

undercurrent

The Private, Exclusive Guide for Serious Divers

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Taino Divers; *MV Juliet*; Puerto Rico

by land and by liveaboard

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Dear Fellow Diver:

Puerto Rico's Mona Island: "the Galapagos of the Caribbean," as the website of the 104-foot steel-masted schooner *Juliet* claims. That's popped out as I considered a trip aboard the *Juliet* for Florida Keys or Bahamas trips. I had never heard of Mona Island, but it promised virgin-like diving where not too many have been before. And the *Juliet* had one trip going in December. I booked it.

I would delay my presumed gratification to spend my first week diving with a land-based operator, Taino Divers, on the Eastern coast, selected because of recommendations on Internet websites. By e-mail, I requested five days of two-tank diving with the chance to go to Desecheo Island; they responded that they had space available every day during my time there, so I sent my CC info. I was set, so I thought.

After a long flight from Germany, where I live, I overnighted in San Juan before hopping a Cape Air twin-engine Cessna to Mayaguez. The green land and beautiful coastline below excited me, and when I landed I rented a car for a half-hour drive to Rincon and the Coconut Palms Inn, a small but lovely privately run hotel on the beach.

Taino's shop is in downtown Rincon, close to a beautiful sandy



Taino Divers pilot the boat close to the beach for loading.



beach and next to the Shipwreck Restaurant, with cheap eateries nearby. At first, the folks at Taino could not remember my e-mails, but when they did find me in their files, they had nothing reserved for me. Monday, they had boat space, but with no bookings Tuesday, they weren't diving. I could go Wednesday, but Thursday they were pulling their boat for maintenance, and Friday was still a question mark. Having flown so far with only diving on my mind, I was not pleased.

The first day of diving started with more bad news. The skipper decided not to go to Desecheo Island, saying the wind made it too choppy for a ride out, and the weather forecast wasn't good. I know one must trust the skipper; it's his boat and his call, but I have missed so many awesome dives while traveling because someone was not in the right mood, wanted to save petrol, had beginners on board, or thought the sea or current was too rough -- though other boats went out -- so some excuses are hard to believe. Who knows the truth? It's what the captain says. And one must trust the captain.

At the harbor, they pilot the boat close to the beach, where divers and snorkelers form a line to pass gear and tanks from their truck to the Katmandu. I don't mind carrying gear and tanks occasionally, and in southern Europe, this is routine. But at \$120 for a two-tank dive, one might expect the shop to handle the heavy work. The twin-outboard boat is rather small, with limited shade and no head, tank racks in the middle, and benches all around. With more than eight divers, it was rather tight while gearing up. We made two boat dives close to the mainland, where visibility was less than 30 feet, water temperature 80°F. For 50 minutes, I kicked among scattered coral heads and sponges on boulders in sandy patches, saw a number of colorful but common reef fish, two barracuda, a moray eel, and a lobster -- a decent intro dive but nothing more. I surfaced with 1400psi.

Rincon (population 15,000) is a lovely town posed along beaches and hills, apparently a surfer's paradise. Coconut Palms Inn was a lovely home away from home. Pelicans skimmed along the beach, diving head-first to catch fish, and in the breathtaking sunsets, it was an amazing spectacle. My hotel room, the Gecko, had everything for self-catering: microwave, refrigerator, coffee-making facilities, even a grill on the balcony, but with nearby restaurants for every taste and budget, I tried many. I had mouthwatering meals: rib night at the Shipwreck, fresh oysters at a street stall, surf and turf, and salmon chowder.

With no Tuesday dive, I visited "La Caverna," an impressive cave system where one rides down to the entry on a little train, before hiking deep into the cave, decorated with huge stalactites and openings to the sky and jungle. While bats hung above, water dripped from the ceiling, so I turned my



Plenty of room to store gear and dress on *Juliet's* dive deck

mouth upward and took a drink -- it's pure, they say.

But, I came to dive, and Wednesday started well with the chance to dive Desecheo Island, about a 45-minute trip. They provided a good briefing and didn't insist on buddy teams, so I cruised the reef between 45 and 70 feet deep, continuing after my buddy ascended in the 150-foot visibility for a safety stop. Scattered boulders hosted sponges and coral, and while common tropicals -- grunts, sergeant majors -- were more abundant than inshore, a few trumpet fish, spadefish, an octopus, and tiny nudibranchs and cleaner shrimps provided variety. Three nurse sharks cruised by, and I kicked through some nice swim-thrus close to shore, shooting photos of the surf crashing on the island above. Between dives, they offered soft drinks and pasta salad on board, since no visitors are allowed on the island; it once was used for air force bombing practice, and unexploded bombs remain; I saw one in 30 feet of water, the size of a man's thigh with rusty tailfins.

But, to my great disappointment, that was it for my diving. After Thursday's boat maintenance, they didn't have enough divers to make a Friday trip available. I asked Taino about other dive centers around Rincon; they told me these only offered shore diving. One might expect a dive operator to do what they could for a diver who had come so far with an expected five days of diving, but no, I was on my own to find last minute options, and I found none. A bad show, indeed. Well, ahead lay the Puerto Rico's Galapagos. And I was eager to go.

Does Diving Make You Daft?

As we age, we become more aware of our lack of mental capacity, especially when it comes to short-term memory. Do we have difficulty recalling things because we simply have too much information stored? Are the hard drives of our brains so full it takes more time to search out individual items, or are we simply losing our minds? Or, has too much diving damaged our brains?

Dr. Christian Seiler, of the University of Berne, scanned the brains of 52 divers who had completed at least 200 dives and compared them with those from the same number of healthy adults who had never scuba dived.

The research showed 41 lesions in 19 of the divers compared with seven lesions in six of the non-divers. His conclusion was that diving increased the incidence of one or more brain lesions five fold.

The affected divers had not performed a greater number of dives nor at a deeper depth than the unaffected divers, and the lesions did not appear to be linked to other causes. Nor did the study suggest that these brain lesions occurred in divers who had suffered symptoms of decompression sickness, although the study, published in the *Annals of Internal Medicine*, confirmed fears that they were more common in divers who have a PFO (patent foramen ovale).

We asked Petar Denoble of DAN for a comment on this, but although he had not seen the paper in

question, he pointed us to another paper; Long-Term Neurologic Damage and Brain Lesions in Recreational Divers by Michael Knauth of the University of Medicine, Goettingen, Germany. It reviews other research done in Norway, the USA, Germany and Switzerland and highlights that while divers had significantly more brain lesions than the non-divers, there was also a correlation between the presence of a PFO and brain lesions.

"That the number of brain lesions was also increased in the group of divers without PFO suggests that there are also other mechanisms for the origin of brain lesions in divers besides PFO."

This is the conclusion in full:

"Long-term neurologic damage in the form of neuropsychological performance or brain lesions should neither be dramatized nor played down. Brain lesions have so far not been linked with a reduction in neuropsychological performance, and the neuropsychological impairment in divers in the Swiss study occurred in relation to quite extreme diving behavior.

On the other hand, recreational diving is a leisure activity, and the brain is the organ to which we owe our mental capacity and our personality. As in other areas of life, the same should apply to diving: moderation in all things. In any case, there is so far no evidence of long-term neurologic damage in the form of reduction of cerebral capacity with moderate recreational diving."

On Saturday, I took a cab to the Mayaguez ferry terminal to board the Juliet. She surely has seen better days, though I learned she was soon to be hauled out and spruced up. For my six-night, five-day trip, I had booked a big private cabin with a head, but since the Juliet was not fully booked, many of the other seven guests, all Americans, were assigned individual cabins. Saturday night we motored to Mona. Juliet rolled in the deep swells, so sleeping meant fighting the movement. With my bunk running straight toward the bow, I would nearly fall out; when I tried staying at a right angle, I hit either my toes or head, though I'm only 5'10".

