

# undercurrent

*The Private, Exclusive Guide for Serious Divers*

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## Cabo Pulmo Beach Resort, Baja California

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### *a pristine dive spot in the Sea of Cortez*

Dear Fellow Diver:

Cruising through El Bajo de los Meros at 50 feet, I was watching a school of porcupine pufferfish browsing on the half-mile-long reef when suddenly everything turned dark. Thousands of two-foot jacks were swimming near the surface. I drifted up to my safety stop, amazed to be in the thick of them. I couldn't see anything but jacks as they lazily swam by me. A peephole opened, large enough for me to see large sea bass and a four-foot-long grouper swimming alongside the school. Just another day on the edge of the Sea of Cortez.

Cabo Pulmo National Marine Park is on the southeastern tip of the Baja Peninsula where the Pacific Ocean and the Sea of Cortez meet. Fishing has taken a toll on much of the Sea of Cortez but the marine park, established in 1995, has banned all fishing (though catching big fish like cabrilla, dorado and grouper is allowed just outside its boundaries) so marine life is abundant there, unequalled by any Caribbean venue I've visited. And for many North American divers, it's easier to get to.

Cabo Pulmo Beach Resort is 60 miles east of the tourist epicenter of Cabo San Lucas, but it's a world away from the hustle, bustle and timeshare salesmen. Forget about poolside massages and mariachi bands - this beach resort is in the middle of nowhere and will appeal only to divers whose big idea of nightlife is watching the sunset. It's just outside the "town" of Cabo Pulmo, actually a small village of 113 people, with a dirt road running past a few homes,



Cabo Pulmo Beach Resort's dive shop



two restaurants and three dive shops, all running on solar power and generators.

After landing at the San Jose del Cabo airport, my group rented a car for the 90-minute drive. We passed through beautiful desert landscapes on the two-lane road headed toward La Paz, then turned onto a side road to Cabo Pulmo. After the town of La Ribera, the last chance to get extensive supplies and gas, the paved road ended and turned into a six-mile-long dirt road, with some bumps, to Cabo Pulmo. Surrounded by dramatic desert scenery on one side and a two-mile-long stretch of pristine, deserted beach on the other, Cabo Pulmo Beach Resort is a colorful cluster of palapa-roofed cottages with hammocks strung on porches in a tropical beach atmosphere. I had an excellent dinner of tortilla soup, local fish in a chipotle cream

sauce and enchiladas at the resort's Coral Reef Restaurant, but the "lights out" signal was at 9:30 p.m. when the restaurant's power generator shut down, so I went to my casita to enjoy the spectacular night sky.

A short walk along the resort's bright stucco walls led to a turquoise building a short block from the beach that housed the dive center, resort office and restaurant. After I took my gear there, the eight-person staff set it up and transported it via a red pickup truck to the boat, then retrieved it after the dives and rinsed and stored it. Tanks were aluminum 80s. To dive, I simply put on my wetsuit, hood and gloves and walked to the beach to board the panga for the next two-tank trip. The pickup truck pushed one of the four small outboard-powered pangas to water's edge, then we divers boarded the boat while the boat captain and divemaster helped the pickup driver push us into the water. They hopped on board and we were under way. You won't see that in Bonaire.

Pancho was my skilled boat captain who, after a quick glance over his shoulder at the mountains or other landmarks, triangulated us right on top of the dive sites. Light currents were common, so we backrolled into the water on the count of three and descended together. While I dived with several divemasters during my week in July, I never felt like crew were playing musical chairs. They are some of the few people who live in Cabo Pulmo year-round and were obviously proud of the marine park. For this side of Baja, they were an exceptionally professional crew. Many of them had years of experience as certified instructors in Roatan. All spoke excellent English and I also heard them speaking French, German and Spanish with daytrippers up from Cabo San Lucas. Each one was eager to point out critters underwater and share stories back on the panga about what they saw. Their thorough briefings included descriptions of the site's topography, critters we might find, water temperatures, currents and a dive plan. Once they were comfortable with divers' skills, they relaxed their watch and allowed us to dive at our own pace. Dive lengths depended on depth and computers, and were never cut short; many dives went over an hour. Pancho was always waiting when I popped up from dives. I exited by handing up my weight belt and BCD and either climbing the small ladder at the stern or climbing up along the side.

Cabo Pulmo's rugged landscape is mirrored underwater, where dramatic rocky crags replace coral in the cooler waters, but it's chock full with colorful marine life of all sizes. Ten minutes from shore, El Bajo de Los Meros and El Moro, a parallel reef, were the longest boat rides. During morning dives at these sites, areas of the reef were ablaze with open orange cup coral. Schools of porcupine puffers, up to 40 a bunch, were everywhere. Same with amberjacks, big-eyed jacks and yellow snappers. I peeked into cracks to see groupers, green moray eels and smaller jewel eels.

At El Cantil, layers of ledges offered up a resting turtle, several octopuses, and pufferfish. Crown-of-thorn sea stars are rare in these parts, so I was thrilled

when I saw three at the same site. Small channels harbored five-foot-long groupers and dog-toothed snapper. The rocky topside of the reef, sloping down to 55 feet, is covered in elegant stony coral, a safe place for schools of guinea fowl puffers. I often spotted guitar fish and bullseye stingrays buried in the sandy flats with only their bulging eyes protruding. On our way to La Esperanza for an early morning dive, Pancho noticed the dorsal fin of a small tiger shark break the surface alongside the boat. In the afternoon, I spotted a sea lion sunning itself on the rocks at Pulmo Point.

I averaged four dives daily, depths ranging from just under 100 feet at Ed Bajo de los Meros to 45 feet at Las Islote, and most dives were more than an hour long. While I dived with a different group every day, there were never more than six divers on board. They were either experienced American and European divers staying at the resort or day trippers from Cabo San Lucas getting a diving or snorkeling fix. Because of Cabo Pulmo's marine park status, all divers are required to be accompanied by a divemaster. The dive center carefully matched divers and their experience levels when making their groupings. I didn't snorkel but the daytrippers who did raved about their time at La Islote. When they got back in their van, my group pretty much had the restaurant to ourselves until the generator shut down.

A storm blew through midway through my week there, sidelining me from diving for a day, but it was a great opportunity to explore topside. A well-marked hiking trail starting in town winds its way back into the mountains for several miles. I was warned to keep an eye out for rattlesnakes sunning themselves on the climb to El Mirador, but luckily I didn't see any. At the top, I sat on the bench atop the mountain to take in the spectacular views both north and south. The desert vegetation is a stunning contrast to the blue sea.

The sea view from my casita porch was just as stunning, and I spent post-dive downtime lounging in my hammock and listening to the waves. After checking the resort map on its Web site to see how cottages were set up, I called to discuss the diving and pick a unit. I was happy with #8, a casita with rock walls, tiled kitchen and bathroom, and a balcony with hammock. My kitchen was equipped with a propane-powered refrigerator and stove. I always had hot water. My bedroom had a double bed with clean sheets, single-bed futon, chest of drawers and the all-important pedestal fan. Daytime temperatures in July soared into the low 100s but humidity was low, and my fan kept it comfortable at night, but heat-sensitive divers are better off renting the rooms with a/c. A pleasant shore breeze kept bugs to a minimum. Just outside the sliding door of each casita was a propane barbeque table and chairs, hammock and either a rinse hose or outside shower. Yards

The sea view from my casita porch was just as stunning, and I spent post-dive downtime lounging in my hammock and listening to the waves.

## Cabo Pulmo, Baja California

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

★ = poor      ★★★★★ = excellent

*Caribbean Scale*

## Vista Sea Sports: Another Good Baja Dive Shop

Farther up the coast from Cabo Pulmo is Vista Sea Sports on the East Cape. Located 65 miles from both La Paz in the north and Cabo San Lucas in the south, it continually gets good reports from *Undercurrent* readers. Owners Mark and Jennifer Raynor founded Vista in 1993. Each of their three super pangas carries a maximum of six divers so there's never a cattle-boat situation.

