh towels each day made the room very pleasant. Ideal really.

Meals in the Long House were buffet style, with lots of variety and of high quality. Soft drinks were \$4, \$7.00-\$10.00 for beer, wine, and mixed drinks. The grounds were immaculately maintained and beautiful. Massages were good. The village tour was well worth doing, especially if you haven't seen Indonesian village life. Quite an eye-opener.

Wakatobi resort should be on any serious diver's bucket list. Many guests were returning visitors, saying something for its attraction. The staff was super to a person -- very well trained and executed, all 300-plus of them.

-- RT.

Our undercover diver's bio: He started diving in 1992 in Grand Cayman, and has since logged more than 1,000 dives in every major Caribbean destination and most hot spots in Asia/Pacific. He prefers liveaboards, but also enjoys a week on land and local tours. His bucket list is pretty small now, concentrating instead on returning to his favorites in Indonesia, primarily, with Raja Ampat at the top of the list. He often travels alone, but also with small groups of buddies he's acquired over the years.



Diver's Compass: Cost: US\$2590 single (with two sharing) for seven days, plus \$27/day for nitrox. \$745 for air charter from Denpasar to Wakatobi air strip. Total flight time from the states: 36 hours (Coming back I had to overnight at the Hong Kong airport hotel. . . . Pelagian charges \$4 sodas and \$6 beers and wines -- but no hard liquor onboard . . . electricity supplies are European 220v 50Hz, but there was an ample supply of American 110v adapters. . . . tanks (60s, 80s and 100s) Full-board at the Wakatobi Resort per night costs from \$290 - \$845 per person (two

sharing) according to the accommodation. www.wakatobi.com/prices-booking/prices Conrad Hotel Bali is a nice property, which I booked online for \$139/night, with an eye-popping breakfast buffet. I hired a driver to take me to a large artisan batik shop, a fabulous large art gallery, a coffee plantation to drink Lewak and other Balinese specialty coffees and teas, a grand view of a volcano, elephant riding and Ubud for a 12-hour day, all-in for \$90, including a small tip. (Tips only need to be small, if at all, in Indonesia.)

Tropical Ice, an Eco-thriller

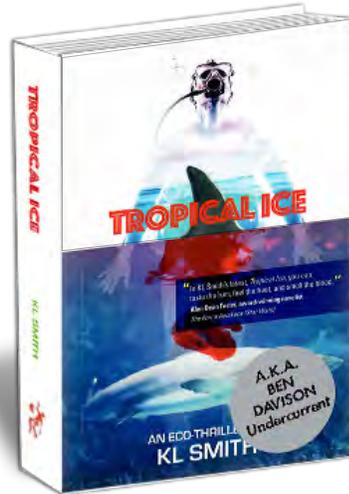
if you like Undercurrent, you'll love this

Some successful fiction writers fail to research their subjects properly. I get irritated when reading a best-selling author who describes people being eaten by schooling hammerhead sharks in the Mediterranean when I know how skittish hammerheads are and how they are not encountered in such temperate waters. It destroys the credibility of the story.

I can assure you, that doesn't happen in *Tropical Ice*. KL Smith knows his subject. And well he should. I'll tell you why later.

In his first novel — this is a commercially published novel, not self-published — he's writing about what he knows and has experienced. Although I'm familiar with how long it takes a trivially cut finger to mend, I am awe-inspired by the ability of his reluctant hero to suffer the slings and arrows of unfortunate encounters and keep

fighting back. It's an adventure story that any fan of Clive Cussler would enjoy, but, as one major reviewer, Homer Hickam, author of *Rocket Boys/October Sky* and *Carrying Albert Home*, wrote, Smith is a better writer!



Set in Belize, which the author has dived countless times, *Tropical Ice* is a story of shark-finning and reef-ripping and wildlife crime on an industrial scale — and a bit of love story, I might add — all with conservation overtones. There is murder and politics alongside lesser skulduggery. You'll sense a creature's eyes on a night dive, feel the sandpaper skin of a shark on your bare back, and almost taste the sweat dripping off your eyebrows as you push through the underbrush on Snapper Caye. It all takes place at Cap'n Jack

Africa's Rum Caye Dive Resort, where Jack's trying to save his failing resort with shark-feeding dives,

Can Robots Take on the Lionfish Menace? A Kickstarter Campaign to Find Out

It's been thirty-plus years since the invasive Indo-Pacific lionfish was first found in the Atlantic. While eating everything in sight and having no predators, they are reproducing so fast that they have overwhelmed reefs from Florida south to Venezuela and west to Belize.

Can robots wipe them out? Colin Angle, a diver and the CEO of iRobot (the manufacturer of the Roomba robot vacuum cleaner), and his biochemist wife, Erika, thought, "Why not?" although they noted that spending half-a-million dollars to create a robot that kills ten lionfish seemed "absurd."