Our first day of diving Mona was along terrain similar to Rincon, with huge boulders, scattered sponges and coral, and sparse, shy fish life, probably spooked by spearfishermen in this supposedly protected area. While the water was generally calm, when we motored to the nearby smaller Monito island, big surf was waiting. On command, we jumped and grabbed the tag line, then descended together. I thought negative entry would have been the right choice, but Jessica, our young dive instructor, disagreed, pulling rank even with old experienced guys in a charming way. She towed a marker buoy with a flag at Monito, a tough job.

On dive two, we had tricky Galapagos-like currents, but 150-foot visibility to view some nurse sharks, turtles, and better tropical fish life along an awesome wall with barrel sponges large enough to hide behind. When we dropped down, I couldn't see what direction to take to the island due to the surf and bubbles; I followed Liza, my guide, into a small canyon and tunnel leading to the other side, where we met our group. Lionfish were free-swimming everywhere (I was later told they stay deep to keep away from spearfishermen). Behind the boulder, the island steeply rose up to the foaming surface. Occasionally, I looked into the blue, but Neptune never offered me a glimpse of a passing pelagic. At times, I would rush ahead to be the first to round a corner, hoping for an awesome encounter, but no luck. At dive's end, we assembled on the surface, and when the Juliet approached, each took his/her turn to grab the tagline like WWII frogmen -- with the boat riding the swells, this was a damned hard job -- and climb aboard.



Juliet is not the youngest lady anymore, but she has charm.

I had plenty of room to store my gear and dress on the dive deck and appreciated the hot and cold freshwater and buckets for cameras. All dives start from the mother boat; the inflatable is only used to chase divers who are caught in a current and swept away.

Most days, we chose to dive two tanks at the rugged Monito Island and then headed back for a shallower dive plus a night dive in calmer waters at Mona. Once, when I surfaced at Monito, I looked up, and a frigate bird was hovering right above me; it must have been curious to find out what kind of creature was swimming below.

The last day we dived "Cul de Sac" at Mona. It's a wall dive with spectacular coral garden on top, Mona's best diving. Along the reef top, lush with coral and sponges, pairs of angelfish cruised around; yellow boxfish hid in crevices, a shy file fish hovered above coral, and a trumpet fish traveled alongside me, switching its eyes in all

directions. Three remora looking for a new host checked me out. I dropped down to eighty feet, where small jacks -- one accompanied by a trumpet fish, a strange underwater friendship -- and five barracuda passed, then swam by a huge turtle resting in a crack. In the clear water, sunlight brought out the reef's majestic colors. For only this dive would I give Mona Island good marks. Otherwise, pelagics were rare, and only once did I see dolphins on the surface. While the boulder-lined bottom may suggest Ecuador diving, to call it the Galapagos of the Caribbean is an exaggeration at best.

On our way back to the mainland, we stopped for a last dive at Desecheo Island, a drift dive in ripping current at Yellow Reef. I tried to swim around huge boulders and through canyons to reach the outer reef, but as soon as I raised my head above the reef edge, current stopped me. It was either hide in the lee of the reef or be swept back to the Juliet. Down to 50 feet, I saw a lot of lionfish; one diver took a spear, but in such conditions, he had no chance of scoring. Hanging on either the tag line or anchor line, I rippled like a flag in the wind. As I grabbed the safety bar, the current yanked me to the surface, where my computer shrieked. Our skipper was happy when all climbed aboard safely. So were we.

Regardless of the diving, the staff was excellent. Chef Anna did a magician's job in the galley, seemingly impossible in the often heavily rolling Juliet. She served good and nourishing buffet meals, and even prepared gluten-free pancakes and French toast for me for breakfast, which also included fruit, yogurt, oatmeal, cheese, ham, smoked fish, coffee or tea. Lunch was mostly vegetables, fettuccini Alfredo, tacos, lasagna, salads, dinner mostly meat like pork or beef, steak or fish, lovely red wine went all around the table, desserts were a sweet sin, most often cake or some mouthwatering warm pudding, from which I just picked a bit because of the damn gluten thing.

Jessica, our instructor/guide, gave informative briefings; I got the chance to brush up my underwater compass skills; finding my way back to Juliet wasn't always easy in unfamiliar surroundings. Jessica seemed not to believe there are experienced divers even in Germany, but she changed her mind as she watched me blow bubble rings and hearts. Liza was the cattle driver, diving behind us all to make sure we stayed together and behaved.

Juliet is not the youngest lady anymore, but maybe it's her charm and the staff that lead divers to her. Surely, I would dive again with her, but never on a journey to the nonexistent Galapagos of the Caribbean.

PS: After this trip, Captain John Beltrano turned ownership over to Liza Hash, a crew member for three years.

Taino Divers, Puerto Rico

Diving for Experienced	
If Taino will take you out	★★★
My trip	★
Diving for Beginners	★★★★
Hotel	★★★★
Local Restaurants	★★★★

★ = poor ★★★★★ = excellent

Caribbean scale

MV Juliet, Puerto Rico

Diving for Experienced	★★★★
Monito	★★★
Mona	★★★★
Diving (Beginners)	Don't go!
Accommodations	★★★★
Food	★★★★
Moneys Worth	★★★
<i>The Juliet</i> at another location	★★★★

★ = poor ★★★★★ = excellent

Caribbean scale

Our undercurrent writer has made "1900 dives in more than 100 destinations worldwide. I'm always looking for special destinations with 'icing on the cake' like Phoenix Island Kiribati, Rowley Shoals, Eparses Islands, etc. Pelagics seem to shun me; maybe these guys know about my being a taxidermist."



Diver's Compass: Taino Divers charge \$120 for a two-tank dive. . . .
. . . www.tainodivers.com. . . . <http://www.coconutpalmsinn.com> . . .
. . . The Juliet normally departs from Miami for Florida and Bahamas diving, but also dives the Virgin Islands; 7 day 6 night cruises run \$1690-\$1890, double occupancy; Nitrox is \$100 for the week. . . .
. . . <http://www.julietsailinganddiving.com> While Puerto Rico's native tongue is Spanish, English is widely spoken, and the dollar is currency. My Rincon hotel room, the Gecko, was \$106/night. . . .
.U.S. Citizens do not need a passport to fly to Puerto Rico.

Find Your Diving Canceled?

there's weather and whether they have enough customers



Photo by Damien Mauric

The Fijian islands were hit by a hurricane-force storm, Cyclone Winston, on February 20, causing loss of life and massive damage. Apparently the most powerful storm ever to have hit the southern hemisphere, it left leaving tens of thousands of people homeless. Mike Neumann from *Beqa Adventure Divers* on the south side of Viti Levu tells us they were severely shaken but they are otherwise OK, however, there was massive damage at the north end of Viti Levu. The Volivoli Beach Resort at Rakiraki reports, although the resort took some damage, nobody was injured, all the boats are safe and hopes the Ra Divers diving center will be back in operation shortly. However, the islands of Vanua Levu and Taveuni further north seem to have taken the brunt of the storm.

Jean-Michel Cousteau, whose resort and dive

center escaped major damage, has made a direct appeal to divers to donate to the Fiji Emergency Fund, at www.oceanfutures.org

Damien Mauric, a French national living in London and on vacation in Fiji aboard the *Fiji Siren*, tells us that damage at Savusavu was severe. "It's been apocalyptic, but we survived Cyclone Winston. The hotel where we sheltered has been severely damaged. The wind took off part of the roof, and many windows were blown out, injuring people with deep and large lacerations. We had to create a hospital of fortune in the middle of all this mayhem."

"On the other side of the hill where our hotel is located, hundreds and hundreds of houses are simply gone, leaving people homeless. Our boat, the *Fiji Siren* is lying ashore. Luckily, none of the crew members who stayed on the boat got injured."