Boats pick up divers at the docks for all East Cape resorts and take diving and snorkeling trips between Cabo Pulmo and Isla Cerralvo and Gordo Banks; two-tank dive trips require a two-person minimum, and they cost between \$110 for Cabo Pulmo and \$150 for Gordo Banks. ([www.vistaseasport.com](http://www.vistaseasport.com))

## Divers' and Snorkelers' Sunscreen Is Killing Off Coral

The sunscreen you dutifully put on before a dive or snorkel may prevent sunburn, but its chemicals are killing coral reefs worldwide. A study in the journal *Environmental Health Perspectives* states that four common sunscreen ingredients can awaken viruses in an algae called *Zooxanthellae* that lives inside reef-building coral species. The chemicals cause the viruses to replicate until their algae hosts explode, spilling viruses into the surrounding seawater, where they can infect neighboring coral communities. *Zooxanthellae* provides coral with food energy through photosynthesis and contributes to corals' vibrant color. Without it, the coral bleaches white and dies.

The study's researchers looked at the effects of sunscreen exposure on coral samples from reefs in the Pacific, Atlantic, and Indian Oceans. Seawater surrounding the coral exposed to sunscreen contained up to 15 times more viruses than unexposed samples. Researchers found

that even low levels of sunscreen, at or below the typical amount used by swimmers, could activate the algae viruses and completely bleach coral in just four days. They estimate that 4,000 to 6,000 metric tons of sunscreen wash off swimmers, snorkelers and divers annually in oceans worldwide, and that up to 10 percent of coral reefs are threatened by sunscreen-induced bleaching.

Several brands of popular sunscreens were tested and all had four ingredients in common: paraben, cinnamate, benzophenone, and a camphor derivative. Banning sunscreen isn't necessary. To reduce their impact on coral, divers and snorkelers can use sunscreens with titanium dioxide and zinc oxide, which reflect instead of absorb ultraviolet radiation. Some eco-friendly sunscreens that meet those standards come from Caribbean Solutions ([www.caribbean-sol.com](http://www.caribbean-sol.com)) and from Aubrey Organics ([www.aubrey-organics.com](http://www.aubrey-organics.com))

were well kept and exploded with lush greenery and bright bougainvillea. Thanks to El Niño last year, the water was nearly chilly - 64 to 75 degrees, depending on depth and proximity to the shore. July water temperatures typically average in the 80s, but the coolness was refreshing in the furnace-like heat. The pangas are uncovered, however, so I had to bring a hat to keep my face from getting burned.

Between topside and underwater explorations, I ate at the Coral Reef Restaurant, on the second floor of the turquoise building housing the dive center. For lunch, I had tasty fish tacos, enchiladas, cheeseburgers and nachos. Dinners started with gazpacho, salads, tortilla soup and calamari, and ended with good entrees like sea bass, shrimp and steaks. Service was excellent, but the restaurant ran short in a few areas. It doesn't offer any dessert, to the dismay of the sweet teeths in my group. BYOB is also a good idea -- the restaurant ran out of beer during our stay, and the beer truck only comes once a week. I'm glad I brought a soft-sided cooler on the trip and stored up on lunch fixings and snacks, because surface intervals between morning and afternoon dives are only 1.5 hours and the Coral Reef runs on its own schedule. On a couple of nights, I ate in town at La Palapa and Los Calalleros, which offered more traditional Mexican food like tacos and burritos and paired the good, hearty fare with sea breezes and million-dollar beachfront views.

Dive depths ranged from just under 100 feet at Ed Bajo de los Meros to 45 feet at Las Islote, a small rocky pinnacle that protrudes slightly above the surface. At 75 degrees underwater, it was one of my warmest dives that week. I dropped to its base and swam in a circular pattern, progressing upwards five to 10 feet for every circle of the island. La Islote is a well-tended garden, with rocks thickly covered by multiple sea fans, black gorgonians and colonial cup corals swaying in the current. Schools of trigger fish, Amarillo snapper and grouper were dominant at depth. Lobsters tucked themselves away in the fractures. Two foot-long scorpion fish with heads the size of cantaloupes perched atop the reef.

I had hoped to see manta rays and whale sharks but wasn't lucky on either account, but I never tired of seeing large schools of large fish on nearly every dive. Twice I was treated to hundreds of bat rays with up to two-foot wingspans gracefully flying above me, schools as big as cumulus clouds.

To my eye, the Cabo Pulmo marine-park protection seems successful. It boasts an abundance of underwater species, from small seahorses to the biggest black sea bass around. It may not equal the Caribbean in terms of colorful coral and clear visibility, but it can hold its own as an underwater aquarium. The wow factor is definitely

the large schools of large fish. Many Undercurrent readers have reported problems with resorts on this side of Baja but I found Cabo Pulmo Resort to be a beachfront gem with friendly, relaxed staff and good service despite being in such a remote area. If you want to dive unique reefs with a healthy marine life population and you don't mind your nightlife ending when the generator shuts down, this is a place worth considering.

-- Adel Joseph



**Diver's Compass:** Cabo Pulmo Beach Resort rates range from \$49-\$69 for a basic room to \$199-\$229 for a private beachhouse that sleeps eight . . . Nonstop flights to San Jose del Cabo airport are approximately \$1,100 from New York, \$600 from Chicago and Atlanta, and \$300 from Los Angeles . . . To get from the airport to Cabo Pulmo, rent a car (\$40 daily on average) or hire a van (flat rate of \$160 each way) . . . Best grocery store is the MegaMart, 15 minutes from the airport; bring a soft-sided cooler bag to carry refrigerated items . . . Dinner at the Coral Reef averaged \$35 for two; in-town dining options are La Palapa and Los Caballeros, but they only accept cash . . . You need a certified wristband to dive in the marine park, which costs \$4 . . . The best time to dive is between July and mid-November when water temperatures are in the 80s; water temps are 60s to 70s in winter and spring . . . Cabo Pulmo Beach Resort Web site:

[www.cabopulmo.com](http://www.cabopulmo.com)

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## Barbados, Oman, Puget Sound, Samoa

### *updates on far-flung diving locales*

You have probably thumbed through the *2008 Travelin' Divers' Chapbook* by now, but we have gotten a steady stream of reader reports coming to us since the book was mailed out. Here are a few from subscribers about both up-and-coming and tried-and-true dive sites.

**AquaSamoa in Apia.** No island south of the equator is more "South Pacific" than Western Samoa (not to be confused with American Samoa), but is it an undiscovered gem for diving? Reader Edwin Granite (Chaddsford, PA) decided to find out last October. He first tested the waters by snorkeling at Palolo Deep, a protected underwater area near the capital city of Apia. "A small shack on the rocky beach entry rented gear. Much of the coral was dead due to a hurricane a couple of years ago, but the live coral at shallow depths was colorful. Enormous tridacna clams were surrounded by cages for protection against aquarium hunters. There was a scarcity of fish and visibility was poor."

Granite stayed at the upscale Aggie Grey's Resort and Spa (it's owned by the heirs of Grey, who ran a guesthouse on the site and was the inspiration for "Bloody Mary" in James Michener's *Tales of the South Pacific*) and dived with its dive shop AquaSamoa. "Equipment is up to date and rental gear, including computers, is included in the price of the dives. However, the two-tank morning dive is a pricey \$120." His weekend of diving was led by Barry, a British expat technical

diver, and Fiti, a Samoan boat driver with eagle eyes. The boat was a small, fast inflatable with two 100-horsepower outboards. "Getting out of the 25-inch inflatable was no problem with a back roll, but somewhat difficult getting back on board with just the rope ladder."

Water temperature averaged 83 degrees. Granite dived the Rock, 15 minutes from the dock. (The site is closed on Sundays for locals who go to church nearby and don't want to see dive boats.) "The reef starts 45 feet below the surface and slopes down over three ridges to the bottom at 100 feet-plus. The hard corals were lively colored and there was little soft coral, as in nearby Fiji. I encountered a school of striped barracuda, then I was surrounded by multiple reef fish in a rainbow of colors. Visibility of 100 feet."

