

# undercurrent

*The Private, Exclusive Guide for Serious Divers*

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## Manta Lodge / World of Watersports, Tobago

*a tiny isle with some of the Caribbean's best diving*

### IN THIS ISSUE:

Manta Lodge and World of Watersports, Tobago.....	1
Revisiting a Dive Incident from 15 Years Ago.....	3
Putting the "Rub" on a Shady Fish Collector.....	5
Travel Tips and Helpful Hints: Part I.....	7
Brits Dive Hard, Drink Hard ..	8
Report from the DEMA Show	10
Diver Makes Fatal Mistake During Typhoon Haiyan..	12
Sad but Foolish Cave Diving Deaths.....	13
A Dive Resort That's Taking a Stand.....	14
Husband Sues PADI for Wife's Death.....	15
Mass Starfish Deaths.....	16
The Top 10 Dive Resorts?.....	17
Sounding Off on Seahorses.....	19
Flotsam & Jetsam.....	20

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Dear Fellow Diver:

When I told Ben Davison I was headed to Tobago -- that tiny partner of Trinidad, just 50 miles off of Venezuela's coast -- and would do a story on the diving there, he got grumpy. Having been there a couple times, he considered it one of the great Caribbean dive spots, and he loved the island as well. He wanted to return and write an article himself, but there were too many other spots on his wish list; however, Undercurrent readers ought to know about Tobago. "Oh, go ahead, damn it," he told me.

Back-rolling off the 32-foot dive vessel Another into the Coral Gardens at Kelleston Drain, I was in a bubbly mush of seawater caused by an active ocean. But a few feet down, with no current, the vista opened up to a seascape of dozens of large azure vase sponges, up to five feet tall. The dense coral coverage showcased large numbers of colorful tropical fish, as well as the largest brain coral in the world (so they say) that is several centuries old, and 10 feet tall by 16 feet wide -- impressive and incredible! A spotted eagle ray cruised by. Queen, French and gray angelfish abounded in the 84-degree water. Ben was right.

With luggage in hand, I exited the small Tobago terminal on a balmy September night at 11:30 p.m. Clyde Robinson was holding a sign with my name. Ninety minutes and 26 miles later, over winding and potholed roads, I arrived at Manta Lodge in Speyside, a tiny village on



Manta Lodge's *Another*



the Atlantic side of the island with a few restaurants, sheep, and a high school. The lodge is base for Sean Robinson's Tobago Dive Experience, and he also operates World of Water Sports on the southern end of the island. Teaching diving at the International School in Trinidad (for free) consumes a lot of his time. Sean's counterpart is his father, Clyde, who has a more practical approach to business, while his son's passion is all things diving. They are both characters of the first order.

Only the next morning did I see across the road the beautiful views of Goat Island and Little Tobago Island. In the flowering trees and bushes, hummingbirds zipped crazily. Manta Lodge exudes gracious Caribbean

charm and the wear of a salty environment. There is a small pool at the lodge, doubling for training divers and cooling off. With no doors to hinder entry to the reception, dining room and bar area, the openness is welcoming. A mother pooch and her two teenage pups eagerly greet visitors; so does Clyde, who has a ready wave and smile. From Clyde's numerous stories, I gather that the 90s was the heyday for the 22-room lodge, with laughing guests ready to enjoy world-class diving or birding, and recapping their day at the Lodge's Moray Eel bar. In contrast, I was the only guest for four of my five-night low-season stay. In the middle of the night when the wind blew open my patio door, I felt the lodge's emptiness. However, the soothing sounds of waves gently crashing, birds calling and frogs singing lulled me back to sleep. All rooms face the ocean, and back onto the rainforest. My room was clean and comfortable, with a king and single bed, desk, lounge chair, air conditioner, ceiling fan and plenty of hot water. The lodge needs a lot of repairs and updating, but it has that certain Caribbean charm.

Clyde, gracious to his core, occasionally shifted from his relaxed pace into dance steps of a bygone era as he glided across the floor. He made sure there was a stock of red wine and gin-and-tonics to suit my preferences. He knew I liked fish, so generous tasty portions were presented at most lunches and dinners. Fresh lobster one night was delicious, as were the shrimp another evening. It was a toss-up who would cook breakfast for me -- Clyde or the friendly receptionist, Julia. There was always fresh star fruit and tiny bananas ("silky figs" is the local term) from their trees, accompanying an omelet and toast. The cook only came to prepare my 7 p.m. dinner.

But back to the diving. Japanese Gardens touts two of the second-largest brain corals. Some, so old and large, collapse on one side. This site rivals the beauty of the Coral Gardens in carpet-like coverage of corals and sponges. There were two enormous - about eight feet -- coral branching "trees," and schools of dozens of Creole wrasse with their dark purple heads, shading to yellow, then red toward the lower body and tail. Bicolor damselfish outnumbered the other smaller fish, with brown chromis a close second. Looking closely, I spotted several lettuce leaf



**Manta Lodge**

slugs. We then headed to Kamikaze, a cut between two large boulders, where the current usually rocks. No current, so we leisurely explored the soft yellow corals in a way seldom possible. Martin, my dive guide, said he had not seen it this calm in 10 years. At Cathedral, we slowly finger-walked in the sand, and viewed the skittish and rare giraffe garden eels, with their yellowish bodies and black spots.

On my first day, I was the only diver. On the other days, Martin and I were accompanied by divers from Trinidad, Rick, their dive instructor who Sean had trained, and an experienced diver from England. Tobago, by the way, is a throwback in time, so time is flexible. Yes, my divemaster arrived at 8:30 a.m. as promised, but we had to wait -- and wait -- for the others. Tanks and gear are loaded in a pickup truck for the five-minute ride to the dock. Captain Stilton, who has been with this organization from boyhood,

## Revisiting a Dive Incident from 15 Years Ago

Ben Davison was diving with Blue Waters in Speyside in 1998, and noticed that one of the tanks was autographed "Vivienne Slear." The "why" was an interesting story, and he wrote about his trip in the March 1998 issue of *Undercurrent*. I thought it was worth a follow-up. I located a 1997 interview with her in the *Philadelphia Inquirer*. Wanting to know more, I finally located her on Facebook, established an email correspondence and invited her to accompany me to Tobago, but alas, she declined.

In 1997, Slear, then in her mid-40s, went down to Tobago with a group of friends, and they found themselves diving in strong currents around Bookends, south of Little Tobago. Vivienne had logged 61 dives, but she and her friends had no experience drift diving, and she had no safety equipment. After struggling with the currents for 30 minutes at 75 feet, she decided to surface, and signaled her intention to the divemaster, who was trailing the group, towing a buoy. She made two safety stops, and when surfacing, found the boat was "quite far away." She did not know if they saw her. After two hours of waiting, she decided to "take control." And that she did for 27 hours, drifting around Bloody Bay Point to the Caribbean side of the island. Battling strong currents and high waves, she kept the island in sight and never stopped finning, both to keep warm and stay on course.

At Bloody Bay, Slear made an attempt to exit, but the waves crashing into the rocks made it too hazardous, and all she got were bruises and cuts. She saw a boat, which she signaled with a fin she removed and waved, but received no response. In the meantime, her friends gave up hope and started planning a memorial service. A wreath was ordered to be placed at the spot she was last seen. Eventually, she spotted a "beautiful sandy beach" and headed toward it, accompanied by several small fish which swam underneath her for her last couple of hours. Under her own power, she finally made it to Parlatuvier Beach. After 27 hours in the water, a fisherman who was on shore reunited her with her friends, who immediately changed the memorial to a thanksgiving. Dehydration and some bruises meant she didn't require medical attention, but Slear never again dived in Tobago waters.

Was a search launched? As it happens, Sean Robinson (Tobago Dive Experience) was diving nearby at Cathedral at the time, so he filled in the story for me. Around 10 a.m., he saw the Blue Waters boat going back and forth in the eight-foot waves, but no distress signal was given. At 3 p.m. Robinson was heading out of town when some local boys asked why he was going someplace when there was a lost diver. He confirmed it with Blue Waters, then immediately called the Coast Guard, located in Trinidad. They had a plane in the air searching by 5 p.m. In the meantime, Robinson plotted the course of the currents at the location where Slear was last seen, and headed to St. Giles at the tip of the island. The conditions severely hindered sighting anyone in the water. Slear said she had spotted a boat in the distance at the tip of the island. That time matches when Sean would have been there, but he saw no wave of a fin. The Blue Waters boats were searching along the coast line.

