

# Undercurrent®

*The Private, Exclusive Guide for Serious Divers*

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## **The Reef Explorer; Cairns, Australia**

*—The Far Northern Great Barrier Reef*

Last October, I was scheduled to join a 17 day trip to the northern part of Australia's Great Barrier Reef. The trip aboard the Reef Explorer was to dive an area that arguably is, the best of the Great Barrier Reef, north of Cod Hole, where few dive boats travel. (The other primary visitor, the Coralita, unfortunately was destroyed by an explosion in March.) I had to cancel, but an associate, who has written for Undercurrent in the past, was to be aboard and I asked him to review the trip. As it turned out, I was able to take the Reef Explorer three weeks later covering much the same route, in reverse, but in 11 days. My comments are in brackets. As you'll see, my trip differed.

C.C., travel editor

Call me "Dreamer." When horizons grow dreary and the shores fade away, I turn inward to dream of adventures past. I dream of sailing the seas with Captain Bligh, or searching for Pitcairn Island to settle with Fletcher Christian. I dream of the Pandora, the ship that in 1791 was sent to find and capture the H.M.S. Bounty and bring back the mutineers to England....

There were four of us in the first group. We descended from the choppy surface and proceeded in the general direction of where the ship was calculated to be. Like an archaeologist at the gate of a new-found city, I was chomping on my regulator when the main anchor loomed into sight at a depth of 106 feet.

We were being led by Warren Delaney, a marine archaeologist with the Queensland Maritime Museum. His specialty is the wreck of the Pandora, whose Captain Edward Edwards ordered a "Pandora's Box" to be made on the ship's quarterdeck to hold the captured mutineers. Fourteen of the 25 mutineers were captured in Tahiti but, on the return voyage, the Pandora ran aground on the Great Barrier Reef, killing four mutineers and 31 crew members. She lay undisturbed for nearly 200 years until her discovery in 1977. Now, exactly 200 years

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later. I was getting my own guided tour of the wreck by one of the world's reigning experts. Not much was left, but I zipped around the huge iron Brodie stove in the bow, past various anchors to the sternpost sheathing in the stern. Moments like this don't happen that often in diving, but you can always expect the unexpected on the Reef Explorer. This is the stuff dreams are made of.

I was part of the first team, who, along with Warren, had to locate the wreck. (DeLaney did not lead the RE trip; he was only along as a passenger) Aware of the fragility and archaeological value of the ship, the museum keeps the site unmarked to make it difficult to find. Armed with waterproof maps of the wreck, we took a quick tour before taking measurements needed for the museum. Several other anchor fluke measurements taken on the next dive confirmed that this smaller anchor did indeed belong to the Bounty and was being brought back to England by the Pandora.

This was a trip to the far northern fields of the Great Barrier Reef. We would fly to Cairns, then to Thursday Island, at the northernmost tip of Australia, to board the Reef Explorer. We were to sail to Cairns, diving and exploring the best of the Barrier Reef along the way.

Having been aboard this 65 foot vessel 18 months earlier in Papua New Guinea, I was familiar with the lay of the ship and the attitude of the crew. Staying on the RE is like staying over at a friend's home [small home that it is.] There is no feel of corporate ownership on this boat. Owner/Captain Allan Payard and his lovely matey, Kim Campbell, did all that's possible to make us feel right at home. Part of that feeling is being able to call your own shots as to where and when to dive. No predetermined itinerary here. This is exploration adventure diving at its best.

The RE has a rich history of its own. Previously owned by Ron and Valerie Taylor (see sidebar), it's a first generation diveboat, without the room or amenities of, say, early Aggressors. She accommodates 10 guests in its two-berth, air-conditioned cabins (three aft, two forward, and a third used by the crew; two small heads with a Navy shower serve everyone). The aft cabins provide the smoothest ride, which is especially important for those rough overnight steams [on my trip, the first three nights, were all night steams with day diving; on two nights, rough seas meant half the people slept just half the time].

Despite its 65 foot size, I didn't feel cramped on the RE. The dining salon is the area for socializing as well as the primary workspace for photographers [As a first generation dive boat, the designers didn't anticipate it being loaded with photographers]. Cameras are left on the floor of a small forward lounge where battery charging is done. [This is not a "comfy" boat; I would feel crowded with a full passenger load, but I never got cabin fever; the only place to relax inside is at the dining table or on one's bunk]. For fresh air and rays, the bow is a favorite spot and the upper deck provides plenty of open space for reclining. However, the comfort level is on the low end out here; custom-made cushions for the bow, and mats and chairs on the upper deck, are drastically needed. [I bought two cheap pillows in Cairns to use on the deck.]

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## Cocos Island Divers Ask: "Where are the sharks?"

Some of the hottest diving action on this planet is at Cocos Island, off Costa Rica, where hammerheads and other sharks are abundant. Problem is — it's too hot.