Buck's Reef, near the uninhabited isle of Nu'ulopa, started at 30 feet. "There I saw a coral head with more anemones and clown fish than I have ever seen in one spot. The great visibility showed off lovely staghorn, lettuce and plate coral, large and small. I poked into ledges, canyons, tunnels and caverns."

Barry told Granite that he had visited the best dive sites Samoa had to offer, and confirmed Granite's suspicions that there was no big stuff, few eels, and only the rare shark. "That's surprising since Samoa is so remote," says Granite. "Because of those factors, plus the time and money needed to

get there, I wouldn't consider Samoa as a dive destination at this time." ([www.aquasamoa.com](http://www.aquasamoa.com))

**Wrecks and Turtles in Barbados.** The Caribbean island of Barbados is not a must-dive, but you can enjoy some good dives for frequent turtle sightings and the wrecks surrounding the island, says reader Ernie Krumbein (Munster, IN). "Year-round water temperatures around 80 degrees and average visibility between 50 and 100 feet also helps. On nearly every dive, I saw hundreds of colorful fish, although most were small, and morays from large green ones to small gold-spotted snake eels."

Krumbein stayed at the Sandpiper Resort but used the dive shop at its sister resort, the Coral Reef Club. "Hightide Watersports is a small shop but has over 100 aluminum 80's

and dozens of rental gear sets. Nitrox is available. My divemaster Edwin, a Bajan with a big smile and a loud laugh, loved showing off the underwater sights." Hightide uses two 30-foot, custom-built, twin-hull dive boats which are slow-moving and noisy, but they have a ramp between the pontoons which is lowered onto the beach, allowing divers to walk on and off. "Staff carries all the gear and if you are diving a second or third day, it will be set up for you to put on."

Barbados has one of the Caribbean's best wreck dives in the 365-foot Greek freighter *SS Stavronikita*, which caught fire in 1976 and was sunk as a wreck near Bridgetown's harbor. She sits upright in 135 feet of water, and the forward mast is 20 feet from the surface but after 32 years on the sea floor, the "Stav" is beginning to fall apart. "Visibility is 70 feet, and small fish abound on the main deck and around the masts. She is covered with small hard corals and hundreds of sponges and sea fans." Penetration is only permitted in the afterhold. Another good wreck is the 155-foot *SS Pamir*. "Almost completely intact in 50 feet of water, she is home to green and hawksbill turtles. I saw juvenile spotted drum and tiny high hats, along with the usual parrotfish, angelfish and butterflyfish, but none are large."

Research divers from the Barbados Sea Turtle Project use Hightide's boats every Tuesday, Thursday and Saturday for tagging hawksbill and green turtles, and divers can join. "When one is brought onboard for tagging, inspection and sexing, divers can ask all the questions they want and even look closely at the turtles to determine the sex," Krumbein says. Hightide also offers free half-hour trips to a spot four minutes south to snorkel with and feed turtles. Besides turtles, other visitors were a four-foot porcupinefish and huge tarpon and yellowtail snappers. ([www.divehightide.com](http://www.divehightide.com))

In the Bridgetown harbor, centuries of sailors tossed bottles overboard and Haroon Degia, who operates The Dive Shop, founded in 1965 by his father Paki, will take you out looking. He has a splendid collection and knows where to look, especially after storms. Just last month, Haroon emailed us to say "we're still finding bottles down here" and I'm tempted to go to add to my 19th century Barbados bottle collection. ([www.divebds.com](http://www.divebds.com))

**Bandito Charters in Puget Sound.** Cold-water-diving lovers will enjoy dives with this fleet based in Tacoma, Washington, says reader Tom Carlson (Tacoma, WA). Bandito Charters operates year-round, with three boats running charters every weekend. Carlson went on the *Sampan*, a 43-foot dive boat for 14 divers. The heated galley has a cook stove with hot water for coffee and tea, and snacks and sandwich fixings. There's also plenty of table space for camera work and a rinse bucket on the deck.

Carlson's trip in January was a twilight drift dive at the North Wall of Point Defiance. "Formed in a series of stair-steps, the wall resembles a giant slab of Swiss cheese as it is full of tens of thousands of fist-sized holes bored by piddock clams over the years. Prime marine life viewing is at the 30-to-70-foot range. "Drifting along the wall and examining the

## Maui Dive Shop Must Pay \$550,000 for Wrecking Reefs

Maui Dive Shop, whose 32-foot snorkel boat sank off Molokini in 2006, was recently fined \$550,000 for coral damage, the largest-ever penalty made by the state of Hawaii in a coral damage case. The state also suspended the company's permit to conduct Molokini tours.

The trouble began when the crew struggled to secure the dual-engine vessel to one of 26 submerged moorings. The boat's port engine ground to a halt when a bow rope became entangled in the impeller, which draws water into the engine. It was the captain's first solo voyage after only three days of training, and neither he nor the crewman had good mechanical knowledge of the vessel. Efforts to loosen the rope opened the engine compartment to flooding, and within minutes the boat was listing and water pouring in over the rails.

Life preservers weren't distributed to the 15 passengers before the boat sank. Instead, the captain and crew member shoved boogie boards, ring buoys and other items that had floated to the surface toward passengers who were treading water. No one was injured. Investigators believe someone from the company put a hole in the hull without guidance or permission in order to bring it to rest on a coral bed. Salvage attempts further damaged the coral.

While Maui has lost 50 percent of its reefs in the last decade because of invasive algae, the nearby island crater of Molokini was considered one of its last healthy, pristine reefs. The sinking and salvage effort damaged an estimated 14,600 square feet of reef, crushing or damaging up to 1,500 coral colonies, which will take up to 80 years to recover.

## Donald Sutherland Claims Diving Is a No-No Past Age 50

Actor Donald Sutherland believes diving nearly killed him. After learning how to dive at the Great Barrier Reef for his role in the movie *Fool's Gold*, the 72-year-old actor suffered severe chest pains, but doctors could find nothing wrong. Still, the pain remained and Sutherland coughed up blood the next day. His doctor asked if he had been scuba diving, and Sutherland told London's *Evening Standard*, "I replied that I had and he said, 'You have a broken blood vessel in your lung.' Then he told me I shouldn't have been scuba-diving beyond the age of 50."

The medical advice Sutherland got sounded like total b.s. to us, so we ran his story by Ernest Campbell, M.D., founder of the Internet blog Scubadoc. "I was astounded at the misstatements involved," he said. "It's doubtful the episode was related to his scuba diving, although we know

nothing about his dive history and time intervals between the dives, his flight back and his episode."

Diving injuries due to pulmonary overpressure usually lead to a ruptured blood vessel immediately during the dive ascent instead of showing up several days later, Campbell explained. "Pulmonary barotrauma shows up as a painful collapsed lung, which would have been apparent on the initial chest x-ray and exam, not as a hemorrhagic mass that is coughed up."

Thousands of divers age 50 and older dive safely every day. There is no "rule" that states age is any deterrent to diving, when done sensibly. For more about health and the older diver, see Campbell's blog on the subject at [www.scuba-doc.com/agedvn.htm](http://www.scuba-doc.com/agedvn.htm).

holes, crevices and caves, I found decorated warbonnets, moss-head warbonnets, grunt sculpins, sailfin sculpins, saddleback gunnels, clingfish, several huge wolf eels, giant Pacific octopus, and smaller red octopus out hunting the big rock shrimp." He also saw schools of striped sea perch, pile perch, roving brown and copper rockfish, and kelp greenling.