The response time for launching search-and-rescue missions has now been greatly reduced with the addition of the air branch to the Coast Guard. Sean says they now can be on site searching Tobago waters in 30 minutes.

I salute Vivienne for her resolve to survive, clear thinking in a worse-case scenario and never giving up. She must have been in an awesome state of fitness. She has continued diving since then and immediately purchased a safety sausage afterwards, but it took her years before venturing into current again. After 20 years of diving, she has decided to ease off, but not stop. She'd like to return to Tobago sometime -- but only to do bird watching.

-- J.D.

takes great pride in keeping the new dive boat in excellent condition. Oddly, the crew does not deem the ladder safe for divers because it's within inches of the two 140-hp engines. So I exited the water by handing up weights and BC, then had to launch myself into the boat by sheer power, or wait for the sure arm-grasp assist by Silton. Awkward, yes, but getting into the boat was easy and painless.

September often brings slack current to Tobago, which opens areas sometimes impossible to dive because of high waves and unmanageable current. From a hill outside the sleepy town of Charlotte on the island's north end, I gazed at the famous trio of dive sites, Sisters, London Bridge and Giles. Diving there did not happen -- four experienced divers were needed for the trip. I was disappointed, but still had 10 great dives in the Speyside area.

There was only a hint of current at Bookends rather than the common ripping rides. I spotted a few elusive cherub fish, along with a flameback angelfish. Deeper, the strawberry vase sponges were spectacular against a backdrop of sea plumes and yellow tube sponges. Dropping down into a protected "amphitheater," I saw large lobsters that didn't bother to hide. Overhead, silvery tarpon schooled.

One advantage of being a skilled diver with no newbies around is that you may get to dive the serious sites, which I did for two days with Sean. (I want to say here that I did not confess to my Undercurrent mission or try to curry favors, but I've learned that when one scoots off to remote sites lacking PADI Five-Star dive stores coaxing in people to breathe through a regulator at the bottom of a pool, you can find some private dives.) Back-rolling with negative buoyancy at Black Forest, I swooped over a huge area of up to 12-foot-tall bushy black coral on the sloping valley wall. At 158 feet down (yes!), I noticed a slight "narced" feeling; at 163 feet, we began gradually ascending. We stayed deep but never below three minutes to decompression time. The evening before, Sean and I had discussed the importance of knowing one's at-depth air consumption, nitrogen consumption and the relationship to decompression, so this was simply an enjoyable challenge.

At Flying Manta, I was forewarned to stay close to the wall to avoid a current that could suck a diver into the "washing machine" and spit him out at 140 feet. But there the current was less than half a knot, if that, and waves topside were but a foot. Nearly a dozen scorpionfish, secretary blennies and a juvenile burrfish the size and shape of a little fingernail were memorable. These waters have an abundance of nutrients, making them a breeding mecca. At times there were thousands of fry no larger than rice grains, and so many that it could be disorienting. Shimmering water caused by mixed currents affected visibility at times on many dives. The visibility was a cloudy greenish for the first six feet, due to the flow of the Orinoco, the largest river in Venezuela. Below that layer, where it became warmer, the visibility was clearest within 30 feet, but seeable to 80 feet. Further out, around Little Tobago, it was a clear 80-plus feet.



Sean and Clyde Robertson

The pristine reefs around Goat Island and Little Tobago were most impressive, as were the high density coverage and large variety of colorful hard and soft corals. I have never found diving elsewhere in the Caribbean that can favorably compare. Tropical fish were plentiful: schooling Creole wrasse, bicolor damselfish, harlequin bass, doctorfish, stoplight and princess parrotfish, yellowtail damselfish, trumpetfish, scorpionfish, yellowhead wrasse, black durgon and what seemed like the entire puffer family. Red bearded fireworms up to 12 inches long crept along

## California Puts the “Rub” on a Shady Fish Collector

You’ve heard about fishermen in Southeast Asia using dynamite to blast fish from their rocky hiding places. Closer to home, divers working for aquarium collectors use something more subtle but just as illicit to collect prey. Marine officials are trying to “rub out” this illegal act, as this underwater apprehension by officers from the California Department of Fish and Wildlife shows.

On the afternoon of November 13, the officers were patrolling Emerald Bay, on the northeast coast of Catalina Island, and saw a large recreational sailboat anchored in the bay, with commercial fishing license numbers painted on the stern. Officers boarded the boat and found a man sportfishing. The angler told the officers that his partner was diving. The suspicious officers donned their dive gear, entered the 62-degree water and saw a diver squirting a liquid from a bottle into cracks of rocks. The liquid, determined to be rubbing alcohol, was forcing blue-banded gobies into the open water, where the man then caught the small fish with an aquarium fish net and immediately put them in a small plastic

receptacle attached to his dive gear. A warden used a mask and snorkel from just below the water’s surface to watch the diver squirt the bottle twice. He then dove down, showed the diver his identification and directed the diver to come to the surface. Before ascending, the diver left one of his squirt bottles on the rocks and attempted to drop a small mesh bag containing another squirt bottle. The warden retrieved both squirt bottles and the mesh bag.

Once on the sailboat, the suspect diver, a 46-year-old from Ventura County, acted clueless, telling the officers he was a licensed marine aquaria collector and his buyers were paying him \$10 per fish. He said he didn’t know it’s illegal to use rubbing alcohol to catch the small fish, or that it’s illegal to do aquarium collecting on the island. But what a collection he had -- 63 gobies in the plastic receptacle attached to his gear. During the interview, officers saw another plastic sealed container underneath the boat, which held an additional 109 fish.

The man’s dive gear was seized, he was cited for two Fish and Game code violations, and charges will be filed with the Los Angeles County District Attorney. The fish were counted, photographed and returned to the sea.

on most sites. I saw the occasional flamingo tongue and fingerprint cyphoma, while large nurse sharks roamed or rested at many sites, but I only saw one black-tip shark. It was off-season for mantas.

Wanting to get a feel for Tobago’s Caribbean diving, I went to the southern end to stay at the relatively upscale Turtle Beach Resort. My room had TV and internet, and it faced the ocean, large circular pool, Jacuzzi and swim-up bar. There were about 40 other guests, mostly British. The reasonable all-inclusive rate included buffet meals -- plentiful but nothing to brag about -- and drinks, even alcoholic ones. Dress for dinner? Well, hard to pull off for funky divers, but “smart-casual” meant long pants and collared shirts for the men, and tropical-weight dresses were the choice for most women. Local musicians often played. While the hotel has a friendly dive shop, I elected to continue my diving with Sean’s World of Watersports.

Tooley, my dive guide, picked me up in his truck and drove 15 minutes to the dive shop at the fancy Magdalena Resort. The park-like drive into the resort was enhanced by Tooley stopping to point out at least a dozen unique birds. After picking up Marvin (who would serve as captain), tanks and gear, another 15 minutes brought us to Pigeon Point and its 38-foot fiberglass boat (a little elbow grease would do wonders to spiff up this craft) with tank holders in the center, and friendly to handicapped divers with a drop-down side entry. From there, it was only several minutes to our dive sites. I was the only diver. Snacks of cookies and crackers were available during surface intervals, as was bottled water, same as at Speyside.

For the first dive on this side, we moored onto the MV Maverick, which rests at 100 feet (other dives were around 60 feet). It was the only place we encountered much current, so I grasped a rope Marvin dangled from the boat and he pulled me onto the bow for descent. As we slowly finned its three decks, I wondered whether this intentionally-sunk ferry was worth the effort. But then ascending from the dark bottom deck into light, it looked as if

## Manta Lodge, Tobago

Diving ( <i>experienced</i> )	★★★★★
Diving ( <i>beginner -- don't go</i> )	★
Accommodations	★★★★★
Food	★★★★★
Service and Attitude	★★★★★
Money's Worth	★★★★★

## Turtle Bay Lodge and World of Watersports

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

★ = poor      ★★★★★ = excellent  
Caribbean Scale

someone had decorated the railings for the holidays with white blossoms of hydroids and corals. Cobias swam by, as did queen angels; schooling jacks were in the distance. Returning to the boat, I removed my weights and tank, then entered the boat on my belly, with Marvin's hefty assist.