The Siren Fleet has been particularly star-crossed. This is the sixth major disaster in their fleet in less than seven years. For the story about the Siren Fleet we wrote in September, go to http://www.undercurrent.org/UCnow/dive_magazine/2015/PalauSiren201509.html

No dive operator can control the weather, especially extreme weather events, and that's something travel insurance should handle. However, some dive operators can be scandalous in the way they treat their customers.

Can you think of any business that decides not to offer their everyday services during business hours because they don't have enough customers to make it profitable? No theater or golf course would last long if that were its policy.

Worse, can you think of any business that decides not to serve its customers after inviting them to show up or even accepting their reservation? Imagine a car rental agency or a restaurant pulling that trick.

So, why do dive operators operate that way, as our reviewer reported in his story about *Taino Divers* in Puerto Rico? They shut him out though he had exchanged emails with them, with the flimsy excuse on two out of five days – not enough customers. He had traveled from Germany to dive with them.

Robert Levine (Englishtown, NJ) had a similar bust in February with *Octopus Divers* in St. Maarten; he emailed the shop in December with his arrival time and received a confirmation. "I had driven 1200 miles from New Jersey to Ft. Lauderdale, tooted my dive gear onto the cruise ship. I arrived at the dive shop on time and waited until the man who opened the shop told me my dive was canceled because I was the only diver to book that day. They did not get me on another dive boat or even call

a different shop, which is what they should have done. When I returned home, I received an email sent the day before the dive canceling my dive, but also stating if a diver cancels within 48 hours of the dive, he would be charged the full price on his credit card. Surely what's good for the diver does not count for the dive shop?"

Of all the reports we've received like this over the years, it doesn't seem to happen when the dive shop is connected to the hotel, and you've booked a package. The customers at risk are diving largely with independent dive operations and, as tourists who will probably never return, they have no leverage. However, if you have booked through a travel agent, you can be pretty certain the dive operation will not cancel because if they do they are at risk of getting no more business from that operator.

Southern Cross Club: This Little Cayman Resort has been getting high marks from several popular travel publications as a first-rate small beach hotel, and that's what Lisa Jabusch and Steve Nieters (Mount Juliet, TN) discovered in January. "They took us out for all our dives (probably because we were prepaid) even if we were the only two divers! There was no grumbling or shrugging us off, and all the guides were quite skilled at showing us the macro stuff we craved – painted elysia (5 on one

What, No Windows 10 Computer Interface?

Carl Schone (Virginia Beach) wrote to say that Scubapro's Galileo Luna Dive Computer would not work with Windows 10. He said that ScubaPro has not answered him as to whether they are going to accommodate an IR interface to their computers (the only way they can be updated or download dive profiles).

Gilbert deCoriolis, the Technical Director of Scubapro, told us that "since Windows 10 has been released, our customers using Windows 10 have an issue with the infrared (IrDA) communication between their dive computer and their PC. As a consequence, Galileo, Smart and Aladin/XP (round series) owners are not able to download their dive or adjust dive computers settings from either SmartTrak or LogTrak when using Win 10. This is a pure Microsoft issue."

deCoriolis says that Microsoft removed the so-called 'IrDA stack' from their operating system when they released Windows 10 and The SCUBAPRO USB Infrared (IrDA) Adapter IR778 stopped working. Even though the technical preview version from early 2015 did support IrDA communication, the released version didn't. They are working on a solution, but Microsoft is

not providing needed technical information.

There is a solution. A 'Windows 10 Preview Insider Build 11082' is available, which supports IrDA again. It still uses the original driver of our IrDA device. Every Microsoft user can switch its system to the preview version. But since it is a preview, there might be bugs in, which Microsoft will fix before the final release. In general, we recommend waiting for the official Windows 10 update.

Other diving computer manufacturers have been hesitant to rush out interfacing software until they know the latest Microsoft OS is stable. This is the situation with four other major manufacturers of diving computers:

Suunto tells us that Download Manager 5 (DM5) works with Windows 10 and Mares, too, says its latest computers support Windows 10 connectivity. Cressi says it has been waiting for the bugs in Windows 10 to be sorted out, and so its computers don't integrate yet. Atomic is not ready for Windows 10, although a patch is expected soon. *—John Bantin*

dive!), seahorse, pipehorse, pipefish, yellow-headed jawfish with eggs in his mouth, and juveniles of many species (including queen trigger). . . . Ocean front bungalows were roomy, and having our own porch and outdoor and indoor showers was great after diving. Meals were fantastically delicious! Breakfast had made to order omelets, French toast or pancakes and loads of fresh fruit. Lunch was a different buffet every day, great to replenish the calories burned while diving, but our only complaint was that dinner seemed a little meager, with salad/appetizer, main, and dessert that had been pre-ordered at lunch, but every single person we interacted with was friendly and helpful. It was an exceedingly enjoyable and relaxing week.” <http://www.southerncrossclub.com>

Little Cayman Beach Resort: Here, however, lack of friendly flexibility was not appreciated by

Marilyn Walker (Castro Valley, CA), who was there in January: “Read the fine print when you make your booking. *The Little Cayman Beach Resort* and *Reef Divers* sell packages, which are not refundable and are not changeable. *Reef Divers*’ two-tank morning excursion has a different price per dive than the one-tank afternoon dive. Do not suppose that you’ll be able to substitute two afternoon dives for two morning dives. You will save yourself some heartburn, and a personal intervention from the affable general manager, by sticking exactly to your dive program. Theirs is a no-change policy, whether for bad weather or personal inclination. If you are uncertain about how much diving you are realistically going to do, I recommend against prepaying any dives, as you’ll probably lose money.” www.littlecayman.com

A Death Attributed to Rental Gear

Many of our readers and well-traveled divers prefer these days to rent some if not all of their gear at their destination, hoping to avoid both outlandish baggage charges and schlepping heavy bags. Of course, *Undercurrent* readers are experienced and travel to reputable destinations or on reputable liveboards, but bad rental gear is out there.

In January, New Zealand coroner, Brant Shortland, after investigating the 2013 Vanuatu death of a Kiwi physician diving the world-class wreck of the *Coolidge*, put much of the blame for her death on faulty rental gear. Shortland said “The equipment provided by Aquamarine to Dr Osunsade was substandard. The air in her dive cylinder, which had a high water content, would have failed New Zealand standards, and the cylinder contained foreign material, most likely from cleaning. The cylinder valve may have been damaged and [the cylinder] possibly overfilled. There were no records of when it was last tested. Her regulator was in extremely dire condition and should have been replaced. With 10kg of weights, she was over weighted and had dive boots and fins that were too big. She would have been working harder in the water and become more tired.”

“Osunsade wasn’t experienced enough to know her equipment wasn’t safe,” Shortland said.

In his defense, the Aquamarine owner said he had bought the gear from an Australian dive company a year earlier, and it had only been in use for two months; furthermore, it had been in storage in Vanuatu’s hot and humid conditions for about ten months before police examined it.

Coroner Shortland claimed that Dr. Osunsade’s lack of experience should have been clear to Aquamarine, as would have been her ill-fitting equipment. However, it was also reported that Osunsade had been diving nine years, and this was her fourth dive on the *Coolidge*, which seems like she had plenty of experience to know good gear from bad.

What To Check When You Rent

The takeaway for us divers, whether experienced or inexperienced, is if you are renting gear abroad, you must examine it carefully before letting your life depend upon it. While you can only make a perfunctory exam, here are a few things you can do:

- Look for frayed hoses; if you have a pressure gauge, make sure the needle is at zero when not pressurized.
- Put the regulator on a tank, and with the valve turned off, check that when you suck on it you meet solid resistance; that should prove there are no leaks. Make sure the mouthpiece has no holes.
- Fully inflate the BC, and then verify that the over-expansion valves operate, and the BC holds the full inflation.
- Shake your tank to hear if it rattles. The debris tube may have fallen off the inside of the valve, or it might be full of rust or aluminum oxide powder.
- As for a computer — take your own.