"This area takes the full brunt of the current, therefore it's advised to never dive on ebbing currents. Currents and depth make this a dive for more experienced divers." Drysuits are also a must. ([www.banditocharters.com](http://www.banditocharters.com))

**North Shore Explorers in Maui.** Maui's North Shore with its brisk winds and choppy waves is not often visited by tourist divers, but North Shore Explorers, just opened last September, takes experienced divers there. Peter Heseltine (Dana Point, CA) went in November and reports "out of the ordinary" diving. "The dive locations are pinnacles and lava-strewn, rocky bays. Hammerheads are not uncommon. I saw 20 lobsters in a single cave, nudibranchs, schools of fish, turtles, and I was followed by a curious six-foot green jobfish over the course of a 100-minute relaxed, rebreather dive."

North Shore Explorers' boat is a 30-foot rigid inflatable from the U.S. Navy, powered by twin 300-hp jet drives, and "helpful crew made climbing back on the boat with a purpose-built ladder tolerable for this geriatric diver." Explorers also supports open circuit nitrox, as well as mixed gas technical diving. "Choppy seas, a windy boat ride and great scenery add zest for advanced divers." ([www.northshoreexplorers.com](http://www.northshoreexplorers.com))

**Al Marsa Dhows in Oman.** Separated from Iran by 200 miles of water, the Arabian country of Oman is friendly and features excellent diving, says subscriber David Christmas (Dubai City, Dubai). Last November, he dived with Al Marsa Charters around the Musandum, Oman's northeastern tip where the Arabian Sea flows through the Straits of Hormuz.

"Pristine coral beds and large shoals of fish native to the Indian Ocean. I saw several turtles, spending 15 minutes with one while it was grazing, and large rays, some five feet in diameter."

He spent three days on a dhow, the traditional Arab sailing vessel that Al Marsa has outfitted for divers. "It still features the historical, triangular lateen sails but runs on a diesel engine for cruising and switches to a quiet, small generator when anchored so that the peacefulness of this remote location can be enjoyed." Most dives were from a fast boat towed behind, and this is where gear was kept during the trip, although night dives were done off the dhow's dive deck. Flexible dive scheduling allowed time for relaxing, while kayaking and snorkeling sites were made available for surface intervals. "The dhow is modern, clean and has excellent twin cabins with en-suites. Crew is friendly, attentive and professional. Scenery is mountainous and rugged but still beautiful." ([www.musandamdiving.com](http://www.musandamdiving.com))

**Seagrape Plantation in Roatan.** This resort on Roatan's West End brags how its five bungalows have beautiful ocean views, but reader Natasha Deighton (Ramah, NM), who visited in January, says they lack privacy and are a constant target for thieves. "There are actually two units per bungalow so you'll have to share your balcony. The windows did not open, so you must use the air conditioner. One night, someone came through and stole a lot of stuff off the balconies, including the hammocks. I was told this happens quite a bit."

**The Caribbean Explorer I in the Bahamas.** The *Caribbean Explorer I*, originally the *Turks & Caicos Explorer* three years ago, is showing its age, says reader Milann Reynolds (Crescent City, CA) who went in November, but the worst part was poor maintenance of dive gear. "I had my regulator plugged up with A-1 oxide from poor tank maintenance. I cleaned my filter three times and finally got a different tank. One other person

was having problems and actually had an out-of-air experience at depth. We checked her regulator and it was plugged solid. Overall, we found at least three tanks with this problem. The tanks are two years old and crew claimed they were just checked. The tank valves had crud buildup and the boat didn't have any way to get the valves out of the tanks, or even a light or brush on board to check and clean the tanks. Overall, it's a good operation and the crew tried to meet everyone's needs but I would check for proper maintenance issues before diving."

Clay McCardell, president of Explorer Ventures, told *Undercurrent* that the tanks had problems because the company doing the visual inspection didn't use silicone when they reinstalled the tank valves. "We do have the tools on board to remove the valves but several of them were seized and couldn't be removed. The tanks whose valves couldn't be removed were replaced, and the others were given a clean bill of health back in November."

**Captain Don's Habitat in Curacao.** Captain Don's in Bonaire consistently receives good reviews in our Chapbook, but its sister resort in Curacao is going downhill, says reader Loretta de Nardo (Fort Myers, FL). "On our last visit in November, we found conditions downright dangerous – broken tile steps, sagging docks and algae on the boat rails and steps, making entry and exit slippery." Lockers are in poor condition, the majority of them broken. Guest rooms are being renovated, but still in poor condition, with air conditioning not working most of the time. The restaurant was once good but substitutes are common. "For example, the crab, shrimp and fish platter had no crab," says de Nardo. "When asked where the crab was, the response was, 'We never have crab,' but the charge did not reflect the absence of crab. Management of

both hotel and restaurant does not seem to care. Shore diving is still great and it was once a wonderful resort."

**Peter Hughes' *Sky Dancer* in the Galapagos.** Now that the United Nations has declared the Galapagos an endangered site, tourism restrictions are even tighter, but dive boats are still allowed to venture out, albeit with less leeway. Jeanne and Bill Downey (Baden, PA) still had a memorable time in December on the *Sky Dancer*. "On our first dive at Darwin's Arch, someone spotted the silhouette of a whale shark and everyone took off. Then came another one – two whale sharks on the same dive! We saw 35 more over the next four days. At Wolf Island, we saw dozens of hammerheads, turtles, Galapagos sharks and dolphins that were jumping out of the water like crazy."

In fact, one of the dolphins, a large one, miscalculated its leap and jumped into the panga where the driver and an early-surfacing diver sat. It crashed into the driver from behind and landed in the panga with its jaw stuck under the floor. "An Aggressor panga towed them back to the *Sky Dancer*, where the staff started unscrewing the flooring to release the dolphin. When the rest of us, crammed into the remaining panga, arrived back at the boat, we saw five crew members hoisting the dolphin back into the water, with blood everywhere." The dolphin swam away, the driver suffered a concussion and the next dive was canceled to repair and clean the panga. Also at Wolf, a finned hammerhead was spotted lying on the bottom.

Four days of four daily dives, plus 37 whale shark sightings, left the Downeys content. "Back at Wolf Island for a final day of diving, a small school of eagle rays hung close by for two separate dives as we clung to the rocks in the current – an awesome sight." ([www.peterhughes.com](http://www.peterhughes.com))

-- Ben Davison

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## Why Divers Die: Part II

### *problems on the surface*

In its annual report of dive-related fatalities, Divers Alert Network (DAN) noted that trouble often happened on the water's surface, either on descent, at an early stage of the dive, or post-dive when the diver was exiting the water. Analyzing 89 cases in 2005 where it was obvious that divers were experiencing trouble in the water, DAN found that six divers had problems before the descent, eight had problems during the descent, and 31 had problems after the dive.

Problems often begin before divers even enter the water. They ignore external warnings signs like bad weather and rough currents. They also ignore internal red flags – health issues like fatigue or nausea. They

forget to check their gear out on the surface or after they enter the water. Same thing may happen when they've resurfaced – they failed to properly inflate their BCD or dump their weights while they're choking on seawater slapping them in the face.

Here are descriptions of several preventable fatalities where errors like these played a significant role.

#### **Check the Conditions**

An experienced 43-year-old female diver was trying to make a shore-entry dive into too-rough seas. While still in shallow water with her head above the surface, she was knocked down by a large wave and lost consciousness,

regulator still in her mouth. She was still conscious when taken to a nearby hospital but died four days later due to commotion cordis, an abnormal heart rhythm caused by the strong force of the wave's blow to her chest wall.

Richard Hart, a 48-year-old who had not been diving for several years, made a shore-entry night dive from South Casa Beach in La Jolla, California, with three other divers to collect lobster. The beach is known for its powerful rip currents, and a strong one was present that night. While experienced divers use the current to their advantage by allowing it to drag them out into the ocean, Hart tried to swim against it and was alarmed when it was too rough for him. He got separated from his buddies, and decided to head back to shore. His buddies were pulled farther out but managed to get back to shore at nearby Wipeout Beach. Rescue workers found Hart floating a few hundred yards offshore. His regulator was not in his mouth, meaning he probably drowned while battling the rip current.