The large rocks of the nearby Mount Irvine Wall formed narrow swim-through canyons. The area had so much to see that sometimes I didn't know where to focus. After I saw the queen and French angel juveniles and a spotted drum, I knew it would be a good dive. Tooley and I took a very slow pace. Inside one crevice, we watched a black mantis first stick his head around a rock; patience won out as he eventually emerged. A green moray resided deeper in the crevice, and a spiny spotted lobster peered out from nearby. A rock beauty added nice contrast to the splotched brownish oyster toadfish. We watched two small crab in a mating mode, with one of them, presumably the male, rising up and weaving on his legs while he waved his claws. The female responded with some waving of her own. Emerging from the wall canyon, we were met by hundreds of Creole wrasse. After the

dive, Marvin dropped me off at Turtle Beach Resort and transported my gear to the shop, where they washed and stored it for the next day.

At the Extension, a three-foot Spanish mackerel curiously approached. Dozens of silvery boga schooled above. A Caribbean king crab that seemed comparable in size to an Alaskan king crab walked upside down on the ceiling of a reef shelf. In the open, a porcupinefish made a beeline toward me, stopping a foot away to stare. I waited a few minutes to see who was going to move first. I gave in, and the puffer slowly came alongside and swam with me for a few more minutes. Rounding out the special sightings here were juvenile vieja, flame scallops and the golden hamlet, not often reported in this part of the Caribbean.

My last dive in Tobago was a lark. We went to Dutchman's Beach Reef in Mount Irvine Bay. While Marvin scrubbed the barnacles off the boat's bottom, Tooley and I went treasure hunting in the sand near the two protruding canon barrels of a 19th-century warship wreck. Our fanning the sand revealed two old encrusted bottles, lots of ballast and some pieces of unidentifiable metal. I took time around the site to enjoy an octopus in a hole and a female lancer dragonet.

Atlantic-side diving is spectacular, the Caribbean side much less so with regards to corals, sponges and visibility. However, the treasures of fish and critter sightings in Mount Irvine Bay were well worth a few days of exploration. Tobago is forested and tropical; humidity was high, with air temperatures in the mid-80s. According to Sean, the driest time of year with the clearest waters and highest visibility is March through May. This is also the time for some of the strongest currents and mantas, too. I hit it at

slack tide so that no dive sites were out of bounds due to current and waves. Tobago is below the hurricane belt, so it's a good autumn alternative to the Caymans, the Bahamas and Belize.

-- J.D.



**Divers Compass:** My Tobago package was arranged through Sausan Shalah at Maduro Dive; e-mail her at [Sausan@maduro.com](mailto:Sausan@maduro.com) . . . My package of 5 nights and 8 dives with Manta Lodge/Tobago Dive Experience, including breakfast and transfers, was \$1,056; two extra dives added \$90 . . . Dinners ranged from \$25 to \$50, lunch averaged \$12, cocktails \$7, beer \$2.50, and bottled water \$1.50 . . . Three all-inclusive nights at Turtle Beach Resort cost \$489, while four dives with World of Watersports was \$187 . . . My travel time from St. Louis to Tobago, via Houston and Trinidad, was a little over 12 hours, and returning took 14 hours; it cost me \$695 round-trip . . . Flight time from Trinidad to Tobago is 20 minutes, and flights are frequent; they have their own small waiting area, but there are no facilities past security . . . There is a hyperbaric chamber in Roxborough, 20 minutes from Speyside and 40 minutes from the Crown Point area . . . Websites: Manta Lodge: [www.mantalodge.com](http://www.mantalodge.com); World of Watersports: [www.ronaldddowlath.com/wow](http://www.ronaldddowlath.com/wow); Turtle Beach Resort: [www.rexresorts.com/tobago.html](http://www.rexresorts.com/tobago.html); an overall helpful site is [www.mytobago.info](http://www.mytobago.info).

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## Travel Tips & Helpful Dive Hints: Part I

### *how to avoid cockroaches, cyclones and a lack of local currency*

This year's *Chapbook for Travelin' Divers*, sent to you last month, is chock full of great information. You can download it, read it online or even order a printed copy at our cost by going to [www.undercurrent.org](http://www.undercurrent.org). Of course, I read every entry (editing none of them, although a couple didn't make the cut). I noticed a number of themes, incidents and tips that would be useful if bundled and described. So here is the first installment of a number of ideas that will surely make your travels less stressful and more fun.

#### **Mosquitos, No-see-ums, Cockroaches, Rats and Mice**

When you're in the tropics, a lot of critters will be right by your side. In Africa and the Indo-Pacific regions, one will find malaria-carrying mosquitoes, so it's wise to use a prophylaxis. In those areas, one only sees a few mosquitoes, but it takes only one to inject malaria. Then there is the Caribbean: sand fleas in the Bahamas, no-see-ums in Honduras and Belize. These pests ruined a couple of my trips when I was young and stupid, falling asleep on the beach or drinking at the bar, and ignoring the welts.

Stephen Anania (Hopewell Junction, N.Y.) was at Laguna Beach Resort on Utila in October and wrote that the no-see-ums were horrible. "We got eaten alive a few times, mainly during the last 10 minutes waiting at the dock for the plane back to Roatan. The only thing to keep them at bay appears to be baby oil."

Rebecca Middleton, snorkeling at CoCo View on Roatan says, "I was eaten by the sand fleas, but that is just me. They say it is my negative blood. No one else in my party got bitten like I did. Nurse Andrea has created a bug spray that works well as a deterrent and an after-bite spray. My husband never got one bite."

Some people swear by a number of non-toxic sprays, but when *Consumer Reports* and even the U.S. Army test bug sprays, they invariably find that a spray with at least 25 percent DEET works far better

than anything. I have always used 100-percent DEET concentrate and still live to write; however, I don't use it for weeks at a time, which is the rule.

In the tropics, one has to learn to live with critters; rats and mice scurry around, especially at night, and cockroaches are ubiquitous. Years ago in Belize, a cockroach nibbled away at -- and destroyed -- the seal on my mask (the dive operator swore it was a roach) and at Indonesia's Kungkungan Bay Resort, Ann McGrath (Alexandria, VA) reported that one of her diving friends left her silicone mask outside overnight in a mesh bag. Next morning, the mask was badly chewed, probably by a rat, based on the teeth marks. The mask had just enough skirt left to be usable, which was a good thing, as it was a prescription mask,

## Brits Dive Hard and Drink Hard

In many quarters, alcohol has been woven into the social fabric of sport diving. You probably know some divers who spend much of the evening at the bar between dive days. Such behavior is still prevalent, as described in a recent issue of *Diving and Hyperbaric Medicine*. A research team at the Diving Diseases Research Centre in Plymouth, England, sent an anonymous questionnaire to divers in the fall of 2010 to collect information on their health, diving and alcohol consumption, especially around diving.

One question focused on the diver's understanding of the U.K. government recommendations for alcohol intake. An alcohol "unit" was defined as equal to 8.5 ounces of standard beer, 0.8 ounces of spirits or 5.9 ounces of red wine. The daily recommended limit on units is two to three for men (11-21 per week) and one to two for women (8-14 per week). Binge drinking is defined as drinking more than double the daily limit.

They got 818 anonymous responses; 80 percent were male. Older divers were more likely to exceed the recommended weekly alcohol units compared to younger divers, but binge drinking was associated with younger divers. Nineteen percent of respondents went diving even when considering themselves unfit to drive a car; 23 percent had witnessed a diving incident that they felt was attributable to alcohol. Only 38 percent of respondents reported a responsible attitude to alcohol by their dive clubs, both under normal circumstances and while on a dive trip.

Some respondents wrote comments on their questionnaires, like this diver who wrote, "Many people in our diving club still drink heavily during a diving weekend. One experienced diver is well-known for sinking a couple of pints at lunchtime in between dives. There can be a lot of pressure on people in a club/group situation to drink whilst away on a diving trip, whether [in the] U.K. or abroad."

Another wrote that during his 20-plus years of diving, he had witnessed and dealt with several DCS incidents that were undoubtedly tied to alcohol consumption that led to dehydration. "Some of these DCS events were quite serious. Despite warnings, some divers were determined to drink multiple units of alcohol on Friday night and dive on Saturday morning. Ignorance of the consequences of alcohol consumption with diving is common, but some divers are willfully in denial."

In his regular "Letter from the Editor" page, *Diving and Hyperbaric Medicine* editor Michael Lewis stated that over his half-century of diving, he has regularly witnessed divers (and, when younger, participated himself) drinking to excess for an evening, then diving the following morning. "Such behavior seems relatively common, even among diving medical practitioners, who should perhaps know better. Almost certainly excessive alcohol intake contributed to one case of neurological decompression sickness at a scientific meeting some years ago. Thus, both the evidence from the U.K. survey and anecdote show that drinking alcohol whilst diving is commonplace amongst recreational divers."