– Ben Davison

And that's the case with dive packages at many resorts; what you pay for is often a very specific program; however, its Undercurrent's view that when a diver pays a couple grand for week at a hotel with diving – it's not like you paid \$100 for a ten-session gym package at home – she ought to be treated with a lot more flexibility. Hey, if a boat is going out and there's space, you should be free to trade a package dive and jump aboard. Regardless, some diver operators prefer to play hardball. If you're looking for flexibility, don't buy a package. But, keep in mind that if packaged divers fill a boat, you won't be getting wet.

Eco Divers: So, for flexibility, we like the way *Eco Divers* (Lembeh and Manado Indonesia) handled Brent Barnes' (Edmond, OK) problem. "Last spring, I placed in a photo contest through *Beneath the Seas* and won a seven-night stay with *Eco Divers* in Lembeh and was thrilled. But, I noted at the bot-

tom of my winning certificate that it was only valid in 2015, and I did not have time to get to Indonesia in 2015. I sent an email to *Eco Divers* and got an immediate response from the owner, Andrea Bensi. I inquired if they would extend the certificate to 2016 if I paid for a second diver to come with me and he immediately assured me they would." That's a win/win situation, and Brent had a great February trip, diving and all. "These two experiences are very different as Lembeh is muck diving with amazing and bizarre critters and the Bunaken Park is amazing walls with some pelagic life. They are two hours apart by ground, and in my opinion, it would be neglectful to travel across the world to dive one without the other." As Barnes shows us, you indeed appreciate a flexible and professional dive operator when you travel halfway around the world. <http://www.eco-divers.com>

– Ben Davison

The Chinese Scuba Revolution

and what it means to the dive industry

In our January feature on Palau, our reviewer bemoaned the rising tide of new divers coming from mainland China who were altering the diving experience beyond recognition. He said, "For the first time in a generation, rapid change is afoot. You won't see it from a liveaboard, but you will see it if

Each instructor taught only one skill before the trainee was passed on to the next instructor

you stay in Koror. That change can be distilled down to three words: Chinese tourism explosion."

It's not just happening in Palau, but what is it that makes Chinese divers different from any others? Mainly, it's the sheer numbers. When a group of Western dive-center operators visited tropical Hainan Island, off China's southern coast, a few years ago, they were astounded to find that one dive center had become a type of mass production operation system, organized so that each instructor taught only one skill before the trainee was passed on to the next instructor. The Westerners observed that few of these divers developed truly proficient skills but that the dive center was certifying as many as one-thousand each day. We asked a variety of dive

center operators who receive Chinese divers for their observations.

Tova Harel with her husband, Navot, runs Fish and Fins in Palau. She told us, "We get some divers from mainland China. However, these differ from those in mass groups. They tend to have good English and be well traveled so we do not witness any unusual behavior. However, we do encounter mass snorkelers and divers from China at dive and snorkel sites. They tend to be loud, they touch and break the corals, taking live marine life to eat and demanding seafood that is at times protected. I hope that with more education this will soon stop."

The islands of the Maldives in the Indian Ocean have become popular with divers from the Chinese mainland. Alex Bryant is boss of the Constellation Fleet of luxurious liveaboards, as well as owning a small resort in Ari Atoll called Casa Mia. He grew up in the Far East and understands the Chinese mentality.

"We have seen a massive increase in our Taiwanese and mainland Chinese client base during the last three years, while traditional markets have stagnated. There are major differences between the demands, behavior and diving methods or skills of the Chinese with those people who come from other countries, I'm sorry to say. By and large, they

are not very well trained, and are not particularly interested in being taught how to improve. They are very much bucket-list people, and they don't so much appreciate the beauty and majesty of nature, and want to see the things on their list. Once they have seen it, they are not interested in seeing it again, unless it's a much bigger variant; they would much rather move on to the next target on their

Those Flimsy Dive Bags

Long-time subscriber Chet Hedden, Ph.D. (Tucson, AZ) wrote to TUSA after two identical RB10BK roller bags he bought for his diving equipment became useless in the same way after only two years and two dive trips. It appears that the internal structure of each simply fell apart.

Josh Schoenwald of TUSA wrote back to him to say that the company had no repair facility and unfortunately, only offered a one-year warranty.

When Hedden then asked if there was any guarantee that if he bought two more, the same thing would not happen, Schoenwald dismissively replied: "I wouldn't be able to say if the same thing will happen again or not."

This indicates to us that maybe Hedden's experience with these bags is not unique. Divers should be aware that the popular dive companies that sell dive bags with their logo generally buy them in single batches from manufacturers in the Far East (usually China). When they sell out a batch, they seek bids from other companies for the next batch.

So scuba equipment 'manufacturers' only fulfill their guarantees by just replacing any bags that prove faulty for whatever reason. They're not repairable by them, though you might find someone locally who can repair your bag for a price — though a poorly made bag is unlikely to survive its next overseas journey.

You almost take pot-luck when you purchase an inexpensive dive-branded bag (as does the company that buys them). We doubt if TUSA or any other brand would do better than this. If you want to buy a strong bag, forget about buying a bag with a dive logo and seek a product from an American manufacturer — and spend a lot more money. Alas, even Stahlsac, a company that made exceedingly strong bags, has moved its production from the USA.

However, we do think that Josh Schoenwald, on behalf of TUSA, might have been a little more sympathetic. It's a wise way to keep customers loyal, and he has certainly lost one in this instance.

list. China has a rapidly growing middle-class that, unlike most of us, has not been able to travel while growing up, and now suddenly they have economic and political power to travel.

"In our position as wildlife-experience operators, it is important that we welcome Chinese, but we must learn quickly to

develop a way of educating them about the effects that everything we do has on the planet and eco-system.

We must

relate that to their own home environment, and educate them to appreciate nature, and encourage them to pass this newfound appreciation on to their friends and family at home. We must be slightly flexible in our rules, otherwise we will lose them as clients, but we must not compromise our principles. We must find a way to balance the needs of the environment with their naivety."

Karin Van Beeck has worked in dive centers throughout Indonesia. "We get a lot of Chinese at Nusa Lembongan and we do a lot of DSDs with them at our branch in Tulamben (Bali). Most have very poor diving skills with very little environmental awareness or respect. Neither do they seem to have much sense when it comes to personal safety, as they happily sign up for intro dives despite being unable to swim. This results in it being common to see instructors at two or three meters deep pulling Chinese introductory divers through the water. Naturally, there are always exceptions to the rule, and you get Chinese divers who are good and are trying to help toward conservation awareness. They are becoming a huge part of the diving market in the south of Bali and we may get a Chinese-speaking instructor in Lembongan just to do all the introductory dives. I believe they might grow to be the biggest diving market in Bali."

Frank Van Der Linde, boss of the Siren Fleet, said, "We steadily get more and more Chinese passengers. Personally, I like them a lot more than some other nationalities. We have already had Chinese business for a long time and some are amazing divers. Of course, it's going to be a massive market. They are the fastest growing segment with OW and AOW certifications."

"China has a rapidly growing middle-class that, unlike most of us, has not been able to travel while growing up."

A Chinese diver, Ma Li is a professional based in London but with immediate family living in mainland China. She says, “Many Chinese people are new to disposable income, and travel is a new big thing to the masses. Most have not yet learned how to behave in an internationally acceptable way. They behave in the same way they would at home in China. They need more awareness. The language barrier is also significant. Few outside China speak Chinese languages. This leads to misunderstandings and the inability to follow instructions. They prefer to hang out with their own kind. They enjoy the security of being in big groups and don’t feel com-

fortable on their own. The diving industry needs to do more to make allowances for different cultures.”

Whatever one thinks, China is rapidly becoming the world’s largest economy, with a potential 1.3 billion people joining the consumer market. We will see a lot more Chinese people in every aspect of tourism and travel, including scuba diving. With the sport diminishing in popularity in other parts of the world, manufacturers of scuba equipment need this growing market. We can only hope the dive operators everywhere will teach conservation and enforce good diving behavior.