So, they proceeded to create a submersible robot, the Guardian LF1, which stuns but doesn't kill the lionfish before it sucks them into a holding tank. When filled with unconscious fish, the robot rises to the surface where a fisherman can unload the catch and deliver them to waiting restaurants and food stores. After all, the lionfish has proved to be "mighty fine eating."

To get robots into the hands of fishermen, they have created the non-profit *Robots in Service of the Environment*

(<https://robotsise.com>) and launched a Kickstarter campaign hoping to raise \$25,000, enough to complete the development and be able to deliver these robots to local fishermen at less than \$1,000 each.

"Ultimately, the control of this device is like a PlayStation game: you're looking at the screen and using a joystick controller. Zap it, catch it, do it again," according to RSE Executive Director John Rizzi, who said that a team of unpaid volunteers has been working on the prototype for more than a year.

Lionfish inhabit deep water off Bermuda, beyond recreational diving depths, so that was where the need for and development of the robot began. A fully functioning prototype was demonstrated in Bermuda to the premier of that island nation, the Hon. Michael H. Dunkley, on April 18, and unveiled to the public the following day at the EatLionfish Chef's Throwdown.

To learn more about the campaign and see what gifts they offer in return for your support, visit goo.gl/Ottmdu

at least until a body turns up in the damndest place. There's no azure blue sea with palm fronds rustling in the breeze in this tale. (By the way, I've been told that Cap'n Don of Bonaire inspired this character.)

A reluctant travel writer (is that a description of the author?), the book's hero, Matt Oliver, is in trouble with the Belize police before he's even off the plane. He gets caught up in a conspiracy involving jaguar trophy hunting, shark finning and plundering the reefs for seahorses for phony aphrodisiacs. There are corrupt officials, immoral American conservationists, dives where thugs hound him, lavish dinners featuring endangered species, and a little bit of romance — though no overt sex. With plenty of twists and turns in the hurtlingly fast plot, you'll be flipping pages through surprising twists and turns that keep you glued to the text, all the way to the surprising events at the end. I sure didn't see them coming.

There's fidelity to the descriptions of what happens both above and below the water that is often lacking in other books, yet it's crafted by someone who knows how to weave a story, obviously an expe-

rienced writer. Thankfully, there are no scuba diving technical gaffes either. No oxygen tanks!

If you are familiar with no-see-ums and the taste of rum in the hot sun, this book will appeal. If your life is more sedentary, you can marvel at what this reluctant writer fights to overcome, as he's driven to find the truth about what's going down. And you'll come away with a view of the dark underside of tropical living known only to insiders. A page-turner and a great thriller novel — the perfect beach -read, as they say.

Such a good writer, so well informed, but from where did he suddenly appear? Well, like any good journalist worth his salt, I did my own research and discovered that KL Smith is none other than *Undercurrent's* own Ben Davison. If you like *Undercurrent*, you will love this book. And next month, he'll tell you about that nom de plume.

Tropical Ice is available online from Amazon and Barnes & Noble in paperback (\$13) or Kindle, and in bookstores. You can order a signed copy for \$19 (proceeds go to reef conservation) at goo.gl/19Y1Ne

– john@undercurrent.org

Coral Reefs Are Dying Everywhere

and divers should be up in arms

In 2016, more than 50 percent of the 70,000 coral colonies in 13 countries were bleached and dead, including large sections of Australia's Great Barrier Reef — scientists says hundreds of miles of it, stretching across the formerly pristine northern sector; the more southerly sections that barely escaped last year's bleaching are subject to this precursor of another die-off.

Terry P. Hughes, director of a government-funded center for coral reef studies at James Cook University, has said, "We didn't expect to see this level of destruction for another 30 years."

The Great Barrier Reef (GBR) has had a healthy existence for 25 million years. It is getting wiped out in two or three mere decades. Global warming

deniers — many of whom are disciples of the fossil fuel industry — may attribute this to some other phenomenon, but the facts are there for all to see. And the U.S. government, also heavily influenced by the same industry, is uniquely remorseless in its attitude toward the problem.

The state of coral reefs is a telling sign of the health of the seas and a marker of the ravages of global climate change. Hughes' aerial surveys, combined with underwater measurements, found that 67 percent of corals had died in a long stretch north of Port Douglas.