But dive experts know little about the relationship between alcohol and diving mortality. In an analysis of 100 consecutive scuba deaths in the 1980s reported in Project Stickybeak, an investigation by the South Pacific Underwater Medicine Society, "excess alcohol" was recorded in the blood of only four divers, though not all divers were tested. In a review of snorkeling- and scuba-related deaths in New Zealand between 1980 and 2000, a blood alcohol level was measured in only 43 percent of the 169 bodies undergoing autopsy. Five of 24 snorkelers and four of 48 divers had a positive blood alcohol, but in only three drownings was this considered a possible contributing factor.

So, while for decades most dive operators have said one drink and you're done diving for the day, it looks like the Brits, at least, are not paying much attention when they're out on dives.

and McGrath's pal didn't have a backup. Of course, "There's a Cockroach in My Regulator" is a true story, one of many in my book of *Undercurrent* tales, which you can buy at [www.undercurrent.org](http://www.undercurrent.org).

## Cyclone Season

Smart North American divers are savvy about hurricane season, and make their travel plans with the June-November window in mind. The bigger blows tend to come in September and October, which makes trips to the Caymans, Belize, Cozumel and the Bahamas more risky. During that time of year, many

divers steer farther south to Bonaire and Tobago, which are below the hurricane belt. But what about typhoon season in the South Pacific? In reading reports over the years from fellow divers who head to the Philippines and other South Pacific destinations, it seems they often don't consider the risk of cyclones, which usually develop May to October (although the big 2013 hit of Typhoon Haiyan was in November, so the season now seems extended).

In November, Linda Rutherford (Montara, CA) was at Crystal Blue Resort in Anilao, Philippines, and reports that "the 'super-typhoon' just passed by yesterday. The typhoon went south of us, and we are on the west coast, not the east, where they got a direct hit with 200-mile-an-hour winds. Due to heavy rain for 24 hours yesterday, we skipped diving. After that, our guide selected spots that would be least likely to have rain-runoff, the tiny offshore islands . . . The best time to go to the Philippines is said to be in April and May. November is described as the second best time to go (July to October are rainy) but based on this typhoon, you should avoid early November here."

In researching your trips, consider the damage recent typhoons have wrought. In Fiji, Mark Rosenstein (Cambridge, MA), was on board the *Nai'a* in October and notes, "A typhoon went through Fiji last spring and damaged the coral in some shallow sites. Yet six months later, there is already visible regrowth and hope that in a couple of years most of these pinnacle tops and shallow coral gardens will have complete coverage. No worry, there are still plenty of places that look great." One advantage of a liveaboard over a resort: you can get to undamaged sites.

Dan Clements (Everett, WA), who visited Atlantis Dive Resorts in the Philippines last June, months before Haiyan hit, writes, "The typhoons of 2011 and 2012 have significantly impacted the local reefs. The critters are there, but not near the abundance of Anilao. While corals are dead at the house reef and adjacent coast, they are quite good at Apo Island, one of the dive sites I visited."

Doug Swalen (Los Gatos, CA), who dived with Sam's Tours on Palau last March, says, "I had been to Palau twice before, but I had unfinished business, having missed some of the best parts. A week after I booked the trip, I found out about Typhoon Bopha, which hit Palau in near-miss fashion back in December. In this sport, timing is everything, and I happened to land when Palau was at the early stages of a storm front that stretched clear back to the Marshall Islands. This translated into seven out of eight days of partial to completely overcast skies, higher than normal winds, and more rain than I had seen there previously . . . The bad news: The eastern reefs of Palau got hammered by Bopha. Want to dive Short Drop Off? Trashed. Ngerchong Inside and Ngerchong Outside? Wrecked. Peleliu's Yellow Wall? Hammered. Now the good news. Short Drop Off and Ngerchong are considered several cuts below Palau's best dive sites, and Palau's Crown Jewels escaped relatively unscathed . . . Palau's president wants to increase tourism and bring in high rollers. His solution? Get someone to build a five-star hotel and a golf course. In 80 percent humidity, 85-plus degrees and rains-a-lot Palau? Good luck with that. If he wants to bring in more people, he needs to talk to United about their now-extortion-level airfare."

*Leave your traveler's checks at home. No one wants them -- not restaurants, not resorts. One reader found out in the Philippines that banks don't even exchange them.*

## Money

While you can surely get around your hometown with a credit card and spare change, a lot of dive destinations are not so simple. Leave your traveler's checks at home. No one wants them -- not resorts, not restaurants, not people. As Eldon Okazaki (Sunnyvale, CA) found out in the Philippines, they're useless. "Banks do not even exchange them."

If you hit an ATM every time you need cash at home, don't expect to find that convenient little machine in the more remote spots. If you're on a liveaboard -- and searching for cash for a tip -- well, there are no ATMs. Once, I tried using traveler's checks for a tip, but was politely informed that it's nearly impossible for someone to cash a traveler's check with a second signature.

So, cash is king, and you'll sometimes be surprised where you need it -- and in local currency. In October, Michael J. Millet (Dublin, CA) traveled to Patuno Resort in the Indonesian province of Wakatobi and says "Lion/Wing Air charged from \$1.25 to \$2 for each extra kilogram. The airline does not take credit cards or U.S. dollars."

But there is often a cash discount, which you might get just if you ask. Sandy Falen (Topeka, KS), who visited Two Fish Divers in Indonesia's North Sulawesi province in May, says, "I made my arrangements through the Two Fish website, and found them responsive and helpful. You can save some money if you're willing to carry cash to pay the balance of your bill, because that eliminates the 5 percent up-charge for using your credit card."

But this boils down to the question: For a \$1,000 charge, would you rather pay the full amount and not bother to carry cash? If you use an ATM, the fees might eat up the savings. And if you have inspected your credit card statement after returning from an overseas trip, you may notice some nasty fees for using it abroad. If you're a frequent traveler, look for a card that doesn't add those charges, such as some American Express cards, including the pricey but benefit-rich Platinum.

-- Ben Davison

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# Serious Dive Gear, But Where's the Fun?

## *John Bantin reports from the DEMA trade show*

No doubt about it, the dive business is getting tougher for everyone. The annual Diving Equipment Manufacturer's Association (DEMA) trade show, held in Orlando, FL on November 5-9 was showing definite signs of contraction and readjustment. Most significantly, there were none of those one-time DEMA show products planned and exhibited optimistically by ever-hopeful inventors to revolutionize the way we dive. More likely, they would sink without a trace within 12 months.

There were no silly tandem-tube snorkels, no new zany fins that claimed to prove all the other fin-makers have got it wrong, nor were there masks that promised to give you vision that would be as good underwater as your eyesight is on land. There was no sign of those who had invested in the development of revolutionary diving weights or mask-integrated communication systems. Not only that, there were fewer new rebreathers on display, compared to only a few years ago when almost every manufacturer showed its own particular design concept for closed-circuit diving. It was as if the market had matured and been secured by those manufacturers who had sound and proven products, and abandoned by those with offbeat notions.

It seems there's no longer any investment money available for the frivolous ideas -- which of course took a lot of the fun out of writing this DEMA report. Instead, the established brands like Scubapro, AquaLung/Suunto, AUP (which encompasses Oceanic, Hollis and Aeris), Mares, Seac, Atomic/Bare/

Stahlsac and Cressi continue to develop, modify and upgrade existing and proven products. Technical and cave diving specialist DiveRite was there but its main rival, Halcyon, also based in Florida, was notable by its absence.

### **The Latest in Computers**

So, that said, what diving equipment on display was actually new? The star of the show had to be the Poseidon SE7EN rebreather. It was formally launched into the market on the first day, and its price ranges from \$6,850 to \$12,000 for the full bell-and-whistle version. But more about rebreathers next issue.

Electronics continue to move apace, and diving computers are no exception. The rechargeable Atomic Cobalt 2 nitrox-integrated computer with its full-color 256K display has a faster processor that is revealed in its instantly-responding 3D analog compass display that works at any angle.