– John Bantin

Time to Replace that Old Wetsuit?

selecting the one that will last ‘til your last dive

Water conducts away heat about 25 times faster than air. Since we rarely dive in water at the same temperature as our skin, no matter how much epidermal fat – natural insulation — you might carry, eventually you will get cold. Besides staying warm, there’s another reason to wear some coverage, as I reflected when I lay in a hospital bed in 1999 while doctors considered amputating my right leg!

A dive suit will protect you from the slings and arrows of misfortune and what I call man-eating plankton, what some in the Caribbean area call ‘sea

itch.’ I had snagged my ankle on something, probably coral, while wading out to a liveaboard’s tender without my shoes on. It was not a cut, just an irritating abrasion, so I covered it with Vaseline and went diving for the week.

A month later, a hematoma appeared on my lower leg. I continued to travel and dive, but my leg didn’t get better. Eventually, another more massive hematoma appeared, my leg became twice the size, and my lymph glands were working overtime, signs of a serious infection. Surgery under full anesthesia

A Spate of Dive Accidents in Thailand

The first two weeks of February was bad for scuba diving accidents at Phi Phi Island in Thailand. First, two Russian divers sustained serious and life-changing injuries when they each were struck by the propeller of a speedboat while scuba diving near Nopparat beach, after which authorities reacted by setting up markers for eighteen designated dive zones including areas at Phi Phi, Samui, Krabi and Pattaya.

However, less than ten days later, a Chinese diver was recovered unconscious while diving for the first time near Koh Poda and later pronounced dead. On a scuba diving tour with dive operator Scuba Addicts and one of a pair accompanied by British instructor Geoff Branigan, he was left alone while the other diver was accompanied to the surface with equalizing problems.

It has transpired that the dive boat’s registration had expired and was operating without permission and in a zone not designated for diving. It has also been discovered that Branigan was working illegally without a work permit, and the company that employed him was also charged with illegally employing a foreigner. Both face charges of recklessness causing death.

Later in February a diver drowned while diving the wreck of the HTMS Chang, a popular dive site near Koh Chang Island. A 63-year-old Russian man, not as yet named, was missing at the post-dive head count and was later found floating at the surface. It is believed that he might have removed his tank in order to enter the confines of the wreck. (source: *Bangkok Post*).

Why are Dive Boats Still Making Fuel Surcharges?

The crash in the price of oil will have all manner of economic repercussions, and one would think, keep liveboard prices down. But long time *Undercurrent* correspondent Mel McCombie (New Haven CT) writes “I have two trips coming up (February—Caribbean Explorer, St. Maarten—St. Kitts) and April (Provo.) Both are charging a \$200 fuel surcharge. I could see this a year ago, but now?”

Airlines often buy their fuel years in advance, so cannot always respond so quickly to a sudden drop in oil prices. However, this should not be the same for liveboard operators, who are more likely to buy fuel when it's needed. The international price for marine diesel tends to be the same everywhere unless it is subsidized (as it is in Egypt), although some areas of operation may mean vessels need to pay local taxes, which can escalate the price. However, a surcharge implies an additional cost in respect of extenuating circumstances so *Undercurrent* took a straw poll of vessel operators elsewhere in the world.

These were typical responses:

Mike Ball of Mike Ball Dive Expeditions in Australia said, “Our standard expeditions have been free of fuel surcharge for about eight years. We do 2 or 3 exploratory expeditions that involve significant extra travelling that we list as \$44 dollars subject to change. It's a joke that operators charge a generic fuel surcharge while fuel costs are down.”

Alexander Bryant of Constellation Ventures in the Maldives told us, “We have fuel surcharges for special trips where we have to buy fuel outside of Male, so that includes all trips to far southern atolls.”

Frank van de Linde of the Siren Fleet (Dive & Sail Worldwide) was jocular. “Regarding fuel surcharge, no we don't do that kind of stuff. We have never done and will never do either — unless it's maybe above US\$200 a barrel. However when it's reaching that price, both you and I will not be in the diving industry anymore.”

Alan at Undersea Hunter fleet (Costa Rica) responded, “Do we add any fuel surcharges? No, we do not, especially as fuel prices are quite low right now. If in the future fuel prices skyrocket, then we might need to charge it, but let's hope that does not happen.”

We suggest readers check the price of a trip when they book it and query why there would be an additional cost in the form of a fuel surcharge if one is added.

Clay McCardell of Explorer Ventures, the operator of the vessels booked by Mel McCombie, tells us, “Fuel cost is a difficult issue, since it is often our largest single expense and is highly variable. When we budget operational costs, we can plan on fairly predictable increases in most of our costs, but fuel is a wild card. Instead of charging a higher package price across the board, we set our package prices based on an average fuel budget for the year, and then use the flexibility of the fuel surcharge in order to try and meet that budget. That helps us to guarantee reasonable package pricing a minimum of 12 months in advance (often longer), with the understanding that the surcharge can and will vary depending on local fuel costs up until 30 days prior to the trip.”

He continued, “If oil prices remain stable and the Caribbean catches up with the USA, I'd anticipate a reduction of the fuel surcharge to zero soon.”

and time with drip antibiotics saw me eventually recover, left with nothing more than the scars. So that's a good reason for wearing a suit whenever you're in the sea.

Our senior editor, Vanessa Richardson, had been renting ill-fitting and smelly wetsuits on dive trips,

Few ever called a dive because they were too hot underwater!

but decided to spring for her own. With all the styles, thicknesses and qualities to choose from, not to mention price ranges, her

research will guide you if you're ready to replace your old ill-fitting, smelly wetsuit.

The Material

Of course, you should buy a wetsuit designed for scuba, but some divers who surf might be tempted to seek a surfing wetsuit for double duty. They are cut for maneuverability and comfort, but their neoprene compresses at depth, so they lose buoyancy and insulation. Modern neoprenes are so flexible that scuba wetsuits have become much more body hugging, making them both more efficient and more flattering, even if you've developed a body like a bag of chips.

Chris Moleskie, CEO of Wetsuit Warehouse in Williamsport, MD, explains that the ideal wetsuit is made of gas-blown neoprene, the highest quality because it's infused with thousands of tiny nitrogen bubbles that insulate you from the cold. While

it will compress and eventually wear out, as all neoprene does, it is the most durable. A chemical-blown wetsuit feels softer but will not be as durable.”

The Inside

Most wetsuits have a standard nylon lining, but some augment this with technology for a warmer effect. Pinnacle Aquatics touts that the merino wool lining of its wetsuits reduces water movement inside the suit, and it’s incompressible, therefore, unaffected by depth. You might see them for sale at online sites like LeisurePro and Scuba.com in the

\$300-\$400 range. But, you need to try to a suit for fit before you but it, because ‘fit’ is everything.

Jason Schmitz, a sales person at Dolphin Dive Center, mentions another high-end lining, titanium, which is either woven into the wetsuit or put between the neoprene and the nylon interior lining. He says, “It reflects body heat, reflecting it back to the diver, instead of through the neoprene and into the water, so it does keep you warmer. And it’s easier to put on. But the con is if you bend and crush it, it degrades easier. And it’s more expensive.” Few divers notice the difference in perfor-

Florida Diver Sucked into Pipe Brings Suit

Last July, Christopher Le Cun, a scuba diver and resident of South Florida, was boating and scuba diving with friends and family near the St. Lucie nuclear power plant. Le Cun and his friend, Robert Blake, found three massive barnacle-covered structures underneath the surface that were visible from above the water. There was a buoy in the water, seemingly marking the shallow water for passing boats. Since there were no obvious warnings posted, the diving friends swam down to investigate the odd finding.

“I swam right up to this big structure and it looks like a building underwater. I felt a little bit of current. All of a sudden it got a little quicker, and I said this ain’t right, this ain’t right,” said Le Cun.