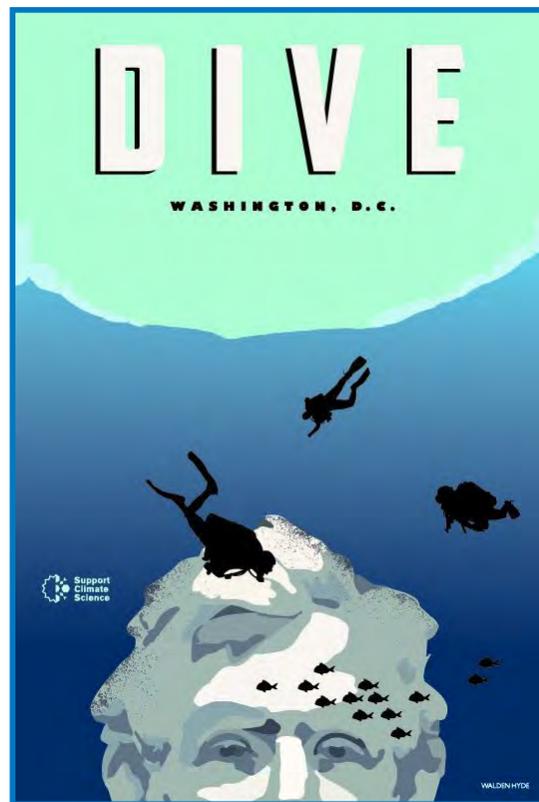
Furthermore, tropical cyclone *Debbie* smashed into the GBR in March, and caused even more damage in a 60-mile (100km)-wide corridor.

Australia is Not Alone

But it's not just in Australia where the reefs are in danger: Around the Indian Ocean islands of the Maldives, scientists are racing to prevent the corals from being wiped out. "This isn't something that's going to happen 100 years from now. We're losing them right now," said marine biologist Julia Baum of Canada's University of Victoria. "We're losing them really quickly, much more quickly than I think any of us ever could have imagined."

"To lose coral reefs is to fundamentally undermine the health of a very large proportion of the human race," said Ruth Gates, director of the Hawaii Institute of Marine Biology.

"Whether you're living in North America or Europe or Australia, you should be concerned," said biologist Ove Hoegh-Guldberg,



A bit far-fetched but point made. From a series of climate change awareness posters available for free download from Colorado ad agency Walden Hyde. goo.gl/gezopc

of Australia's University of Queensland. "This is not just some distant dive destination, a holiday destination. This is the fabric of the ecosystem that supports us."

The media has focused on damage to the GBR, but other reefs, from Japan to Hawaii to Florida have fared just as badly or worse. In the central Pacific, the University of Victoria's Baum has been conducting research on Kiritimati (Christmas Island) in the Republic of Kiribati. Increased sea temperatures there lasted for 10 months last year, killing a staggering 90 percent of the reef.

In Tobago, the health of what is considered the western hemisphere's biggest brain coral — a giant witnessed by many *Undercurrent* readers — is at risk as it expels color-giving algae. Alvin Douglas of Tobago's Frontier Divers said the death of the reefs hits Tobago hard 'because we depend a lot on the health and

Skin Bends? A New Study Suggests Serious Ramifications!

Decompression sickness (DCI) can present itself in many different guises, with symptoms varying from slight mottling of the skin or subcutaneous rash to full neurological symptoms. While the latter is necessarily thought of as a serious health problem, the former is often dismissed as "only a skin bend." Forget the "only."

A skin bend most often manifests itself as mottling on the upper torso, upper arms, and buttocks in varying degrees of severity. There is no generally accepted explanation of how gas coming out of solution is related to these skin changes, but explanations include 1) the occurrence of gas bubbles in subcutaneous tissues; 2) the obstruction of subcutaneous arteries with bubbles bypassing the lungs (as with PFO — patent foramen ovale); 3) an inflammatory reaction to bubbles presenting locally in the tissues; or 4) bubbles causing injury to the interior surface of blood vessels at remote locations.

Recently a Dutch research team has presented a novel hypothesis that links these skin changes to sub-clinical brain changes caused by a cerebral arterial gas embolism (AGE). After experiments with anesthetized pigs, they hypothesized that the skin mottling might be the result of brain lesions caused by gas bubbles.

While this is still only a hypothesis, DAN, on its *the divelab* web page, thinks it's worth considering the practical implications. DAN injury data analysis indicates that at least one-fifth of divers with skin bends also have neurological symptoms.

The upshot is that any diver exhibiting symptoms of a skin bend should also be evaluated neurologically. Repeated episodes of skin bends, although seemingly innocuous, should be taken as a possible indicator of a subclinical brain injury. Don't dismiss it. Take it seriously.

(Source: DAN/Kemper – *Diving Hyperbaric Medicine*.)

wellness of the coral to sustain our economies, and that includes the fishing and tourism sectors.”

A Dual Threat To Indonesian Reefs

If that is not bad enough, the binary activities of man can have a disastrous effect, too. In Indonesia, the *Jakarta Post* reports that, according to research by the Bogor Institute of Agriculture, diving and snorkeling contribute to localized coral reef dam-

“To lose coral reefs is to fundamentally undermine the health of a very large proportion of the human race.”

age. There have been undeniable incidents of itinerant visitors scrawling their names on hard corals. Doug Meikle, an Australian who lives in the region of Raja Ampat, adds that live-aboard anchors are responsible as well, and they are even worse than the vandals who carve their names into coral.