Other new computers included the watch-like Scubapro Chromis, available in orange and white versions alongside the standard black strap. Its patented lap counter is intended to appeal beyond the diving market to include swimmers. It's a one-mix-per-dive computer watch that is a little less military-like than the Meridian. Alongside it, we saw the new Aladin2 displayed. This is a multi-nitrox-mix instrument that uses a predictive multi-gas algorithm with a display in a rectangular format, not unlike that of the former and iconic Aladin Pro. In common with the Meridian, both these computers use a PC/Mac USB interface for downloading dives.

Aeris demonstrated a fine new gas-integrated computer with radio link that featured a colorful OLED display, even if the shiny case was a little glitzy. It's expected to cost \$896 for the wrist unit alone, or \$1,296 with a tank pressure transmitter.

### **Fins, BCs, Regulators . . .**

Without any quirky fins to amuse us, attendees had to settle for the now-established and performance-proven Cetatek Aquabionic 1, with its water-adapting responsive propulsion, or WARP. These fins have been improved with the option of nicely integrated stainless-steel spring straps. However, their European designer was pleased to show the next generation of these fins, with a foot pocket that snaps onto the blade once you are wearing it, and this also gives the option to alternate between full-foot fins and strap fins.

There were endless numbers of BCDs on display, but apart from a growing accent on lightweight, there was nothing startlingly different or groundbreaking. Cressi is paying particular attention to the needs of women, with sexy, anatomically-designed wetsuits and color-coordinated gear. Side mounting of tanks continues to be more normalized for ordinary openwater diving. The Scubapro X-Tek range now includes a side-mount harness, while Hollis introduced the SMS75 rig that fits neatly in its range between the SMS50 and 100.

As far as regulators go, there have been few truly new models since last year, although many have had cosmetic changes. This includes Scubapro's S560/Mk21 and the Hollis side-exhaust 500SE. The same could be said of most masks on display, with only the Aeris Cyanea Micro Frame mask being slightly different, in that it uses a ribbed skirt to give strength and rigidity in the places where it matters, and a comfortable elastic strap (eschewing more normal silicone) that also features a snorkel keeper of similar material set at the appropriate angle.

### **Lights, Cameras, Drysuits . . .**

MoLi has a new little light that intends to take on the manufacturing giant Light & Motion head-to-head with its compact,



**Aeris's Cyanea Micro Frame Mask**

## Diver Makes Fatal Mistake During Typhoon Haiyan

Typhoon Haiyan affected 9.5 million people across the Philippines when it slammed into the country on November 8. In the gathering storm that afternoon, Dutch diver Rinus Hiesalaar, 69, opted to stay put in the diving boat he had chartered with three friends, while his fellow diver wisely sought shelter on Camanga Island.

There were no ominous signs yet of the fury of Haiyan save for the occasional strong winds, fellow Dutch diver Miroslav Johannes Lavaleyev told the *Philippine Daily Inquirer*. "We went to Apo Reef, and had a beautiful day there." But on that fatal Friday, they decided to sail back to Maricaban because of the approaching storm. Along the way, one of the outriggers broke. While they were able to fix it, they

decided to "hide" in the nearest shelter, Camanga Island. After dropping anchor, Lavaleyev and two divers rode a smaller boat to shore. Hiesalaar stayed in the boat, as did the Filipino skipper and some of his crew members.

"We decided to go to the village to wait the storm out. Everyone got off, except for [Hiesalaar]," Lavaleyev said. "This guy said 'No, no, I'm more comfortable here. Please let me stay.' He's now dead because of that decision." The boat capsized in the middle of the furious storm; the captain and four crew members survived, but four other crewmembers died. Hiesalaar's body was found floating at sea three days later.

**Note from Ben:** This is reminiscent of the *Wave Dancer* tragedy in Belize back in 2001. Seventeen divers from a dive club in Richmond, VA, and three crew members who stayed aboard died when the boat flipped during Hurricane Iris.

high-output LED lamp, very much reminiscent of its original Solar models. GreenForce from Belgium showed a couple of new pocket lights with alternative battery types -- the 600-lumen Diamond 600, as well as a high-output 1200-lumen Monostar head, all three of which give a tight beam and a wide corona. However, if you want the ultimate lamp, the all-new Sea Wolf from the U.K. knocks out an amazing 26,000 lumens. It was originally designed to meet the specification of a BBC underwater cameraman, and it's anticipated to sell for \$5,275 plus import tax. If that isn't bright enough, a lamp more than twice as bright is currently in development.

DEMA's photography and video section bucks the trend in that it appears to grow ever bigger. GoPro took the show by storm, as has become its habit, and among its offerings was a unique way to bolt six cameras together and get a seamless 360-degree image. Various companies such as DiveSite and Hugyfot showed deep-rated housings for the GoPro Hero 3, and in each case that included an additional battery-pack for extended operating time, and even an off-board monitor.

Nauticam has finally adopted a built-in electronic vacuum-leak test system not unlike that originally pioneered by Hugyfot, but it wasn't well used to promote that Belgian company's products. Nauticam's tests whether the housing is leak-proof by using non-destructive air rather than water, and the Chinese company displayed no fewer than four different evacuation valve set-ups to suit every user. BackScatter showed a similar device that was a little less sophisticated. No doubt, every expensive camera housing manufacturer will offer something similar before long.

Probably the most significant advance in drysuit technology is the continuing quest to use tough silicone seals instead of more fragile latex, and the Swedish company SiTech is at the forefront with a new method to attach the silicone seal to a suit, using a glued flexible frame.

### Dive Toys

There were fewer diver-propelled vehicles this time and, apart from the established range of Seadoo Sea Scooters, they were at the cheaper



iDive's Underwater Case for the iPad

end of the market. Bladefish exhibited a compact version that is more conventional in appearance than its first model and uses a plug-in battery module.

Although it was first conceived to help Wounded Warriors become rehabilitated in the underwater environment, the Pegasus Thruster is finally being discovered by underwater filmmakers who want a steady tracking shot underwater. It fits to the tank, leaving a diver's hands free to operate a camera. Ironically, the manufacturer has found it necessary to introduce a new hand-held version to overcome some conventional diver prejudice. (List price is \$3,895.)

For the diver who has everything, the new Shark Marine underwater raft, powered by six Pegasus Thruster units and combined with a sonar navigation system, will be a must. If you need to know the price, you can't afford it.

Another manufacturer that has found selling to divers more arduous than expected is SeaReq. That's because few dive operators are evidently prepared to invest the money needed to provide its search-and-recovery system for a boatload of divers. SeaReq has now developed its ENOS system to meet sailors' needs by combining an automatically-operated beacon with a lifejacket, and using the same combined GPS and VHF technology. The resulting Mobos will find a much wider and cash-rich audience among those who operate leisure craft.

DryCase has a solution for keeping smartphones both dry and usable. Its soft plastic phone case (\$40) can be evacuated of all air through its valve via a simple bulb pump. There's a case for a tablet too, around \$60.

iDive did something similar with its more ambitious underwater case for iPad (at \$599). By pressurizing the housing with carbon dioxide to match ambient pressure as the diver descends to 100 feet deep, the touch-screen feature is retained, and you can use all of its autonomous functions (those not needing Wi-Fi) underwater. The addition of a wide-angle lens adapter means the camera function is retained, and the designers hope to find a way for iPad-equipped divers, especially scientific ones, to communicate with each other while diving. It promises to open up a new world of underwater apps.

### The NOGI Awards

The NOGI statuette was modified from an award formerly bestowed at the New Orleans Grand Isle Fishing Tournament, which had an underwater division. The first recipients were world-class spearfishing

## Sad but Foolish Cave Diving Deaths

If there is anything a smart diver does not do, it's make cave dives without proper certification and training. But that didn't deter a Florida father, who took his 15-year-old son cave diving to try out new scuba gear they received for Christmas.

Darrin Spivey and his son, Dillon Sanchez, were last seen alive entering the Eagles Nest Sink location in Weeki Wachee, a town north of Port Richey on Florida's west coast. There's a sign near the pond's entrance alerting divers that the cave is dangerous and intended for advanced divers. Spivey was an experienced diver, but his son was not certified. Neither were experienced in cave diving. The two were last seen by a hunter, who saw them suited up at 11 a.m. on Christmas morning

and when he returned at about 6 p.m., he noticed their car was still there.

After the two failed to return home, Spivey's fiancée alerted authorities. She also took a dive when she saw their car still parked near the diving location, said Denise Moloney, spokeswoman for the Hillsborough County Sheriff's Office. "She wasn't able to find them. We sent divers down on Christmas night, and they found Mr. Sanchez at about 67 feet, and Mr. Spivey at 127 feet."