The St. Lucie nuclear power plant gets cooling water from a canal system that is connected to the Atlantic Ocean by three underwater intake pipes. There is no grating over the mouth of the intake pipe, and the force of 500,000 gallons of water per second rushing into the pipes pulled Le Cun into the intake. Blake thought he had watched his friend die in front of him. He raced to the surface where he yelled at Le Cun’s wife in the boat, and she called 911 and began trying to explain what had happened to her husband.

Deep underwater, Le Cun was tumbling through the intake pipe — which is 16 feet across and nearly a quarter mile long — a rate of nearly seven feet per second. As the water travels through the pipe, it gets more turbulent.

Le Cun told Jared Werksma of WPTV in West Palm Beach, “I kind of felt like I got sucked over a waterfall and just instantly complete darkness. I was getting tumbled around and around. I’m trying to hold onto my mask and my regulator. I finally get ahold of my light and I’m trying to look around. As far as you can see, it’s

just black . . . I knew something was drawing all this water. All I could think about was these horror movies, you know, this big turbine coming and I’m coming for it. You know, it’s going to chop me up and kill me . . . I contemplated, you know, do I just pull the regulator out of my mouth and just die? I started thinking about my family, you know, how are they going to survive without me?” Then he saw the light. “It looks like a match, out in the distance, just the littlest bit of what you’ve ever seen. When it gets a little bigger, then a little bigger. Then all of a sudden just, poof, daylight. Fish everywhere, crystal-clear water, the sun is shining and I’m like, ‘is this heaven?’”

After nearly a five-minute ride, Le Cun was finally in the intake channel at the St. Lucie nuclear power plant that is used to condense the steam for the turbine. He flagged down a worker and then borrowed a phone to call his wife.

Le Cun has filed a lawsuit against Florida Power and Light, the utility that operates the nuclear power plant.

This is not the first time that a diver has been sucked into the intake at St. Lucie. In 1989, William Lamm was scuba diving and spearfishing near the water intake, when he, too, was sucked in. “It was darker than any dark I’ve ever seen, and I tried to hold my arms in front of me for balance, but I tumbled and bounced all over the sides of the pipe.”

It took nearly four minutes before Lamm was deposited in a canal at St. Lucie, where he was found by a security guard who saw him surface.

Lamm reported that the force of the water was so strong that it pulled off his mask and diving gloves and even ripped out his mouthpiece several times, threatening to drown him in the fast-moving flow of water.

From reports in Enformable Nuclear News and KPTV

mance since so little titanium is used. It's probably more a marketing tool than a noticeable benefit.

The Thickness

Fit and thickness are the most important factors for staying warm. Every body is different, but for the Caribbean, many people use 3-5 mm suits for water temperatures in the 70-85 degree range. The 5-7mm

Suits dried in the sun can lose their insulation because the nitrogen in each bubble of neoprene expands and leaks out, effectively making the neoprene thinner

wetsuits are for water temps between 60 and 70 degrees. One possible rule: the older you are, the thicker the suit you will need. Another thing to consider: how much body fat you have. "The more body fat you have, the more insulation

you have," Schmitz says. "I'm a skinny guy, so I need more layers of insulation."

Putting a shortie on top of a close-fitting wetsuit will provide more warmth in colder conditions, and if it's too warm, well, few ever called a dive because they were too hot underwater.

Schmitz (Dolphin Dive Center) says a 7mm to 8mm is best for places like the Galapagos or Northern California. What's most important is the core layer, and keeping your torso warm. That's why some wetsuits have two different thicknesses on different parts of the body — a 5/3 mm wetsuit thickness means there's 5 mm on the torso and 3 mm on the arms and legs. For standard wetsuits, Schmitz recommends adding a sleeveless hoodie to warm the core layer or a neoprene vest or tee with sleeves, plus a hood for colder waters.

A two-piece combo — often called a Farmer John — of which each part is 7mm, means you could potentially have 14mm covering from neck to thighs. It might sound great for diving in Monterey or Carmel, "but that's a lot of flotation, so you'd need more weight," Schmitz says. "That said, in temperate waters, you want at least 7mm on your core."

A lot of heat loss occurs while bareheaded, although some argue about this. Hoods certainly add to your insulation and can be bought in 3mm, 5mm, and 7mm thicknesses. We knew of one diver in the Caribbean area who dives with a hood and very little else.

Charges Dropped for Diver Blamed for His Friends' Deaths

In September, we wrote about a British Sub Aqua Club dive instructor, Stephen Martin, who was fighting extradition to Malta, where he faced a ten-year sentence on the charge of causing the deaths of his girlfriend and a close friend during a dive trip last June.

Martin was on a diving vacation with eight friends when his girlfriend of five years descended from 49 feet to 114 feet without warning. He and another diver went down to help her, but the other diver got in trouble, and by the time Martin got her to shore, she had died of a pulmonary edema. The second diver also died. Martin, a broken man, went home, but soon Maltese authorities accused him of being negligent in his obligations and brought charges. Since he was a certified instructor, "he had failed to keep a close watch," and should have halted the dive, due to "prevailing weather conditions."

He was arrested at home in England on July 7 by local police officers, acting on the European Arrest Warrant. The next day, a British judge approved his extradition to Malta, in line with a treaty between the two countries. He appealed, but was required to wear an electronic ankle tag and appear before police officers three times a week.

In January, a deputation from the British Sub Aqua Club arranged a meeting with the Maltese Authorities in Malta. It became apparent that there was confusion as to whether the deceased was an Open Water Diver (who would only be allowed to dive in Malta if under instruction) or an Advanced Open Water Diver, which she was. On January 18, lawyers for Stephen Martin were advised that all charges had been dropped.

In a country that is a second home to so many British citizens, the charges were clearly beyond the pale. However, they serve as a reminder: when a traveler is in a foreign country, he is subject to the laws of that country, period.

The Stitching

Besides thickness, stitching determines how long the seams and suits last. Moleskie of Wetsuit Warehouse explains: "The cheapest, least strong seam is a glued stitch. It will sometimes have a piece

Outrage over Shark Dives in New Zealand and A Call for Cayman to Allow Shark Dives

In the Cayman Islands, the discussion about whether to allow shark diving there is warming up. Guy Harvey is one of the dive industry vets calling on the government to consider licensing dive operators to run shark interaction dives, saying it could be a boost to the island's economy, raise awareness of shark conservation and create a financial incentive to protect the species.

Steve Broadbelt, owner of Ocean Frontiers, used to run shark interaction dives before they were banned in 2002. He told the *Cayman Compass* there are legitimate concerns about sharks associating divers and boats with food, but there are well-established protocols in other areas to mitigate this risk. "Cayman is at a significant disadvantage by not permitting shark dives. We have always had a healthy population of sharks on the East End of Grand Cayman and in some other areas around the destination. We lose a lot of business to the Bahamas specifically due to the shark diving that is offered there . . . There are industry-wide standards and best practices on shark feeding that must be followed and have a proven safety track record."

Harvey thinks the climate may be changing. "Cayman is more tuned in to this issue than ever. People have a lot more concept of the value of a living shark."

The locals on Stewart Island, at the southern tip of New Zealand, have launched an attack on the Department of Conservation (DOC) for allowing caged shark diving in their waters. A petition with 768

signatures calling for an immediate ban was presented to Parliament on December 2. Stewart Island resident Ken McAnergney told TVNZ he's outraged that DOC is continuing to grant permits, given the change in great white sharks' behavior since the cage diving started, and they're now associating boats with an "easy, healthy, tasty meal," becoming so aggressive that people can "no longer safely enter the sea."

The DOC had shark cage diving expert Barry Bruce from Australia's Scientific and Industrial Research Organization review cage diving practices at Stewart Island, and he found no evidence that shark cage diving increased the risk to people in the water. Ken Hughey, DOC's chief science advisor, told TVNZ that while the dive operators use bait to attract the great whites, they are not allowed to feed them.