Worse still, on March 4th, a British 4,290-ton cruise liner, *Caledonian Sky*, ran aground on the reef north of Kri Island, at the epicenter of Raja Ampat, destroying more than 17,000 square feet

(1,600 sq. m) of pristine coral. It ran aground on the coral after a bird-watching trip to Waigeo Island. The giant vessel was later towed off by a tug, doing further damage.

Near Bali, Indonesia, 44 divers cleaned up the underwater area around Nusa Dua and Tanjung Benoa, citing non-organic trash as a serious problem that has threatened the health and beauty of the marine ecosystem. The issue’s story on the *Pelagian* describes the trash encountered by muck divers throughout Indonesia.

Construction Right on Reefs

Australia’s government has given the go-ahead to clear a 32-mile (54km) stretch of what’s left of the GBR as a coal ship express lane. This will aid coal exports to China, departing from Abbot Point to the Pacific.

For the moment, however, they are unable to find enough aquatic dozers to clear out the coral, most likely because they are all being used by the Chinese, who are destroying coral reefs in the Spratly archipelago in the South China Sea to build military bases. While Brunei, Malaysia, Philippines, and Vietnam each claim a portion of the Spratly archipelago, China claims all of it, and they have proceeded to build bases and housing with little

Good Luck and Bad Luck

A Spanish cave explorer, diving in the cave system Sa Piqueta on the Mediterranean island of Mallorca, was lucky to be rescued after spending 60 hours trapped in an air pocket. After suffering a cave collapse at 130 feet (40m) deep, around 3,000 feet (900m) from the cave entrance, his buddy went for help. It was Saturday, April 15, but rescuers were unable to reach him until just before midnight on Monday.

Xisco Gracia and Guillem Mascaro were exploring the cave when things went horribly wrong. Gracia, a speleologist who is a specialist in Mallorca’s submarine caverns, spent most of his time in total darkness, drinking fresh water from a small lake, not knowing that Mascaro had found his way out to summon help. However, Mascaro did not know exactly where he had left his friend, because the water had become turbid. They could have tried to get out together on one diver’s air supply, but that might have resulted in both divers dying. Gracia was lucky to have found an air pocket and even luckier yet that he himself was found.

Far less lucky was a Belton, TX, diver who suffered fatal injuries when she was pulled into an underwater hole by the flow of water near a dam, during the search for a missing Fort Hood soldier.

Lori Pohanka-Kalama, a member of the Morgan’s Point Resort Dive Team, was aiding the search effort on April 15 when she was dragged into the underwater hole and remained trapped at the bottom of the low-water dam on House Creek. Fellow divers were able to get a rope around her and pull her out after about a 15-minute effort. She was transported to Carl R. Darnall Medical Center at Fort Hood and then to Scott & White Medical Center-Temple, where she died Sunday morning.

It was only lucky no other diver suffered the same fate during her recovery. The dive team consists of about 22 members. The city’s police chief, Fred Churchill, said Monday that Pohanka-Kalama had been a member for about two years. The body of the soldier was found later. Diving near weirs and dams can be very hazardous.

international pressure to stop.

Greg Asner, a global ecologist at the Carnegie Institution for Science, writes that the Spratly atolls “are important sources of coral larvae for that part of the South China Sea. Each atoll is a habitat for connected layers of life forms ranging from corals and invertebrates to huge schools of hammerhead sharks and bottlenose dolphins. Each layer relies on the presence and health of the next layer, and the

Bye Bye Palau? Too Many Divers in this Island Paradise?

Following a similar vein in *Undercurrent's* January 2016 issue, Richard Brook wrote a blog in *pacificnote.com* this February suggesting that while divers want to see a lot of wildlife, they don't want to see a lot of divers. Because Palau is now experiencing mass tourism (especially from Taiwan and China), the number of divers at any one site has reached the threshold where the number of people detracts from the expected experience.

He suggests that a solution would be to limit the number of visitors to the islands, limit the number of hotel rooms, and raise the hotel room rates.

Undercurrent subscriber Doug Swalen (Los Gatos, CA) suggests this price hike might not be a solution. He wrote:

“Palau's President also talked about restricting new hotels to the super high end, which would have the effect of forcing out divers who couldn't afford the higher cost. But while the President is mostly interested in making money, this blog is more frustrating because the author is basically advocating cutting down the number of divers who come to Palau. While there may be an argument to be had about the number of divers affecting the quality of the dives, assuming that reducing the number of divers will automatically improve the quality of the dives is flawed. It won't produce better dives.

“However, improving the quality of the divers who visit Palau will...but that's not something that you are guaranteed to achieve just by raising the cost of staying there. All that does is restrict the divers to those who can afford to do it...regardless of their experience level.”

Brook notes that the wealthiest visitor to Palau can just as easily fall victim to DCS as someone who pays a lot less, and there are no suitable facilities for such an emergency, no matter how much you pay.

coral reefs form a critical core for the regional ecosystem as a whole.”

A Glimmer of Hope, or Is It A Diversion?