*Jumping off for a dive buoy, one diver took off everything but mask and weight belt – and drowned in the strong current.*

On the surface, an attentive buddy can mean the difference between life and death. Troy Bangs, a 53-year-old from Sacramento, California, was making a shore-entry dive at Maui's Kaanapali beach as part of his openwater certification course when he told his instructor he couldn't continue and headed toward shore. Instead of sending a buddy back with him, the instructor let Bangs go back alone. Bangs was seen struggling on the surface and several people went out to help but he was already unconscious by the time they reached him. His death was ruled a drowning due to a cardiac event.

Tyler Dutton, a 48-year-old male from Elk Grove, California was making a boat dive off of the Monterey coast before he realized he forgot some gear. He decided to head back to the boat without his buddy to retrieve it but during his swim through the waves, he began struggling on the surface. His buddy headed over to help but it was too late – Dutton lost consciousness and drowned.

### **Be Aware of Your Gear**

Experienced divers should know better than to go out in strong current and big waves without the right gear. Returning to the boat after lobster diving with a buddy, an experienced 49-year-old diver saw a floating dive buoy on the waves and decided to go back in for it. It would have been so easy to keep his BCD on, but he took off everything except his mask and weight belt before reentering the water. But he soon got caught up in the strong current and drifted away. His body was recovered two days later, and the autopsy findings were consistent with drowning.

## **Rebreather Deaths Are on the Rise**

DAN has also been collecting information about diving rebreather deaths since 1998. So far, 80 deaths have occurred, and DAN says the number of rebreather deaths has tripled in the past decade. The percentage of fatalities involving rebreathers among North American divers increased from one to five percent of total dive-related deaths in six years between 1998 and 2004.

Richard Vann, Neal Pollack and Petar DeNoble of DAN analyzed the 80 cases to determine the triggers for rebreather deaths. Only three cases were caused by gear malfunction. Equipment trouble and buoyancy problems were more common for rebreather divers than traditional open-circuit divers. Eleven cases involved procedural problems or inappropriate preparation by the diver, like the oxygen valve and displays not turned on, an incorrectly installed oxygen sensor and loose connections. The four rebreather deaths with buoyancy problems were apparently caused by the divers removing their mouthpieces after ascent and failing to close it, which led to their sinking.

Drownings, entrapment and entanglement are less of a problem with rebreathers, but the largest difference between rebreather and open-circuit deaths was inappropriate gas. Hypoxia and oxygen toxicity were responsible for more than half the deaths. DAN says that's because the diluent supply in a rebreather is small and can be quickly exhausted by a leak or multiple up/down dives. There were four cases of insufficient gas; one was caused by a gas leak in the breathing loop that led to a rapid ascent and air embolism. There were five seizures probably due to oxygen toxicity. Thirteen rebreather divers lost consciousness early in their dives, suggesting hypoxia.

As in standard diving scenarios, rebreather deaths happen to the most experienced divers and in the most innocuous of places. Harvey L. Harris, an advanced rebreather diver from Wilder, Idaho, was found dead in the pool of a dive shop while wearing his rebreather. He died of accidental drowning due to asphyxia. After diving solo near Tacoma, Washington, the 51-year-old Harris had stopped by Thunder Reef Divers to get his tank filled. He still had some gases left from his shore dive so he decided to use it up with his rebreather in the shop's pool for practice. But because his system wasn't working properly, Harris breathed in too much carbon dioxide and too little oxygen, lost consciousness and drowned while sitting at the bottom of the 10-foot pool.

This reminds us of a case we reported a few years ago, where after removing all his gear, a diver sat on the gunwale of a dive boat, still wearing his weight belt. As the boat powered away, the diver fell backwards off the boat and was pulled downward by his weights. He was unable to release his belt and drowned.

Paying attention to your gear also applies to knowing when to take it off. Take climbing the ladder back into the dive boat, for example. Are you really strong enough to climb it with full gear on? It may be easier on your heart and lungs to take it all off before getting in. Of course, then you are more vulnerable if you lose your grip on the ladder and get sucked into waves or a current. Pay attention to the conditions and your surroundings and decide which would be the less-risky situation.

It seems obvious that you would check your air before a dive to make sure you have a full tank and that it's flowing properly. Surprisingly, some divers fail to do this, with fatal results. A 54-year-old male with moderate diving experience made numerous dives to a shallow site at 10 feet depth to hunt lobster with a group of divers, although he didn't have a dedicated buddy. He went back to the boat in between dives but did not change tanks before going back down. He abruptly surfaced in distress, lost consciousness and died from drowning.

***One experienced diver entered the water without turning her air on and drowned due to insufficient air.***

A 44-year-old female with ten years' diving experience was making her second shore dive of the day with two buddies to collect lobsters near a ferry terminal in Yakima, Washington. They swam 175 yards to a buoy then descended but she got separated at 13 feet depth, and the water had poor visibility. When the two other divers resurfaced, they saw no sign of her. Her body was recovered 90 minutes later, in 10 feet of water less than 100 yards from shore. Investigators found that she was overweighted and had entered the water without turning her air on.

### **Monitor Your Vitals**

Too many cases show that a diver proceeds with his dive even if he isn't feeling well. If you're experiencing fatigue, shortness of breath, nausea or any other condition short of the well-being you feel on a regular day, just don't go. This is especially true if you've already made a dive and came back up feeling unwell. The stress of a dive can also trigger a fatal reaction.

A 64-year-old experienced rescue diver from Virginia was on a dive boat near Fort Lauderdale with four other divers and made a first dive to 52 feet for 40 minutes. Afterwards, he said he was fatigued and short of breath, but he still suited up for a second dive. Before he could descend, he lost conscious-

## **Poor Buoyancy Is a Bigger Factor in Dive Accidents**

Poor buoyancy control is to blame for a dramatic rise in ascent-related diving accidents in the United Kingdom and should be made a priority in training. Brian Cumming, safety officer for the British Sub Aqua Club, said that for the first time, this type of accident has taken over decompression illness as the worst issue for divers.

"The number of ascent-related incidents has risen dramatically over the last ten years," he reports. The total for 2007 is slightly down over the prior year but "overall, the trend has been one of a strong increase. Typically, these accidents involve a rapid ascent, often with missed decompression stops," says Cumming. The majority of the 91 ascent-related accidents of British divers were directly related to poor technique, as well as gear problems with drysuits, BCs and safety sausages. The findings are applicable to divers everywhere.

ness. He was pulled into the boat but could not be revived, dead from a heart attack.

A 58-year-old female with moderate diving experience, who took multiple medications for diabetes, hypertension and depression, jumped off a dive boat with an instructor for the first dive. Fifteen minutes into the dive, she complained of difficulty with breathing and fatigue. She surfaced with the instructor and lost consciousness after returning to the boat. Crew took her to a hyperbaric chamber where she was pronounced dead from a heart attack.

A 53-year-old male diver made a boat dive with two buddies to 43 feet. After 13 minutes underwater, he surfaced early because he did not feel well. Once back in the boat, he complained of shortness of breath. Then he had a heavy coughing fit and collapsed, dead from a heart attack.

An experienced 44-year-old technical diver was completing his third boat dive of the day when he noticed a mass under the skin of his shoulder as he surfaced. Then he felt the mass move from his shoulder to his neck. He was sent to a hyperbaric chamber but was too unstable to complete recompression therapy and died the next day, apparently from an air embolism. It's highly unlikely that the skin mass appeared all of a sudden on his third dive. Apparently, this diver either ignored symptoms or did a poor job of monitoring his physical condition after each dive.

-- Ben Davison

*In the next issue, we'll continue discussing why divers die, focusing on fatal errors divers made with their gear.*

# Backup Lights for Divers

## *the five brightest - - and the five dimmest bulbs*

In putting together this review, my intention was to look at the sort of lamp you can routinely take on every dive by tucking into the pocket of your BC. When that awful moment comes when you are unexpectedly left in the dark, you should be able to easily find it, switch it on and read your instruments as you head back out of the darkness of a wreck or cave, back to the surface, and still be found by your pickup boat even during a night dive. Of course, it would be very nice also if you could see where you were going.