However, last summer, the DOC found one shark cage dive operator had breached its permit after sending 'secret shopper' observers on dive trips to see how they were run. Reports showed multiple breaches of permit conditions and the code of practice, including failure to stop a dive when a great white shark became agitated and allowing sharks to take throw baits.

On December 13, a group representing the commercial abalone fishing industry took the DOC to court over its licensing of shark cage diving, wanting the agency to revisit its decision for granting licenses to the shark cage operators who breached permit conditions and are now on their last warning.

of tape glued over the seams, which helps with comfort, but it will probably give out the quickest.

"Another basic stitch found mostly in 'bargain' wetsuits is the overlock stitch, which joins the neoprene at the seams by stitching the edges together. The ridge is on the inside of the suit, which can become uncomfortable. If this seam is stretched to its limit, it may let in some water.

Schmitz recommended looking at wetsuits that have weld tape covering the stitches. "The tape covers the threads, which means they have less abrasive and rubbing on them."

"At the other end of construction quality is the blind stitch — the material is first glued and then stitched on one side. However, the stitch doesn't pierce the material, which would give an entry

point for water. The blind stitch is then done on the reverse side and interlocks with the first stitch. That gives the strongest seam. It's found on the more expensive wetsuits."

Some suits use high-tech materials that are not neoprene. Lycra skins offer no insulation. Sharkskin and Fourth Element Thermocline figure-hugging suits are the equivalent of 1mm in neoprene. They can be worn under the wetsuit for a light boost in warmth or under a shorty for protection against abrasions.

The Fit

A snug feeling is normal. As long as you don't have trouble breathing, you can assume your suit is not too tight (it's too tight, a wetsuit restricts

blood flow, not good if you have poor blood circulation, and may obstruct off-gassing.) A suit too loose lets water flow freely through your wetsuit and doesn't feel good especially in colder waters and under the arms. Women's suits have narrower shoulders and broader hips than men's do, and extra room built into the chest for a proper fit. The suit should fit snugly at the wrists and ankles, with no gaps for water to seep in, and the neckband should be snug, but not tight enough to keep you from breathing normally. And, move your arms and legs up and down to make sure there are no gaps in the underarm or crotch area.

The latest super-flexible neoprenes fit well and are easy to get in and out of. Aqua Lung touts its AquaFlex as having three times the stretch of standard neoprene, eliminating the need of ankle and wrist zippers (two sources for water exchange and heat loss), and still making it easy to get in and out of them. At \$329, it's not inexpensive. That said, the more expensive suits are usually more comfortable, less restrictive, and they give you more motion and flexibility.

Heavier-weight suits tend to be called semi-dry although they are really semi-wet. Seals at wrist and

ankle, behind the zip and at the neck reduce the chance of water flushing and make the perfect body fit less of an issue.

The Maintenance

After diving, throw your suit into a bathtub with a little wetsuit shampoo or any detergent, rinse and hang it to dry in the shade before storing. Schmitz notes that it "must be completely dry, so that no mold or decay forms, or else it starts to smell." Suits dried in the sun can lose their insulation because the nitrogen in each bubble of neoprene expands and leaks out, effectively making the neoprene thinner.

Most of the physical abuse a wetsuit takes comes from divers sitting on their knees above and under water, which could compress and decompress the neoprene quicker than normal. But the common rating for wetsuits is 200 dives. "Most people don't dive that much," says Schmitz. "The max for an average diver is less than 50 dives a year, so a well-made wetsuit could indeed last you a lifetime."

– John Bantin & Vanessa Richardson

Diving Safer as We Age

learning from the deaths of diving friends

Last summer, the Pacific Northwest dive community lost two older, experienced underwater photographers within the span of one month. The first, a 61-year-old female, took place at Duncan Rock off Washington's northwest coast. The second, a 69-year-old male, disappeared off Mozino Point in Nootka Sound on the west side of Vancouver Island.

These deaths started me thinking about the safety of diving as we age, looking at how the aging process impacts divers; reviewing my dive protocols; and seeing if there are any lessons to be learned from the recent deaths of two well-known underwater photographers.

The good news is that, according to DAN, there is no theoretical age limit for diving. The bad news is that as we age, there are definite physiological changes taking place in our bodies. And, there is

indeed a difference between chronological age and physical age.

Dr. Ernest Campbell (aka The SCUBA Doc) lists some conditions that impact many older divers:

Most older divers are out of condition because they do not exercise regularly or adequately. This may lead to exhaustion on dives, or an inability to self-rescue in an emergency. General health, agility, and strength decrease with age. Maximum heart rate, oxygen uptake, and lung compliance decrease with age. These, too can contribute to dive exhaustion. The older diver is more prone to getting cold and hypothermia and is more susceptible to decompression sickness, and when it strikes, it is more severe than in younger divers.

To counter these impacts, Dr. Campbell makes recommendations for older divers to continue safely

their underwater pursuits. These include passing regular checkups with a physician checking for an absence of cardiovascular-pulmonary disease, good physical conditioning, mental alertness added to diving experience and dive profiles with shallower, shorter dives, longer and deeper safety stops, and longer surface intervals.

On aging, he says, “Chronological and physiological age can differ markedly, and each individual ticks to their own genetic clock. This said, most elderly divers are not capable of sustaining the workload required by all but the least physically demanding dives.”

My training routine is not just for diving. I also like to ski, mountain bike, and hike. Since I put dive trips together, I try to be in shape to be able to rescue swim another individual, at least a half-mile to a boat or shore, and not be exhausted. In the past ten years, I have rescued seven individuals, all a lot younger than I.

All in all, my personal own dive protocols seem to mesh well with Dr. Campbell’s recommendations. Regardless, I have consciously moved my dive habits to more conservative settings, as I have grown older.

If you have a chance, compare your current dive fitness with Dr. Campbell’s criteria. If you are interested in a more thorough discussion, and one that you can share with your non-diving physician, you might check out *SCUBA in Older Aged Divers* by Drs. Michael Strauss, Jeremy Busch, and Stuart Miller. There is an excellent online discussion of chronological v physiological age, and how to determine your physical condition.

Regarding the death of the 69-year-old male diver I mentioned, there are sobering insights.

I started diving with him two years before his death. He participated on two dive trips I sponsored: one to Monterey and another to La Paz. On a dive in Whalers’ Cove in Monterey on August 6, 2013, he noticed he was low on air, so we surfaced.

He was not fit enough to surface swim back to the launch area, so I stabilized him on the surface in a kelp forest, swam both our large camera rigs the 300 yards back to shore, dropped them off, swam back out to him, then rescue-swam him through the kelp to shore.

He was a consummate gentleman and excellent photographer, both above and below the water. His pictures were stunning, but I noticed at Whalers’ Cove, and on a later trip to La Paz, that this concentration on photography came at a price, and led to what I call “lack of situational awareness.”

In California, it was not watching his air closely. In La Paz, it was not fully connecting equipment that eventually had to be retrieved from the bottom. For photographers, it is all too tempting to try to take the perfect shot or video at the expense of being fully aware of our dive surroundings or dive computer readings.

From what I have been told, the dives at Mozino Point, Vancouver Island, violated Dr. Campbell’s recommendations about shallower dives in the extreme. He was not a technical diver, but made a 150’ dive on September 19, followed by the over 120’ dive where he disappeared on September 20.

One aspect of the Mozino Point dive where he disappeared was the depths the party was diving for coral shots. In the DAN medical safety advice article, titled “How Deep is Too Deep?,” one paragraph stood out:

Those Liveboard Diver Lifts

In February, we wrote about lifts that transport UK divers from the water to the liveboard deck, but it ain’t gonna happen in the U.S., says Frank Wasson, the venerable captain of the *Spree* liveboard operating in Florida.