Catorina Fattori, the marine biologist at the Outrigger Konotta Maldives Resort, heads the resort's collaboration with a local dive team and the German Museum of Oceanography and Fisheries in an initiative called Outrigger Ozone, a program designed to rebuild and regrow damaged coral reefs off the tiny island. The recent bleaching is the latest in a series of global warming and human-related assaults on the reef; this one attacked the reef she had already worked to restore, setting back her progress significantly.

Outrigger Konotta, along with Wakatobi Dive Resort in Southeast Sulawesi, the Andaman in Malaysia, Alila Manggis in Bali, and Taj Exotica in the Maldives, aims to achieve the opposite. All five resorts run reef-reconstruction and conservation programs: they attach broken but still-living coral fragments to a frame that is secured underwater. It's a slow process (coral takes about 10 years to grow fully), but with care and protection, the reef regenerates itself on the frames. More than 321 coral frames have been transplanted into the reef. The Outrigger team alone has already planted about 21,450 square feet of new coral (roughly 37 percent of their target goal, to plant a football field's worth of coral by 2025), and at the Andaman, 200 baby corals from the nursery have made it into the ocean. One hundred more are still growing and nearly ready to transplant.

While these efforts may ultimately provide living coral for divers and a few local fishermen, the ultimate impact is minuscule. To some extent, it may even divert environmentalists' attention from addressing the politics of global warming inaction.

It's Not Just Corals That Are Suffering.

The death of 600 miles (1000km) of mangrove on Australia's northern coast has been blamed on extreme conditions including record temperatures. Around 7400 hectares of mangrove strung along the Gulf of Carpentaria died in a single month in 2016 due to prolonged drought and sea levels that *dropped* by about 8 inches (20cm) according to Dr. Norman Duke, of James Cook University. Duke said that mangroves, much like coral reefs, are vulnerable to a warming climate and extreme weather events.

Divers armed with just a marker and slate can participate in a Wildlife Conservation Society initiative to record bleaching anywhere in the world. A

rapid assessment template can be downloaded to enable date recording and sharing. goo.gl/uqnvZt

Have We Run Out of Time?

Investigative historian Eric Zuesse says that the first study to integrate scientific research to project approximately when climate change will produce permanent catastrophic consequences has been accepted and will soon be published in the scientific journal *Nature*. Things will start going haywire in the tropics around 2020 “and in our part of the world at around 2047.”

In the meantime, a new anti-science attitude is infusing Washington, not only rolling back regulations that had some effect on stemming climate change, but also threatening to pass new laws that, for the short-term profit of some, will help degrade our oceans to the point of no return.

(Sources: NOAA Coral Reef Conservation/Trinidad Express/Jakarta Post/NYTimes/Sydney Morning Herald/WCS/mongabay.com)

The Cause of All These Diving Deaths?

heart attacks lead the way

In February, Scott Hacker (El Cerrito, CA), 51, said, “I watched a person die today.” He was diving at Silfra, the freshwater dive site in Iceland where two tectonic plates collide. An unidentified 65-year-old American tourist died of a heart attack after snorkeling in the crystal-clear but freezing-cold water. It’s the eighth such fatality to occur at Silfra in as many years, and park officials have raised concerns about many of the 50,000 people who visit each year, suggesting that tourists find it hard to adjust to the 37°F (3°C) cold water. Park Ranger Ólafur Örn Ólafsson says, “People pretend to be in good health, but turn out not to be.”

An experienced British diver who had previously appeared very fit and well, Neil Fears, 51, died while diving the *Stanfield*, a WWI wreck that lies off the coast of Cabo de Palos, Murcia, in Spain in August 2015. The coroner later concluded the deceased was unaware of a heart condition, moderate-to-severe coronary atheroma, which was a contributory factor leading to his drowning.

Charlene Burch Weston made thousands of dives since she first fell in love with scuba in Roatan in the 1970s, but surfacing with friends from a dive off Jupiter on January 21st this year, she didn’t feel well.

Unbeknown to her sister, Elaine Love-Stewart, Charlene had been diagnosed with atrial fibrillation — an irregular heartbeat that can lead to complications. Her heart stopped several times after the dive, and she was revived, but the resulting brain damage was significant. Aged 65, she died a few days later.

Recently, Dr. Burton Stodgill of Paducah, KY (aged 47), died from a presumed heart attack on

March 2nd after surfacing and not feeling well in Bimini, the Bahamas, when diving with Neal Watson’s Undersea Adventures.

On March 5th, a yet-to-be-named diver went missing off Motonau Island, New Zealand, after climbing the ladder of a dive boat, when he cried out, grabbed his chest and fell back in the water.

Fake News or an Error in Social Media?

No doubt you saw our undercover diver’s report on the MV *Thailand Aggressor* in *Undercurrent* last month. Shortly after we published it, we noticed a newspaper report claiming that Richelieu Rock had been destroyed by dynamite fishing. As we went to work on a story, we soon learned that the source, a Thai newspaper, had taken its story from a Facebook post.