Some dive pros would argue that a redundant light should be as good as a primary one, and that you should always treat both in the same manner by checking their operation immediately before diving and maintaining them scrupulously between dives. We divers know who among us stick these things in our pockets and forget them until we need them - - divers are not known to be fastidious about the way they look after their gear.

Brightness is not about how much light is produced by the lamp; it's about how much light arrives at what you are looking at. This depends very much on the efficiency of the lamp's reflector, so don't be misled by the manufacturer's claims. We give a factor for brightness measured at the end of the beam of each lamp, shone over a six-foot distance, that is equal to the number of times brighter than the dimmest lamp tested here.

The most important aspect of a backup light is not how bright it is or what its light source is, although they are both features to consider when buying one. What's most important is that it works reliably. Alas, many manufacturers resort to the simple screw-down shroud to employ as a switch. This makes the manufacturing of a watertight product more foolproof but unfortunately does not make for foolproof use by some divers. Reliability is the one thing we can only guess at. The time it takes to test for long-term reliability tends to be more than the commercial lifespan of many products, so you will have to put up with me making an educated guess based on experience.

I, along with other experienced divers, tested 30 dive lights of varying size, price, burn time, light source and brightness factors. Here are five of the best, and five of the not so good, ranked by brightness factor and burn time (all prices are list prices).

### **The Brightest Lights**

**UK Sunlight SL4.** (Burn time: 4 hours; Brightness factor: 64; Batteries: 4xC; Light source: Single 5.5w Halogen; Depth-rated: 500 feet; \$42, including batteries; [www.uwkinetics.com](http://www.uwkinetics.com)) Wow! It's a very old design using old technology, but it provided lots of light in a tightly focused beam and was among the best I tested here. It employs a positive on/off switch that is unmistakable in use. It may be leak-protected by a single

## **New Innovations in Dive Gear**

Wireless data, text messaging and iTunes are now being found underwater. Manufacturers are putting these latest high-tech innovations into dive gear.

Initially designed for U.S. Special Forces, the Datamask from Oceanic Worldwide is touted as the first "heads up" display mask for recreational divers. It gives an instant visual display of dive information, sent from a wireless transmitter attached to the diver's tank. Inside the mask is a miniature LCD panel that shows the diver's depth, tank pressure, and dive time elapsed and remaining. So it doesn't distract from the underwater views, the display has an adjustable backlight that can be set on the surface or underwater. But this advanced product also comes with an advanced price tag - expect to pay \$1,500 for the Datamask. ([www.oceanicworldwide.com](http://www.oceanicworldwide.com))

To replace underwater hand signals and the dive slate is the UDI, the first underwater text-messaging device.

Divers can strap it onto their arms and use it to send SOS alerts up to 3,000 feet away, and text other divers and boats from 1,600 feet away. Up to 56 divers at a time can use it at once (the UDI has four channels accommodating 14 divers on each one). Manufactured by Israel's Underwater Technology Center, the UDI is scheduled to be for sale this spring. ([www.utc-digital.com](http://www.utc-digital.com))

For divers not content with underwater sounds while diving, there's now the Waterproof Scuba MP3 Player by Frontgate for listening to favorite tunes among the fish. A waterproof case encloses an iRiver player that goes down to 200 feet, and waterproof headset speakers have a built-in amplifier and a clip that attaches to a dive mask. At \$99, it's cheaper than a Mini iPod but unfortunately it has less memory - 128 megabytes is only good enough for 30 songs maximum. ([www.frontgate.com](http://www.frontgate.com))

## A Rusty BCD Connection Can Rocket You to The Surface

*Undercurrent* reader Jack Augsbury wrote us about a recent Cayman Islands dive he took where a diver in his group on his first dive that day had his inflator valve free flow into his BCD. He tried to disconnect the LP inflator hose and purge the BCD to regain the proper buoyancy, but the quick-release coupling on his LP hose wouldn't disconnect. At 70 feet, he was faced with a forced emergency ascent and a possible air embolism, but he removed his BCD and tank to let them float to the surface and buddy-breathed with another diver for a normal ascent. Topside, he discovered that the inflator valve was worn and rusted.

"The moral of the story is to check the LP hose and the quick-release coupling regularly for ease of operation," says Augsbury. "Over time, especially in salt water, they can become worn or rusted and need service or replacement."

Steve Broadbelt, owner of Ocean Frontiers in Grand Cayman, says, "I know many divers who live here that own their own gear and just leave the LP hose connected to their BCD. Simply disconnecting it so it can be rinsed properly could prevent this from happening."

Too many divers let their gear sit after one dive trip without checking it out before the next trip. This infuriates Sal Zammiti, owner of the dive shop Bamboo Reef in San Francisco. "So many times, I ask customers who are about to go on an international dive trip whether they've had their gear checked and they answer, 'Oh no, I know it will be okay.' If you're spending \$2,000 on a dive trip, what's another \$100 to make sure your gear doesn't give you any problems while you're there? Would you go skydiving without a parachute you hadn't checked in a year? It's no different."

O-ring but you never have to disturb it between changing batteries.

**Ikelite PCa.** (Burn time: 2.5 hours; Brightness factor: 48; Batteries: 6xAA; Light source: Halogen; Depth-rated: 300 feet; \$25, including batteries; [www.ikelite.com](http://www.ikelite.com)) A useful little lamp that gives lots of light output, albeit in a rather patchy beam, and is protected from flooding by a unique system that clamps on to its single O-ring. The small Ikelite lamps (I also liked the PCLite and the PCm) were among the brightest in this review.

**LED-Lenser Frogman.** (Burn time: 20 hours-plus; Brightness factor: 24; Batteries: 4xAA; Light source: single high-output 1.5-watt Cree LED; Depth-rated: 200 feet; \$52, including batteries; [www.zweibrueder.com/english](http://www.zweibrueder.com/english)) This neat little lamp uses high-tech electronics to squeeze more light out of its LED than you would think possible. The manufacturer, Zweibruder Optoelectronics, claims it to be 25 times brighter than normal and I can believe it. Early versions proved difficult to turn on at depth but this improved model has a new mechanical switch.

**Intova Dive Torch.** (Burn time: 3.5 hours; Brightness factor: 16; Batteries: 2xCR123A; Light source: Single high-output 3-watt LED; Depth-rated: 400 feet; \$67, including batteries; [www.intova.net](http://www.intova.net)) The Intova is a tough, little aluminum lamp with double O-ring protection, plus a gasket, and has no through-body connections to leak because of its magnetic reed switch. It produced a useful amount of light in a well-focused beam and yet it is easily stashed away in a pocket. Despite no proven track record from this manufacturer, it was still one of my favorites.

**TekTite Expedition LS4 Aluminium.** (Burn time: 15 hours; Brightness factor: 8; Batteries: 3xC; Light source:

Single high-output LED; Depth-rated: 2,000 feet-plus; \$165; [www.tek-tite.com](http://www.tek-tite.com)) Exactly the same in performance and function as its less expensive plastic sibling of the same name, this one is machined from marine-grade aluminum and therefore heavier. Double O-ring seals keep the water out. It will give five hours at full power, reducing its output for the next ten. Most appealing to those who like nice-looking gear.

### The Dimmer Bulbs

**Mares Strobe.** (Burn time: 12 hours; Brightness factor: No meter reading possible; Batteries: 3xAA; Light source: 3-watt LED; Depth-rated: 130 feet; \$45, including batteries; [www.mares.com](http://www.mares.com)) More usable as a strobe than a true backup light, this has three unfocused LED lamps at its other end that give out the minimum amount of light. I couldn't get a reading on my sensitive light meter at six feet of distance. It was quite tricky to install the batteries.