“How I would love a diver lift. You’ll find diver lifts on boats that do not travel internationally or answer to any flag state aside from their home state, or on uninspected vessels. But, you won’t find them on inspected vessels like the California boats or any of the U.S. boats or boats that are flagged in one country but operate in another country because a diver lift is considered by the USCG to be a vertical man lift or elevator which requires inspection by an independent agency . . . like the American Bureau of Shipping. That means that some liveboard owner would also need a cert from a classification society, along with drawings and engineering support and the price just went from \$50k to have one built to potentially hundreds of thousands of dollars for engineering, design approval, fabrication, installation and inspection. It isn’t worth it.

I won’t write the oldsters off quite yet, but when you can no longer get out of the water by yourself, life is telling you to take up golf.”

In case you missed our story, have a look at www.youtube.com/watch?v=_3113oxz0RE

“There is the “occasional” deep diver. These divers are generally less experienced than regular deep divers, are on a dive trip with a group, and are drawn into diving deeper than they normally do because of the more relaxed holiday atmosphere and because “everyone’s doing it.” Such divers are often not sufficiently trained, mentally prepared and appropriately equipped to deal with a problem should it occur on a deep dive.

Perhaps the possibility of photographing a unique gorgonian coral is another draw for the occasional deep diver.

The DAN article also references a microbubble issue associated with deep dives, a special concern for older divers making repetitive deep dives: studies suggest that microbubbles are often present after dives, particularly deep dives, especially if ascent has not been appropriately executed but even after what is considered a safe ascent.

There are many deep divers in the Pacific Northwest. Rebreathers and mixed gasses have done much to advance deep diving among technical divers. There are also experienced compressed air deep divers. Bret Gilliam, in his A Practical Discussion of Nitrogen Narcosis for Deep Diving article for *TDI Divers’ News*, says if you are going to deep dive, he recommends, “Buddy teams need to be more aware of each other in deep dives. Just as frequent scanning of instruments is mandated, so is confirmation of your buddy’s status. You should

look for him/her about every three breaths and observe them for any overt signs of impairment. Quick containment of a problem situation in its development is vital to prevent a stressful rescue event that may be difficult to perform at depth.

So, after comparing our 69-year-old’s Muzino Point fatal dive with Dr. Campbell’s six tests, DAN’s observations on deep diving, and Brett Gilliam’s buddy team recommendations, what lessons can we learn from this tragedy for older divers and underwater photographers?

Dive within your ability and physical conditioning, and be honest with yourself and dive buddies. 2) Dive conservative profiles with more opportunities to off-gas during and after the dive. 3) If you are going to make a deep dive, or a dive in challenging conditions, be part of a buddy team that is in very close proximity to one another and is actively monitoring each other. And 4) on every dive make certain that safety is the number one item on the agenda, not getting the perfect shot.

If these rules are followed, many of us will still be diving and shooting underwater in our 70s, 80s, and possibly beyond. Should we decide to push the envelope for that special photo or video, the results may be tragic.

Author Dan Clements, who has been diving since the late 1960s, co-founded the Pacific Northwest Underwater Photographic Society, authored Critters, Creatures, & Kelp, and founded Pacific Northwest Diver magazine.

Flotsam & Jetsam

Not So Fast, Eric: Last fall, when 64-year-old Eric Sanford jumped off his cruising catamaran with mask and snorkel to check his anchor off St. Kitts, he spotted a half-buried cannon from a long-forgotten naval battle. Sanford took the GPS co-ordinates and sailed away. Later he published an offer on eBay, saying for a price, he will disclose the whereabouts of the cannon. “I found the spot, now you go and get it,” his eBay post read. “It could be worth millions!” However, the St. Kitts government pointed out it owns any artifacts found in its waters, and the eBay auction did not appear to have captured the imagination of any serious bidders either.

Why Not Try Adele? A Discovery Channel Shark Week crew searching for great white sharks in South Australia was bemused when Matt Waller,

proprietor of Adventure Bay Charters in Port Lincoln, suggested playing heavy metal rock music through hydrophones to attract the animals. To their surprise, two large specimens soon appeared to the strains of Darkest Hour, a heavy metal American band pushing their mouths close to the underwater speakers. Waller had developed this technique, inspired by stories of music altering shark behavior at Isla Guadalupe. Various theories abound but without any science to back them up, perhaps the sharks simply enjoy the beat. At least, the music is not Yanni, which Florida dolphins seem to like, as we reported in January.

Scuba Smuggler Sentenced: A Mexican scuba diver who tried to smuggle \$1.77 million worth of cocaine into the U.S. through a canal near

Calexico has been sentenced to four years and six months in custody. Evelio Padilla Zepeda was arrested April 25 after Border Patrol agents found him in a wetsuit and located scuba gear and 55 pounds of cocaine contained in 25 shrink-wrapped packages. An investigation led agents to discover an underwater tunnel that started at a home in Mexicali and exited into the canal. The entrance to the tunnel was covered by rocks. The dry part of the tunnel included a rail system.

Do Marine Reserves Do the Job? A new study has found that these protected areas are typically failing to protect the evolutionary diversity of the world's coral and fish. Scientists from the James Cook University of Queensland and the Université de Montpellier (France) found that the network of marine protected areas covered less than two percent of the known corals and less than 18 percent than that of fish. "We tend to put marine protected areas, to a greater or lesser extent, where humans want them and not where they are needed The Atlantic Ocean is crying out for greater protection of its corals, while in the Pacific it was fish that required attention. Ninety percent of the world's coral reefs doesn't have adequate protection. The trouble is, a lot of declines in reefs are happening even in marine protected areas."

Diver Magazine in Hot Water: When the February edition of the UK's *Diver Magazine* extolled the virtues of diving in the Danish Faroe Islands, it angered the UK's conservation community because the author, Jo Caird, was an apologist for the traditional drive hunts and bloody deaths of hundreds of pilot whales. Robert Read of Sea Shepherd protested that she used incorrect statements and that the vessel she used for diving plays a prominent role in driving whales to their slaughter. This provoked a furor among Facebook's diving audience when Read's letter was posted on-line, resulting in posts by some well-known names in the diving community, all condemning *Diver Magazine* for supporting the Faroe Islanders.

Is There a Relationship between Bends and Farts? Nature.com reports on research into colonic fermentation that, in experiments, promotes decompression sickness in rats. Scientists have speculated that gut microbiota might influence the occurrence of DCS. Bacterial fermentation of undigested sugars in the large intestine generates hydrogen, which exacerbates the risk, so if you're going diving, it might be prudent to avoid foods that cause you to break wind, not only to keep your roommate happy, but also to keep you out of the hyperbaric chamber. [de Maistre, S. et al. Colonic Fermentation Promotes Decompression Sickness in Rats. *Sci. Rep.* 6, 20379; doi: 10.1038/srep20379 (2016).]

It's Not Just Sea World That's Bad for Big Animals. In early January, Okinawa Japan's Churaumi Aquarium put a great white shark in its exhibit called "The Sea of Dangerous Sharks," but the great white died three days later. In nature, great white sharks never encounter walls or the confines of a tank, where they will often refuse to eat. The aquarium said the fish's biology was little understood, and that, in the name of science, it hoped to learn from the captive shark. California's Monterey Aquarium has tried unsuccessfully several times to put a great white in its tank, the last time in 2013; it was released back into the ocean after nine days and died within minutes. The question is: are our public aquariums driven by profit, or science? The answer is that Monterey Aquarium is a legitimate research organization. Many others are not.

Scubapro Computer Recall. Scubapro is recalling 1,486 of its Galileo SOL and Luna dive computers that have been sold in the U.S. since May 7, 2015, after learning about a problem from a small number of users who have experienced screen freezes. No injuries due to this have been reported. If you're an owner, read more at www.scubapro.com/en-US/USA/galileo-sol-luna-recall.aspx, which tells which specific serial numbers are affected.

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