However, the story sparked a team of divers from Mu Koh Surin National Park to journey out to inspect the Rock, a world-famous location for scuba diving. Everything was just fine.

Park chief Phutthaphot Khuprasit said that a team inspected the site to a depth of 30 meters and found that the coral was still fertile, with many varieties of fish and young coral. While there was some coral damage attributable to the forces of nature, they found no trace of any explosion damage. The original Facebook poster had seen some dead fish on the seabed and jumped to the wrong conclusion. She has since apologized, not a common response for those who take news from social media and broadcast it as fact. (Source: www.nationalmultimedia.com)

The attrition rate is high. By the late 1980s, the baby boomers were out of college, with well-paying jobs and embracing the good life. At that time, interest in activities like scuba diving surged. Today, with families grown up and flown the nest, people of that generation are reacquainting themselves with old interests. However, they are returning with baggage they never had before. That baggage is health issues.

“The number one cause of medical-related dive fatalities is cardiac events,” says Ted Clark, associate director for aquatics and scuba diving at Nova Southeastern University.

Thanks to time and cost factors, people under the age of 40 usually dive less than older divers. DAN tallied 561 deaths related to scuba in the four years 2010 – 2013. Many were over 40 years old. Fifty-eight percent of men and 59 percent of women fatalities were aged 50 or older. Although drowning is the primary cause of death, it falls into second place behind cardiovascular disease as the leading disabling injury.

What’s the answer? Regular check-ups and medical examinations. Suffering a heart attack while diving gives you little chance of survival.

Are you fit enough? When looking at deaths, two things pop out. Deceased divers are frequently obese and frequently have undetected cardiac issues.

Divers over 60, of course, should have annual medical exams. And during those exams, divers should talk about the stressors associated with scuba. While an electrocardiogram should be part of one’s physical, a diver with any questions should consult with a cardiologist. Our editor, Ben Davison, does so regularly, though he has no cardiac issues. His cardiologist tells him that if a patient over 60 says he wants to take up scuba diving, he insists on a stress test. He also insists on a stress test for anyone who has been out of the water for a few years. Cardiac-related deaths while scuba diving are just too frequent for anyone to take a chance.

What Has the EU Done for American Divers?

when it comes to dive gear, plenty!

At a time when Britain is heading for Brexit, that may sound like a strange question. Bear with me. When I began my career as Technical Editor of *Diver Magazine* (UK) more than three decades ago, I immediately made a lot of enemies in the trade. Regardless, using and reviewing diving equipment was great fun. You see, a lot of gear, quite frankly, did not measure up. So, I ensured that I always had total equipment redundancy on test dives, which usually meant carrying two independent tanks on my back and an arm full of computers.

It never much bothered me to carry a spare mask, and BCs are so low-tech, they could usually be accommodated even if sometimes it was tricky to get the air out of them during an ascent. I remember having a couple of desperate failures that gave me a scare, like the Buddy Trimix wing that split when I fully inflated it at the surface. I managed to grab the ladder of the boat before I plunged into the abyss.

Fins quickly revealed if they were completely useless. I went away on a liveboard trip with three pairs of prototypes from Bob Evans of Force Fins

and found, disappointingly, they were all ineffective in strong currents.

Some people in the trade still bear a grudge, because after my articles, they ended up with a warehouse full of regulators they could not sell, forgetting that I might have saved them from a manslaughter charge. One German brand sank without trace, as did Dacor after it was bought by Mares. The CEO of the huge Italian company, Mares, now retired, admitted one open-heel fin design was awful, but said he wished I hadn’t told everyone! They stopped production immediately.

British engineers Ian Himmens and Stan Ellis of ANSTI invented a machine to make quantitative tests of regulators. It simulated breathing down to a depth of 165 feet (50m) with an inhalation rate of 25 liters/minute. Linked to a computer, it printed out the results as a tell-tale graph of each regulator’s performance. I tested a wide range of regulators back in the early ‘90s and discovered some would not go past 60 feet (18m) safely. It caused a furor when the British Sub Aqua Club’s Mike Todd and I published the results, but after arguments, those manufacturers concerned went back to the

drawing board and made better ones. It was gratifying to witness them do that.

So what has this got to do with the European Union? Well, my fun as an equipment critic was spoiled when the EU brought in regulations concerning life-preserving equipment. Unlike in the U.S., where there are no standards whatsoever, all diving equipment sold within the EU has to meet stringent test criteria. For example, all regulators have to be capable of supplying sufficient gas at 50m (165 feet) on demand, without giving positive pressure, either. Manufacturers needed to buy ANSTI machines, and most regulators now come with an ANSTI certificate supplied. Similarly, BCs had to be able to give sufficient buoyancy and evacuate that air sufficiently quickly to meet CE-certification. Equipment will bear that CE-mark.