**Aquatec AquaStar 3.** (Burn time: 6 to 8 hours; Brightness factor: 1; Batteries: 6xAAA; Light source: Single 3 with LED; Depth-rated: 300 feet; \$75, including batteries; [www.aquatecusa.com](http://www.aquatecusa.com)) The AquaStar suffers from the common problem of being switched on by rotating the head to bear down onto the battery connection. This can lead to it switching on in your pocket at depth or flooding by unscrewing too far. Only one slim O-ring protects it. The beam was useful but it was not as bright as I would have expected.

**TekTite Trek 4.** (Burn time: 20 to 80 hours; Brightness factor: 1; Batteries: 3xAA; Light source: 4 LED; Depth-rated: 985 feet; \$40; [www.tek-tite.com](http://www.tek-tite.com)) It's more of a light to be seen with rather than one to see by. It may go on forever but the light produced from its unfocused LEDs is probably little more than you might get from bioluminescence at

night rubbing your hand vigorously on your wetsuit – and that is at full power for the first 20 hours. It gets dimmer after that! It was good for little more than reading your gauges, the second-dimmest lamp compared here.

**Tilos S-Sun Headlamp.** (Burn time: 12 to 24 hours; Brightness factor: 1.5; Batteries: 2xAA; Light source: 5 LED; Depth-rated: 165 feet; \$40, including batteries; www.tilos.com) A head-mounted light that can also be used on the wrist or shoulder too, the S-Sun has three operating modes that are selected sequentially by a single push-button. It didn't look too well protected against flooding and it has one very skinny O-ring. Light output was poor because the clustered LEDs were not well focused. It was more “dim sum” than S-Sun.

**Mares Twin Beam.** (Burn time: not available; Brightness factor: 2; Batteries: 1xCR123A; Light source: Single LED; Depth-rated: 165 feet; \$70, including batteries; www.mares.com) I unscrewed the light-saber beacon section from this 2-in-1 device to convert it to a little backup light. It's made of heavy-duty anodized aluminum and has loads of counter-display appeal but its light output was just good enough to read a gauge as a last resort. Quite frankly, it's not up to the task of a backup light.

*John Bantin is the Technical Editor for DIVER magazine in the United Kingdom, a professional underwater photographer and a regular contributor to Undercurrent.*

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## Please Don't Feed the Fish

### *why would anyone think Cheez Whiz is good for them?*

Last month, we talked about dive operations that encourage petting, even manhandling, of marine life. Feeding fish can be another problem. Doing it improperly can have a long-term effect on their health and behavior. Furthermore, it turns the natural ocean into a zoo orchestrated by divers. We received scores of comments from our readers, serious divers, about the results of fish feeding, and most of them were negative.

When fish are used to being fed, they may start getting aggressive, nipping at divers at the very least. Grand Cayman's Stingray City, where critters are fed regularly, is a notorious center for bites, including serious injuries and severed fingers. Two years ago, an 11-year-old boy from Wisconsin snorkeling there was bitten by an eel on the hand. Doctors spent six hours restoring blood flow to his hand by using a vein from his leg.

And getting caught in a shark feed is not some divers' idea of fun. Subscriber Mary Wicksten (Bryan, TX) was diving with Stuart's Cove in Nassau last year when divers on her boat were warned not to dive on the boat's right-hand side because that's where a shark-feeding boat was anchoring. But then that boat moved to a buoy on the left, almost on top of her as she was diving. “I was not a happy camper when they dropped a chum ball directly on top of me. What fun—seeing a feeding frenzy from below. It's a good thing that I am an experienced diver and crawled along the bottom back to my boat, which was flying a diver's flag. A beginner diver would have freaked out.”

#### **“Divers Aren't Content to See Just One of a Species”**

What is it about feeding fish that fascinates us? Why are we willing to feed fish in marine sanctuaries but bird watchers, our recreational cousins on land, would never consider

doing such a thing? They are content to see one bird in its natural setting – a single unique hummingbird can make a birder's day. But few divers are content with seeing just one of a species. We have to be surrounded by them. Dive operations, knowing this, heavily advertise shark-feeding tours and regularly throw chum to fish. Some marine parks, like Hol Chan in Belize's Ambergris Caye, either have no rules about it or are willing to let them slide.

Some dive operators argue that fish feeding can be done without causing harm. One of them is Dee Scarr, owner of Touch the Sea in Bonaire (we described her methods of touching marine life in the last issue). In her opinion, feeding can be done in ways that show respect to the animals and teach divers about their behavior. She takes small morsels of food, like Indonesian freshwater shrimp for scorpionfish, which is less environmentally hazardous than farm-raised shrimp and lacks the strong fishy scents that attract sharks. “This fish doesn't move very fast but if food is within four inches of his mouth, he gobbles it up a nanosecond. It gives people a better idea of this fish's behavior and how it is an amazing predator.”

#### **“The Sharks, Being Fed, Naturally Wanted More”**

If only other dive operators could feed fish as delicately. Unfortunately, the terms “food fight” and “feeding frenzy” typically apply, sometimes to the hazard of the fish – and divers. While diving in Tahiti, subscriber Joe Murray (Boise, ID) saw a green moray swallow the complete mesh bag of bread, plus the weight belt it was attached to. “Fortunately it was able to spit everything out, including the belt.” An enormous and very famous potato cod on the Great Barrier Reef did something similar, regurgitating back the hard-boiled eggs divers fed it.

## Divers Want Marine Parks - - But Don't Want to Pay for Them

The primary purpose of marine parks is to preserve underwater life, but most people consider them first and foremost as a great place for diving and snorkeling. The problem is those activities can pose a threat to the coral reefs intended for protection. Besides breaking and abrading coral, divers can kick up sediment that can impact the entire ecosystem. The negative effects from scuba diving on reefs may seem trivial compared with overfishing, pollution and global warming, but they can't be ignored.

Researchers have investigated approaches to minimize divers' impact. For example, one study found that divers dabbling in underwater photography with quick-snap cameras weren't any more likely to harm reefs than divers without cameras, but "specialized" underwater photographers were the most damaging of all. Researchers have found that a one-sentence reference to touching the reef did not reduce divers' contact, but an in-depth briefing by the divemaster did.

In a study published last year in *Journal of the Human Environment*, researchers from Clemson University and Texas A&M University created questionnaires to measure six diving factors: number of divers at a site; amount of marine park open to diving; level of underwater supervision; park fee; time spent on reef education; and amount of marine life expected to be seen on a dive trip. They recruited 646 divers to fill out the questionnaires. Divers were certified for an average of 13.5 years, and 80 percent of them had a level higher than basic open water.

In the questionnaires, divers had to indicate their preferences for a range of five hypothetical dive trips, ranging from the status quo to a very restrictive trip. For example, one

could choose a trip with 15 percent fewer divers at a site but would have to have 30 minutes of coral reef conservation education and pay a \$30 fee. The second trip would have no education component or fee but all dives are completely guided. Respondents could pick either trip or decline both.

Researchers expected divers to prefer the least-restrictive options but divers preferred some tighter restrictions. They preferred a decreased number of divers allowed at a site at any one time, even though fewer of them would be allowed to dive. They also favored increased levels of conservation education, up to 60 minutes of classroom time.

However, divers weren't pure conservationists. They didn't like the idea of completely guided dive trips and preferred no supervision. They don't want to pay to maintain a marine park, even with the stipulation that all park fees are invested into park management. They also favored access to the entire park instead of dive restrictions in some areas.

The researchers concluded that, "Park managers must use strategies that are most effective for achieving their ecological goals. Often, they stop at this plan and implement a management plan without understanding its effect on users. Our model, however, further informs them by predicting how divers will respond to various conservation strategies. They'll either visit or go elsewhere."

*Michael Sorice, Chi-Oh Ok and Robert Ditton, "Managing Scuba Divers to Meet Ecological Goals for Coral Reef Conservation," Journal of the Human Environment, vol. 36, issue 4, pgs. 316-322.*

While diving on the *Nekton Pilot* in the Bahamas, John S. Wilson (Denver, CO) says a group of daytripping divers on a shark-feeding trip were brought to the liveaboard's dive location. The divers were seated in a circle on the ocean floor, then the divemaster would bring his bag o' treats to feed the sharks. "The divemaster was wearing something resembling chain mail," says Wilson. "The group went back to the boat, leaving us alone with the sharks, who, having just been fed naturally wanted more. Several divers were butted by sharks, so we aborted the rest of our dive."