Robert Brooks, an experienced cave diver who knew Spivey, told the *Tampa Bay Times* that it seems their deaths could have been avoided. "The sad thing is, I told him, 'One night, they're going to call me to come get you.'" On Christmas night, Brooks helped to recover the bodies.

champions in the 1950s. The Academy of Underwater Arts & Sciences was later approached to sanction this award to annually recognize leaders in the field of scuba diving.

This year's winners included underwater photographer Michael Aw, Pelican Products founder, and shipwreck researcher and discoverer Lee Spence. It was especially pleasing to witness Bret Gilliam, who must be the most complete of all divers and a great friend of *Undercurrent*, step up and receive the coveted trophy -- and not before his time either. Lee Somers received the DEMA Reaching Out Award, although he was obviously ill and made his acceptance speech from a wheelchair. Somers has had a 60-year association with the diving industry, and was a major contributor to the NOAA Diving Manual.

On a lighter note, Bahamian shark diving expert Stuart Cove also received the Reaching Out award, and his somewhat left-field acceptance speech was being talked about a lot the following day among those who witnessed it. But those who knew Stuart were not at all surprised. He gave some personal and candid insights that might have been a bit more personal than some of the audience might have expected. In 1979, he was hired as a diver to help in the shooting of underwater scenes for a James Bond film, and he never looked back. Today, he is considered the premier shark expert by film producers in Hollywood, and the list of divers he has certified looks like a Hollywood "Who's Who."

Because dive operators and manufacturers from all over the world congregate to show what they have to offer, it's a great opportunity to reunite with those you might have met elsewhere. It makes for a great networking exercise. The only downside of this year's show was the fact that the actual attendees at DEMA -- dive store owners and diving instructors -- were nearly as sparse on the floor as were new products.

Next issue: What the DEMA show revealed about rebreathers for sport divers.

*John Bantin is the former technical editor of DIVER magazine in the United Kingdom. For 20 years, he used and reviewed virtually every piece of equipment available in the U.K. and the U.S., and made around 300 dives per year for that purpose. He is also a professional underwater photographer, and most recently the author of Amazing Diving Stories, available at [www.undercurrent.org](http://www.undercurrent.org)*

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## This Dive Resort is Taking a Stand

*its no-take zone initiative is setting a global standard*

Local chiefs recall a time when the sea around Batbitim Island in Indonesia's southeastern Raja Ampat was an Eden, before boats from outside began to strip the stocks bare. Raja Ampat hosts more varieties of hard and soft coral than any other area on earth. The colors resemble confectioner's penny candy of every colour and gloss. The diversity of fishes is unrivalled: shoals and schools intermingle and occasionally explode in panic at the arrival of hunting devil rays or a grey reef shark.

Until the 1990s, sharks were common in these waters; local fishers had no use for them, preferring more marketable catches. But by the mid-2000s, that changed, due to a dramatic increase in the Chinese demand for shark fins, a status symbol at banquets of the nouveau riche. Soon longliners from across the archipelago, as well as from China and Taiwan, descended upon Raja Ampat, trailing lines with up to 2,000 hooks per line. Fishermen set up seasonal shark finning camps, including one on Batbitim Island, where Misool Eco Resort now stands. The north beach was scattered with desiccated cartilage from the sharks and rays caught to feed the voracious worldwide market in fins. The bodies, which have little commercial value, were left on beaches or sunk in the open water, often when the sharks were still alive.

But just a few years later, the sharks have returned. A remarkable collaboration between the local community and a committed group of foreign divers has established a no-take zone the size of Singapore in order to recover what has been lost.

### Pushing for Change

The no-take zone was the brainchild of Andy Miners, a dive guide from Cornwall, England, an amateur marine biologist and a committed conservationist. Seeing the carnage on Batbitim Island, Miners decided to establish a resort and dive center to support a no-take zone that would allow for the re-stocking of depleted fish populations in southern Raja Ampat. He sold Marit Wechsler, Thorben Niemann and Mark Pearce on his idea, and the four raised money from friends in the diving community.

## Husband Sues PADI for Wife's Death from Carbon Monoxide

In March 2012, Ronda Cross, on vacation in Baja California from Calgary, Alberta, went diving off Cabo San Lucas with her cousin, Roxanne Amundson, and divemaster Jorge Duchateau. When Amundson and Duchateau surfaced from 75 feet, Cross, 41, was not with them. Her body was soon found floating in the water nearby and pulled out by the crew of another boat. Her husband, Colin, believed that she was overcome by carbon monoxide in her tank, fell asleep and drowned. Now, almost two years later, he has decided to sue PADI, alleging that the training agency inadequately teaches divers to protect themselves from carbon monoxide poisoning.

"PADI has roughly a page and a half that deals with the quality of air in the tank that you're using to dive," Joshua Hale, Cross's San Diego-based lawyer, told CBC News. "The page and a half examines bad air, it examines what to do in the case of bad air. It's PADI's recommendation to test your tank by tasting it." But Hale said the problem with that is carbon monoxide is tasteless and odorless. "It does say that there's a problem with carbon monoxide, PADI did not leave that out. But it doesn't say how to prevent being injured by it, how to prevent a death by it. PADI hasn't informed the people they're training how to do anything to prevent any harm."

There are other parties mentioned in the suit, including Sunshine Dive and Charter, the company that filled Cross's tanks in Mexico. According to court documents, the charter "held itself out to be PADI-certified as to diving tank filling and maintenance." In an email to CBC News, PADI declined comment because the case is before the courts. According to documents filed in a California court, the organization is denying all of the allegations in Cross's suit.

In PADI's Open Water Diver Manual, there is a section on bad air. "Contaminated air generally results from a problem with the compressor or its filtering system, and as a result often tastes and smells bad -- but it can also be odorless and tasteless," reads the manual. Divers are instructed to buy air only from professional dive stores and to make sure the proper compressor is used when filling the tank.

Still, Hale believes PADI needs to go further. "The training that says first of all, this is a problem. Second, this is how you minimize or mitigate that problem. Third, there's a cost, but fourth -- you've now been trained in this -- it's now your responsibility."

Cross says he had to file the lawsuit because when he tried to contact PADI after his wife's death, he wasn't getting a response. Hale says this isn't about money, but that they are hoping to bring about change. "In negotiations, he's asked for an ability to try and prevent other deaths, and I think that goes towards exactly what you're asking. Is this a means to pump somebody for money? I don't think so."

-- Nadia Stewart, CBC News

**Note from Ben:** We first wrote about Ronda Cross's death in connection to a story in our July 2012 issue, titled "Why CO Poisoning Risk is Higher Than You Think." The writer, a diving physician and air-fill consultant for government and businesses, explains why dive shops, dive agencies and divers themselves need to share in the responsibility of air fills and carbon monoxide testing. In light of Cross's lawsuit, it's a timely read again. Pull it up for a read at [www.undercurrent.org/members/UCnow/dive\\_magazine/2012/PoisoningRisk201207.html](http://www.undercurrent.org/members/UCnow/dive_magazine/2012/PoisoningRisk201207.html)

Besides hosting divers as paying guests, Misool Eco Resort runs a foundation, Misool Baseftin, and manages activities in the no-take zone, which is protected by ranger patrols. All these are about 70 percent locally staffed. While identifying young trainees and turning them into dive guides, Misool is filling the gap with experienced guides from Manado. Educating the locals about conservation is complicated. Across Indonesia, exploitation of resources pays for food and shelter, but conservation hardly pays at all, with most profits concentrated in the hands of local tour operators. Misool gives locals a stake in maintaining these activities, and the increased catch on the fringes of the zone has amply demonstrated a tangible value.

Miners negotiated with southeastern Misool's chiefs for months before the no-take zone was finally agreed upon, in 2005. They were keenly interested in the idea, because they were not profiting from the shark trade; the fishermen paid a license fee of just US\$30 per month, which allowed them to take as much as they wanted, with no restrictions. As for the long-liners, they usually arrived after dark to deploy their lines, harvesting more in a single night than villagers might in a year. The locals were powerless to stop them. So the chiefs and their constituencies were enthusiastic about creating a no-take zone that was close enough to their villages to reap the benefits of the spill-over effect.

Indonesian law recognizes the exclusive ownership of marine zones to traditional "owners"; in this case, the local villages. Miners established relations with the chiefs of the inhabited islands nearest to the resort, and it was their cooperative agreement with each other that was key to establishing the zone and its boundaries. Then the agreement was approved by the district and provincial fisheries departments.