Soon, there was no really bad diving equipment on the market in the UK (and Europe), and I ended up scoring everything 8/10. Occasionally,

I'd find something that really appealed to me and award it more. My equipment reviews lost their edge!

So how does all this help the American diver? The U.S. home market is a big one, but if a manufacturer wants to sell its products in the equally large or even larger European sphere, the products must be CE-certified. One American computer manufacturer (Pelagic, then part of Oceanic) even introduced dual algorithms to accommodate this European demand, though there is no actual CE-certification for computer software.

The spin-off from EU CE-certification has benefitted those who buy American-made diving equipment also destined for the European market. It's easy to check if a product is available in Europe by going to a company's European or British website. But, if some gear is only available in the U.S., ask yourself why, before you commit to buying it.

– john@undercurrent.org

Are You a Wreck Diver or a Liveboard Diver?

either way, it's not a bedroom, it's a cabin

With the increasing popularity of liveboard diving, we get reports that describe a craft as if it were a hotel, with bedrooms and bathrooms and floors and kitchens. Even some experienced wreck divers rewrite ship descriptions. So, we thought it might be useful to give landlubbers less familiar with being at sea clues to terminology used historically.

Vessels don't have kitchens, they have *galleys*; they don't have bedrooms, they have *cabins*. The corridor that links the cabins is a *companionway*, not a hallway or corridor.

From the times of medieval sailing ships, the lavatories have been called *heads*, just as the raised section of the *deck* (floor) at the bow is known as the *fo'castle* (pronounced folk-sole), a corruption of forecastle. The *foredeck* (the forward deck) normally carried the *winch* or *windlass* for hauling in *lines* (not ropes) or *anchor chain*. It's no place to be if you have no job to do there, because there will be *cleats* and *fairleads* – things to trip over! The *hawse pipe* is the tunnel down which the anchor chain passes out on larger vessels.

The *hull* is the main part of the vessel that gives buoyancy and keeps everything afloat. The *gunwale* (pronounced gunnel) is the upper edge of the side

of the hull, a ridge for guns on old ships. The *keel* is the backbone of the hull.

The *bow* is the front pointed end of the boat, while the *stern* is the blunt end at the rear. You walk *fore* and *aft*. Facing forward, the right side is called the *starboard* side because the steer-boards of ancient vessels were on that side, whereas the *port* side on the left is laid against the dock away from the steer-board. The port side carries a red light at night and the starboard side has a green light.

Portholes are opened for ventilation when in port. They form a watertight seal, but if you open a porthole while at sea, water may enter. Of course, that can depend on how much *freeboard* there is, the distance between the main deck and the water.

Lockers are storage spaces. The *chain locker* is where the anchor chain is stored. If you have a cabin near the bow, the noise from the winch and chain locker when the anchor is deployed or recovered can be disturbing. The locker under the deck at the stern is known as the *lazaret*.

The *saloon*, now so often called the *salon* by non-nautical marketing men that the name has entered the maritime lexicon, is the public room. You may enter the officers' saloon of a wreck you have dived

Orca Slaughter at St. Vincent

If you're thinking about a diving trip to St. Vincent, you may want to think again when you realize it's still a whaling nation.

In early April, there were shock and tears on board the cruise ship *TUI Discovery* during a whale-watching trip when local fishermen from St. Vincent slaughtered an orca as they watched. Now, there have been further repercussions for the Caribbean islands that include St. Vincent and the Grenadines, when the company, Thomson Cruise, canceled all further whale- and-dolphin watching tours.

A crewmember from Fantasea Tours, which operates the trips, told how the 40 passengers were delighted to see a pod of four orcas approach, but were dismayed when locals turned up in a pirogue with a shotgun-powered harpoon gun mounted on the bow. Despite vocal protests, they killed one of the orcas and attached a buoy to it to prevent it from sinking. Then, in full view

of the tourists, they killed a second.

The country's Prime Minister, Dr. Ralph Gonsalves, who has previously stated he would like to move the local industry away from whaling and toward whale-watching tourism, responded quickly to the Thomson Cruise incident. According to the *Antigua Observer*, Gonsalves said, "The person or persons involved in killing the two orcas are very hard-working fisherman. But what they did was plain wrong. Not just because it happened in front of tourists, but [because] they must not kill the orcas."

Now, if a few divers wrote Dr. Gonsalves, perhaps the suggestion of a boycott might move him to end the slaughters, as he says he wants to do. Write to: Office of the Prime Minister, Government of St. Vincent & the Grenadines, Financial Complex, Bay Street, Kingstown, St. Vincent.

and then talk about it afterwards in your own vessel's salon!

It's best not to enter the *engine room* unless you are invited by a crewmember to take a look.

On traditional ships, the *bridge* passes from one side of the vessel to the other to give the *coxswain*, *captain* or *pilot* a proper view of all parts of the ship. The bridge bears the *wheelhouse* from where the vessel is controlled, but nowadays, often the wheelhouse of motor yachts is called the bridge.