Even more docile fish have gotten aggressive. There have been increased reports of snorkelers being bitten on their arms in the Hawaiian islands, but the biters are habitually non-aggressive grazers like damselfish and chubs. That's because they've become habituated to commercial fish food sold by dive shops, and even human food like frozen peas and Cheez Whiz people bring to feed fish. Besides causing aggressiveness, the food also reduces grazers' desire to eat off the

reefs' algae and seaweed, affecting the ecosystem.

Last year, the Coral Reef Alliance started its "Take a Bite Out of Fish Feeding" campaign by asking Hawaii dive shops and charter boats not to sell fish food and educating beachgoers about letting fish feed themselves. Rick MacPherson, the Alliance's program director for the campaign, says 30 businesses have signed on although there are still some holdouts. "Some were early adopters once we showed what we wanted to do. Others said, 'Well, it's done in Great Barrier Reef so why can't we do it here,' or that data is inconclusive about impact on the reef. I suspect they're most worried about the effect it has on the bottom line." To lessen the impact, the campaign persuades snorkelers with fish food to dump it in exchange for coupons to buy items at a discount from cooperating dive shops. "We substitute the food for other items like fish ID cards that still create revenue," says MacPherson.

## “For One Diver Who Complains, There Are Another 100 Who Don’t”

In marine parks with strict rules, fish are thriving. Lynn Costenaro, co-owner of Sea Saba, says the rules also make fish friendlier to divers. “Our customers are so surprised when fish come to them, that they’re not afraid. That’s because of the no-touch policy. They feed fish elsewhere because that’s the only way to get to see fish. But because there’s no overfishing or riding of turtles and sharks here, there’s no need for using food to get close to marine life.” She does admit that success is due to the fact that Saba is a small island. Our marine park is five square miles instead of 500 miles, so we can do self-policing and park rangers aren’t over-extended. We’re not dealing with mass tourism like Cayman or Cozumel.”

But it would be disgraceful if those popular dive sites just became known as petting zoos where fish must be baited with chum. During training, PADI cites environmental issues, advocating that divers not upset marine life. But besides the Coral Reef Alliance, there’s no other dive organization evaluating the effects of human interaction on marine life behavior. And no agency prohibits it.

At dive agency SDI/TDI, marketing director Steve Lewis says it has no plan in place because the different countries it operates in have different regulations about marine interaction. “There are dive operations that teach our programs and also have shark-feeding dives, and others that use divers almost as bait, like shark cage dives in South Africa. So for us to turn around as a pompous American dive agency and dictate what countries should do or not do is a stance we refuse to take.

“Most, if not all, of our instructors don’t spearfish or dive to collect specimens. We tend to follow guidelines to only take photos and leave no footprints. But we respect the right of an individual to conform to the local rules and regulations, and enjoy their diving.”

*Undercurrent* called the other dive agencies PADI and NAUI, as well as the dive industry’s lobbying group, Dive Equipment Manufacturers Association, to get their opinion but they did not return calls. While everyone professes to be keenly interested in the fate of the oceans, they are curiously silent when it comes to regulating the effect divers may have.

Wayne Hasson, president of the Aggressor liveaboard fleet, sees no reason to change, even though crew on his boats are instructed to tell divers look but not touch. “I don’t see the big deal about things like feeding nurse sharks because you don’t know if these fish have a brain. Obviously they don’t mind, or else why would they go back to the same place? For the few people who bitch and moan about someone touching the animals, there are 100 more who go diving to see, feel and interact with the fish.”

That’s disheartening for an industry relying on a living ocean to make money. Feeding fish in the short-term may

make them come running for food, but in the long run, those actions will change their behavior, make them less likely to follow their natural predator ways, and ultimately affect the balance of their ecosystem. When fish eat peas and Cheez Whiz instead of reef-destroying algae like they’re supposed to, that’s bad for the environment – and bad for divers wanting to get a close-up view of marine life in its most glorious natural state.

“By nature, diving should be an observational sport,” says Leda Cunningham, executive director of the nonprofit Reef Environmental Education Foundation. “The fact that no diving organization has a policy is significant because it shows there’s a real lack of understanding about how much divers’ interaction with marine life affects the animals.”

-- Vanessa Richardson

## Shooting Saltwater Up Your Nose

Is your nose stuffed up enough that diving isn’t appealing, or even to the point where congestion may dangerously interfere with equalization of the ears?

It may sound a bit zany and gross, but the evidence, both published and anecdotal, largely supports the salubrious effects of saline irrigation on both nasal membrane drying and congestion (e.g., from long airplane flights, breathing hyper-dry scuba gasses and allergens). Such irrigation shrinks the mucus blanket and flushes out the excess, reducing nasal irritation and swelling.

There are scores of salt-based OTC nasal washes on the market such as Sinucleanse, BreathEase and an array of NeilMed products. Many come with a soft syringe. Or you can purchase special tips that attach to oral hygiene devices (e.g., the WaterPik NA-2 Gentle Sinus Rinse).

Many divers choose a simple home remedy that is cheaper and works just as well. Boil two cups of tap water for 10 minutes, stir in one teaspoon of salt (refined sea salt is recommended to avoid additives) and one-quarter teaspoon of baking soda (sodium bicarbonate). Adding more salt than recommended can do more harm than good, so don’t overdo it.

After the brew has cooled to lukewarm, draw it into a clean nasal or ear syringe until full, then lean over the sink, squeeze gently and allow the solution to run through the nasal passages. Sniff it in, spit it out, then gently blow your nose. Repeat with the second nostril. Again, don’t overdo it -- one or two treatments a day should be sufficient. And go make your next dive.

-- Doc Vikingo

# Flotsam & Jetsam

**Best Remedy for Jellyfish Stings.** A study in *Emergency Medicine Australasia* says people still don't know how to treat jellyfish stings. Researchers found people are unsure whether to apply ice or hot water, while others use over-the-counter creams. More doctors are convinced that heat is most effective. An *Undercurrent* article from March 2007 mentioned another Australian study that found sting patients treated with hot water at 115 degrees had significant pain relief in 4 to 10 minutes, and heat also stopped inflammation.

**Diving for Dentures.** Some divers at Scapa Flow, off the northeast coast of Scotland, had a laugh when their boat skipper requested over the loudspeaker that everyone diving the German battkeship *Kronprinz Wilhelm* look out for a missing set of dentures. One of the group had lost his top set of teeth while changing regulators halfway through his dive. When he made hand signals and pointed to his teeth, his buddy thought he was smiling because he enjoyed the dive so much. Another diver found the dentures on the ship's hull, in a dead man's fingers. After

giving his dentures a quick clean, the man soon had the smile back on his face.

**Spearfishing Ban Successful in Saipan.** Napoleon wrasses are fast disappearing worldwide but they're flourishing in Saipan. That's because the Northern Marianas is the only jurisdiction in the Pacific to ban scuba-spear fishing, considered the cause of the wrasse's rapid decline in Indonesia and the Phillipines. In Hong Kong, a Napoleon wrasse can fetch up to \$9 a pound, and a set of its lips go for \$400. The fish is not considered that tasty but eating it is seen as a status symbol in Asia.

**The sQuba Makes a Splash.** The world's first diving car makes its debut this month at the Geneva Motor Show. The maker is Swiss firm Rinspeed, whose CEO Frank Rinderknecht was inspired by the James Bond film *The Spy Who Loved Me* to make a car that can really fly underwater. The sQuba can go down to 30 feet, comes with a futuristic cockpit supplied with oxygen, and travels via an electric motor for the rear wheels, two propellers and dual jet drives. No doubt the price tag is astronomical but for more info, visit [www.rinspeed.com](http://www.rinspeed.com) and click on "Latest News."

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