### Patrolling the Zone

The establishment of the no-take zone led to the expulsion of shark-finning camps, and the regulation of boats in the area; boats could transit the zone but couldn't fish there. Local rangers, many of

## Falling Stars: Mass Starfish Deaths on the West Coast

Laura James called it one of the saddest things she's ever seen underwater. Sea stars, iconic and ever present in Northwest coastal waters, were suddenly becoming sick and dying before her eyes in numbers too great to count. The long-time Puget Sound diver said she's never seen anything like this in 20 years of diving.

She had heard recent reports from the Vancouver Aquarium, where diving biologists found sunflower sea stars in Vancouver Harbour and Howe Sound dying by the thousands. James wondered how sea stars in Seattle's Elliott Bay were faring, so in November, she took her underwater camera to dive the West Seattle dive site Cove 1, where the underwater pilings are normally covered with an army of brightly colored sea stars. But now they had transformed into pale, decaying piles of mush. Stars that had not yet disintegrated appeared to be so weak, she said, that they are being torn apart by the weight of their own bodies. (See James' before-and-after video at [http://kuow.org/post/watch-underwater-video-sea-stars-dying-west-seattle?utm\\_source=feedburner](http://kuow.org/post/watch-underwater-video-sea-stars-dying-west-seattle?utm_source=feedburner)).

These mass dying events have been coined Sea Star Wasting Syndrome, and recent surveys along the West Coast have found evidence of die-offs as far north as Whittier, Alaska and as far south as Orange County in California. So far scientists have only guesses about what might be causing this underwater epidemic; perhaps a virus, bacteria or something else entirely.

The Vancouver Aquarium ([www.vanaqua.org/act/research/sea-stars](http://www.vanaqua.org/act/research/sea-stars)) and the University of Santa Cruz ([www.eeb.ucsc.edu/pacificrockyintertidal/data-products/sea-star-wasting/index.html#track-disease](http://www.eeb.ucsc.edu/pacificrockyintertidal/data-products/sea-star-wasting/index.html#track-disease)) are asking people to report any sightings of dying sea stars. Both organizations are mapping their findings as well (<http://data.piscoweb.org/marine1/seastardisease.html>).

You don't have to be a diver to see evidence of sea stars dying. James also shot video below of dead sun stars that had washed up on shore at Brace Point in West Seattle. "I saw 100 dying sea stars in one area, and we're getting reports of it all over Puget Sound," James told Seattle radio station KUOW. "It's huge, and it's frightening because nobody knows what's going on."

## The Top 10 Dive Resorts – for Non-Divers, Perhaps

In November, Fox News's website ran an article, prepared by the Gayot Guide, called the "The World's Top Ten Dive Resorts." While on one hand, it looks like a list of comfy beds, accommodations at the one U.S. destination were not even listed. Here's what Gayot came up with.

- \* Huvafen Fushi, North Male Atoll, Maldives
- \* Four Seasons Resort, Sharm el-Sheikh, Egypt
- \* Bonne Terre Mine, Missouri (no resort listed)
- \* Octotal Beach Resort, Playa Ocotal, Costa Rica
- \* Blue Waters Inn, Batteaux Bay, Tobago
- \* Amankila, Bali
- \* Hotel Ilio, Italy

- \* Tanjung Jara Resort, Dungun, Malaysia
- \* Palau Pacific Resort, Koror
- \* Capella Lodge, Lord Howe Island, Australia

Bali diving over Raja Ampat or Lembeh? Lord Howe Island instead of Lizard Island, with its giant potato cod? A quarry listed as the top dive resort in the U.S., where the accommodations are motel-driven? Italy? Tobago's modest BlueWaters Inn (though we like the diving there, as you see in this issue)? Thumbs down to Gayot, and to Fox News for accepting this sub-par travel piece as good advice for its readers.



them ex-shark fishermen, operate from three ranger bases and patrol with three boats. Fishing boats are seized and impounded, and the catches are jettisoned into the water. The boats are held until the perpetrators pay a fine to the local village council.

The patrol has chased off numerous large long-liners. The most dramatic capture so far was two fishing boats from Sulawesi, their roofs covered with drying fins. The boats were caught just after their nets were submerged, and when rangers boarded the boats and dragged the nets from the water, entangled sharks were cut free and saved. More common are the seizures of local boats from Sorong -- dozens a month were driven off, and as word of the vigilant ranger patrols spread, the number of seizures has declined to an average of two per month.

The patrols took a "soft" approach to local fisherman infringements. Fines were not imposed, but catches were confiscated. Meetings were held in the offenders' villages, when the elders would discuss the zone's positive impact. In the last five years, those violations have fallen by 90 percent.

The patrols are paid by donations from Misool Eco Resort as well as from NGOs and private donors. The rangers coordinate patrols with the resort and with local villages that report boats in the area. In 2010, the no-take zone was expanded eastward to include the Daram Islands, doubling the size of the zone. At 514 square miles, this marine-protected area is twice the size of Singapore.

The positive impact of the no-take zone can be quantified. Marine biologist Mark Allen is studying the biomass of certain fish species at several dive sites in the zone, and says that between 2007 and 2013, biomass has increased by an average of 250 percent. Diving the house reef off the Misool pier reveals every common reef species, except more and larger: snappers, a school of juvenile jacks, giant Malabar groupers, napoleon wrasses, bumphead parrotfish and the occasional great barracuda. Every dive site reveals these, as well as grey reef, white-tip, black-tip and wobbegong sharks, schools of barracudas and all types of pelagics. Rare nocturnal epaulette sharks are no longer rare here. The channel that separates Batbitim from a neighboring island was once renowned for shovel-nosed rays, but they were systematically netted and finned. However, the population is recovering. There are other rarities: blotched fantail rays, Sargassum frogfish, and hammerhead, silver-tip and whale sharks.

A protected cove on the north beach now hosts black-tip sharks giving birth and teaching the juveniles to hunt. Its northwest corner hosts a colony of mandarin fish, endemic species such as flasher wrasse, and a species of pygmy seahorse found nowhere else on earth. Renowned marine zoologist Gerald Allen has discovered numerous new species in the area, including a stingray with a 13-foot disk width.

One of Misool Baseftin's conservation programs, the Misool Manta Project, studies the endemic and transitory ray populations of southern Raja Ampat by taking DNA samples, tagging mantas with radio tracking devices and photographing them. Radio receivers are moored at depths of 165 feet at strategic points inside and outside the zone, and provide a fascinating map of these creatures as they move from station to station. So rich are the nutrients in the water that these receivers are completely encrusted by sponges, molluscs and marine algae within a few months.

### Infractions in the Zone

*Between 2007 and 2013, the biomass of certain fish species at many dive sites in the no-take zone has increased by an average of 250 percent.*

The most effectively patrolled areas of the no-take zone are those that benefit from line-of-sight radio communication between the ranger stations and the patrol boats. Locals report suspect vessels and assist the patrols to protect their assets. The local fishermen benefit from the zone by fishing just beyond its borders, however, the fringes of the zone

are still preyed upon. In Daram, on the far west of the islands, there is evidence of recent dynamite fishing. Devastated sections of hard coral scatter on the sea floors below, gorgonian fans and soft corals ripped loose to drift along as they slowly die, an emperor angelfish with its eyes blown loose, and wounded red snappers finning ineffectively until the barracuda find them.

This practice is still found across the archipelago. A ship in Daram threatened an unarmed Misool patrol boat with a bomb. That ship escaped, but the ranger patrol now includes an armed plain-clothes marine police officer. Before the establishment of the zone, turtles were also preyed upon. Green, hawksbill and especially leatherback turtles are endangered. Although turtles are protected under national law, Indonesian villagers still kill and eat them. Shark fishermen cut open still-living turtles, extracting their intestines to use for bait. On Daram's beaches, I saw the drag marks of green turtles on sand as they climbed toward the treeline to lay and bury their eggs, followed by footprints of the men who followed those same trails and dug up the nests. Turtle eggs remain a prized protein source, though an illegal one.

This mass killing continues elsewhere. North Sulawesi's Lembah Strait was once known for sharks and rays, but they were wiped out by a few longliners who stripped the Strait over a six-month period in the 1990s. It is now only known for small creatures on the black sand. A few years ago north, a hammerhead breeding site in the Wakatobi Islands was found and annihilated in months. And in Bali's Nusa Penida, pregnant threshers are being exterminated in a breeding area near Sampalan Beach. The pups, which have no commercial value, are left on the beaches to be eaten by stray dogs. In Flores, slaughtering rays is the only growth industry.