No liveboards have a *poop deck*, but many wrecks you might visit will have this raised section of deck at the stern that prevents the vessel from being pooped by a following sea. However, most liveboards with dive decks at the stern have a *transom*, a transverse structure of the hull. The *propellers* are sometimes called 'screws' by old sea dogs. If you are in the water and they are turning, stay away

from them. If the captain reverses the vessel, you could be drawn into them.

Don't think you won't get a beer on a *dry vessel*. It just means that the craft is not prone to take water over the bow in heavy seas.

A *davit* is a device for lowering a small boat while *shrouds* are the lines that support a mast. The *flagstaff* at the stern carries an *ensign*; if there is a flag at the bow (as with naval vessels), it's called a *jack staff* (hence the Union Jack on Royal Navy vessels). Finally, a knot made by tying lines is called a *bend*, whereas a *knot* is a nautical mile, which is the distance over a minute of latitude (slightly more than a land mile). The speed of vessels is measured in *knots* or nautical miles per hour.

Now, let's go diving!

– john@undercurrent.org

Flotsam & Jetsam

More Unwelcome Immigrants. It's very pleasant to be diving among a colorful school of orange-striped Mayan cichlids that dart among the boldly spotted tilapia and ruby-colored African jewelfish, but not if you're out in Florida's Big Cypress swamp. It seems these exotic fish, originally dumped by aquarium owners or perhaps escapees from fish

farms, are now found in the remote canals crisscrossing the Florida Everglades. These invasive species, of which around three dozen have taken up residence, reproduce faster than native species and hunt in small packs, devouring crayfish.

A Big Fine for Aussie Dive Operation. A dive company in the Whitsunday Islands, North Queensland, has been fined Aus\$160,000 (US\$120,000) following the death of a British tour-

ist in 2015. The 23-year-old victim, Bethany Farrell, was taking part in an introductory dive with Wings Diving Adventures when she became separated and was later found drowned. In sentencing the company, the magistrate noted that diving is a high-risk activity and that the victim relied on the company for her health and safety. Such action is rarely taken in the U.S.

Who Said There Was No Money in Diving? Al Giddings, diver and film-maker, one of three underwater cameramen for the making of the 1977 movie *The Deep*, has put his ranch in Montana on the market for more than \$7 million. It includes a 5,500 square foot, six-bedroom main house sitting in 3000 acres, with two guest cabins alongside a trout-filled lake. A guest lodge is where the idea for the film *Titanic* was originally conceived, according to the listing details. (Source: *Los Angeles Times*)

Counting Sharks in the Caymans. *Cayman Compass* reports more than 100 sharks were counted by scuba divers in Cayman's waters in January as part of a 'citizen science' project to help keep track of numbers of the predators around the islands. Nurse sharks and Caribbean reef sharks were by far the most often sighted species (there was no systematic way to ensure the same sharks were not counted twice). To get involved in the program, email: sharkloggers@gmail.com

As the Crow Flies. For your DAN insurance to kick in, you must be diving 50 miles or more from your home. Otherwise, you're not covered. Undercurrent subscriber Bob Halem (San Jose, CA) has to drive more than 70 miles from his home to go diving in Monterey, California, so he figured he was covered until he contacted DAN. Nope, he was told, because the distance must be calculated in a straight line, regardless of whether such a journey is possible. Though Halem takes the shortest route he

can, DAN hasn't got his back.

Butchered Shark Fins Seized Off Key West. While *Undercurrent* readers were discussing the pros and cons of shark feed dives, at the end of March, Florida wildlife officers made a grisly discovery aboard a Key West shrimp boat when they came across dozens of pairs of dismembered shark fins. Shark tourism helps pump more than \$220 million annually into Florida's economy and produces about 3,700 jobs. Shark finning has been banned in Florida waters for more than 16 years.

Buyer Beware! Our mid-April email mentioned a proposed 2018 trip down to the *RMS Titanic*. We didn't foresee many *Undercurrent* subscribers rushing to book in view of the enormous cost, but an impeccable source, who has been down to the wreck four times, tells us that it may well be a scam. He says the Mir submersibles are out of the water and the images used to publicize the trip are not theirs to use.

Undercover Travel Reviewer Uncovered: We never disclose the names of our travel writers, so they can keep their anonymity. They get no recognition, pay all their own travel costs, suffer through my editing of their stories, and eventually get a check from us that will cover dinner for them and three buddies. Regardless, let me unmask one from the 1990s, who in March was awarded the 2017 DAN/Rolex Diver of the Year Award, for his decades of contribution to dive safety and technology. There is no higher award, and Mike Emmerman, who has made diving safer for everyone, is most deserving. Our heartfelt congratulations. goo.gl/uNTk7e

Don't Ever Stop Diving, No matter how old you are! *Time* magazine reports that when people at an Alzheimer's disease facility dined in front of an aquarium filled with tropical fish, they ate more, were more attentive and less lethargic.

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