And so the Misool no-take zone is all the more incredible. Thanks to the cooperation and combined conservation efforts of private enterprise and the local community, the Eden that the village chiefs remembered is returning.

*Bobby Anderson (rubashov@yahoo.com) works on health, education, and governance projects in Eastern Indonesia, and he travels frequently in the Indonesian provinces of Papua and Papua Barat.*

**Note from Ben:** There's more marine conservation going on in other parts of Raja Ampat. Go to the *Undercurrent* blog ([www.undercurrent.org/blog](http://www.undercurrent.org/blog)) for an update from noted marine biologist Mark Erdmann and frequent *Undercurrent* contributor Maurine Shimlock about the latest protection efforts and how well they're working.

## Sounding Off on the Seahorse's Plight

*In the November issue, our veteran writer John Bantin wrote about the United Kingdom's recent ban on the use of flash photography on seahorses, but that the real threat to the creatures may be the manhandling of them by over-eager divers, and the dive guides who want to please their paying customers. Undercurrent reader Randy Preissig (San Antonio, TX) wrote us to express his thoughts, and why divers shouldn't immediately be the ones to blame for the seahorse's sad situation.*

Ben, how many seahorses do you think are photographed by all the underwater photographers in the world in one year? I would guess 10,000 to 20,000. Of course, some are photographed multiple times on multiple dives -- a dive boat can return to a known seahorse site week after week, and be relatively assured the seahorse will still be there for up to 20 obsessed photographers each time. This alone makes a strong statement regarding the effect of flash photography on seahorses, i.e., it can't be that bad. But compare whatever harm might be done to these few animals to the estimated 20 million seahorses killed each year [they are used in traditional Chinese medicine]. Or the somewhat less-impressive hundreds of thousands taken for home aquariums each year. Or the impossible-to-quantify die-offs due to "loss of habitat" and poisoning due to sewage, chemicals, etc. There are places where seahorses used to be seen commonly, and where a sighting now is literally news. Every last one of them can't have been traumatized by diving photographers!

Scuba divers and photographers get blamed for far more harm than they inflict. Diving Grand Cayman after its last major hurricane would convince anyone of divers' relative unimportance. No, I don't support or defend divers that plop down on coral or similar behavior. And having experienced a famous underwater photographer photographing her first seahorse (she made the entire boat of students stay out of the water for 30 minutes while she got "first dibs" on the find) and the resulting damage to the poor critter, your article's subtitle, "It's not the strobe, it's the manhandling" is right on.

I think the emphasis should be on controlling each diver's access to each seahorse. For most divers, the chance to see and photograph one is often a once-in-a-lifetime event, and they get excited. For some photographers who should know better, the quest for the perfect shot can lead to dozens, even hundreds of pictures, along with manipulation. I've sadly seen physical abuse of seahorses -- always unacceptable. But the article is about flash photography, and I just don't believe that's killing off our seahorses. I do my share of fuming at "bad" divers, but our impact on the reefs and oceans has been exaggerated, in my opinion, which isn't good for scuba diving's reputation. We can always do better, but let's not miss the forest for the trees on this issue.

*We asked John Bantin to answer Preissig's letter, and here's his response:*

Randy has it spot on, but it is an emotive subject. Marine biologist David Harasti has done some proper research and found that light does not damage seahorses, but it's obvious that interfering with them -- or any other small creature, for that matter -- has ill effects (a summary of Harasti's recent study is at <http://phys.org/news/2013-11-seahorse-photography-safely.html>). Underwater photographers need to be patient in waiting for the right moment to press the camera's shutter release rather than trying to force the issue.

It's most important for divers to respect the environment for their own self-esteem. After all, if you are prepared to trash a place, what does it say about you? However, once you've seen a large green turtle making a place to roost or a hawksbill chomping its way through soft coral, you realize that it isn't divers who necessarily do the damage. No, it's more likely to be the millions of people who burn fossil fuels either directly or indirectly, or those who use and discard plastic packaging far from the ocean without giving it a second thought who do the big damage, and we are all part of that greater conspiracy.

I was recently followed round on dives at Cocos Island by a lady with a GoPro, intent on proving that I touched the coral. The terrain, of course, is all volcanic rock with little or no coral, and holding on to the rocky substrate in the fierce currents in order to use a camera is probably the only option. Her zeal made her feel better, but I doubt my intrusion made much difference to the place.

The marine world is in jeopardy, without a doubt, but it's the hazards presented to it by the plastic ocean, chemical imbalance and events like that at Fukushima that far outweigh the slight amount of damage any scuba diver, however careless, might do.

# Flotsam & Jetsam

**Thanks from Our Favorite Nonprofits.** We recently awarded \$1,000 to each of three marine-focused nonprofits that we profiled in our October issue, as their stellar work clearly deserved recognition. The founders wrote us back to say thanks for the financial support. "We really appreciated the publicity," says Don Stark of the Turks & Caicos Reef Fund. Ken Nedimeyer wasn't expecting a donation to his Coral Restoration Fund, "but it is greatly appreciated and will be well spent." Heather Hamza of Ghost Fishing says her eyes welled up when she read our e-mail about the donation. "Your \$1,000 will pay for two weekday charters or one weekend charter. This is a huge help, and I cannot thank you enough! On behalf of all the volunteers, I want to express my deepest gratitude."

**Blackfish Is Hurting Seaworld.** The documentary describing the 2010 killing of SeaWorld Orlando trainer Dawn Brancheau by Tilikum, an orca previously associated with the death of two other people, traced the grim story of killer whales in captivity. While thousands of parents have decided to take their kids elsewhere when in Orlando, rock musicians are also stepping up. Heart, Willie Nelson and the Barenaked Ladies have pulled out from SeaWorld Orlando's annual Bands, Brew & BBQ Festival, slated to begin February 1. Joan Jett has issued a letter demanding that her hit song "I Love Rock 'n' Roll" be removed from the park's "Shamu Rocks" killer-whale show.

**Of Course Sharks Like the Taste of Human Flesh.** Daniel Bucher, a marine ecologist at Southern Cross University in Australia says there's no evidence to support the claim that they don't. "Normally, they eat fish, but they don't mind red meat if they can get it," he told the Australian newspaper *Northern Star*. "Seals have very red meat (like humans) from oxygen-binding proteins in the blood, and great white sharks feed on seals." He adds that tiger sharks and bull sharks are

scavengers, and "they will eat any carrion. To them, it's just food." Because most shark attacks on humans have involved only a single bite, people assumed sharks didn't like the taste, and attacks were a case of mistaken identity. It's more likely they were taking an exploratory bite, Bucher says. "They're trying to work out if it's alive, whether it will fight back. Depending on how hungry a shark was, it would attack, or not."

**Fishermen Protesting Protection of Cocos Island.** After two years of negotiations, Costa Rican government officials, environmental groups and fishing representatives agreed upon the creation of a marine-protected area of 6,000 square miles around Cocos Island. But there's one group holding it up. Longline fishermen have filed a lawsuit to kill the plan, saying it would reduce the area they're allowed to fish by 60 percent, and that is "the main source of income for more than 2,500 fishermen who work on some 500 boats in the Pacific region," according to a spokesperson for the group. Government officials will hold a hearing on January 7, during which fishermen can present reasons for their annulment request. In the meantime, plans for the marine preserve around Cocos can't be put into place.

**An Undercurrent Reader Saves a Marriage.** Jim Garren (Boynton Beach, FL) wrote in about the good deed he did while aboard the *Kona Aggressor* in October. "During my second night dive, down at 50 feet at The Dome, my light suddenly reflected a flash in the sand. It turned out to be a man's diamond wedding band in good condition. Back on board, I could make out an inscription inside, but it did not belong to any crew or guests. Using a magnifying glass, I saw the ring was made by a Hawaiian jewelry company named Na Hoku. Back home, I contacted Martha in its customer service department, who was able to determine the ring's original purchasers using its inscription (Rhina & Gabriel 3-13-11), and she gave them my contact information. The couple, who live in California, did contact me and said they lost it while snorkeling on vacation last June, and losing it ruined the rest of their trip. I returned it by FedEx the next day. I was almost as excited as they were because it was the only real 'treasure' I've found after nearly 700 dives."

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