Readers Berry Brisco and Dan Mark, both from Toronto, wrote separate letters to alert us to reduced shark populations off Cocos. Both were disappointed in the shark action. While onboard the *Okeanos Aggressor* on separate trips, they saw Costa Rican vessels apparently fishing illegally for sharks in what is supposedly a protected national park. The fishermen's objective is only the shark's dorsal fin, which brings up to \$95 a kilo in the Asian shark fin soup and aphrodisiac market. By using long lines with hundred of hooks, they can score heavily.

Tomas Pozuelo owns and manages the *Okeanos Aggressor*. He acknowledges the poaching, but says the main reason that divers see fewer sharks is due to the effect of El Niño, a warm current which periodically appears around the equator. El Niño last appeared in the early 1980's.

Pozuelo says that there are not fewer sharks. "Before El Niño, the fish were 60' to 80' deep. So we would dive to 70' and there would be sharks above and below a diver. Now, the sharks are at 80' to 100' or more, so we have to dive deeper. The sharks are still there. It's just harder to see them because they are so deep in the warmer water."

Jill Haynes, *Aggressor* representative, told us that

the water is usually around 75 degrees. "Lately it has been as high as 85 degrees."

Pozuela says the appearance of El Niño has stimulated poaching by driving the fish deeper in all Costa Rican waters. The normal fishing areas are not productive and some of the boats from Puntas Arenas have been coming to Cocos.

Pozuela says this has been "a mixed blessing." He brought newspaper people from the mainland "to see the poaching for themselves. And that brought out the politicians." The result is that the responsibility for patrolling Cocos has been taken from the Coast Guard and placed in the hands of the National Park Service.

Pozuelo says that some of the fishermen have been convicted and put on fuel allocations. If they are caught fishing around Cocos again they will not be able to obtain fuel.

To help prevent poaching, the *Okeanos* and *Undersea Hunter*, the two liveaboards which visit Cocos regularly, jointly purchased a boat and motor for the National Park Service so that they can catch the fishing boats. Vigilance is essential. \$95 per kilo for shark fins is a lot of money for a poor fisherman to pass up.

In the meantime, Pozuela says, "El Niño will pass as it did in 1982, and the water will cool and the sharks will move into shallower water."

Let's hope he's not underestimating the effect of the poachers.

C.C., travel editor

A full compliment of fresh hors d'oeuvres, including fresh oysters and tasty prawns, waited for us when we boarded the RE. We steamed the remainder of the day and into the next morning to Three Reefs. Kim, a NAUI instructor, described Queensland government rules that limit divers to four dives a day at a maximum depth of 130 feet. After Kim observed our skills underwater, we were left to monitor ourselves and sign in after each dive. She stressed conservation and asked us to disturb the sea life as little as possible and not bring up any animals. [But damn, no matter how careful Allan is, that big RE anchor can do more damage on a single drop on coral than ten divers do in a week].

The hard corals Three Reefs give it an Alice in Wonderland appearance. With the visibility 70-80 feet, the beautiful angels and giant cod looked larger than life. On almost every dive here, and actually on the entire trip, we were accompanied by grey, white tip, black tip, silver tip, and bronze whaler sharks. One caution: water temperature was 77-78° F, the norm for the GBR. Our group had not done its homework and four dives a day got cold. [I needed 1/8 inch farmer john bottoms, a 1/4 top and a hood by day's end; some people kept right on trucking outfitted only in Darlexx].

On the third night, after heading to the Pandora, we were treated to a slide show by Delaney on the history and rediscovery of the Pandora. In between two dives on the Pandora, we retreated to the protected environs of an unnamed reef. As I dropped off the Zodiac, I found myself in 100 feet of visibility, on top of beautiful coral covered with anemones filled with rambunctious clownfish. [On my trip, one outboard for the dinghy failed after a couple of days and the other was

testy, finally giving out at the trip's conclusion.] Seven bronze whalers swam about with two seven-footers following me for most of the dive. As we came upon a great cave set in the coral at about 65 feet, I noticed a huge, friendly, (400 lb.?) grouper with remoras on it inside the cave. Swimming around the bommie, I found another giant grouper and, then, a six foot wobegong shark at my side, a remarkable-looking and harmless critter, whose weird face only its mother could love. I encountered another wobegong and more groupers along with coral trout, giant clams and thousands of other fish. After the dive, our unnamed reef became Wobbie Bommie, on Warren's charts.

A second dive of the site a mere four hours later gave us a clue to the unpredictability of GBR diving. The current increased significantly, the visibility dropped, and the big and unique fish disappeared as well.

Most of our trips between sites were done after our early morning dive. At times, this meant only three daytime dives, with the fourth at night, which I didn't mind. [Several on my trip did mind when we missed some super day dives, or traveled, we felt unnecessarily, when we wanted to be diving; but, we were all too well fed to complain]. There seemed to be a never-ending supply of food appearing on the table. Upon rising, cereals, fruit and juice was ready prior to our morning dive. After that dive came a full breakfast, usually eggs, toast, meats, pancakes and the like. Every dive had us exiting the water to treats of cheese and crackers, deli-meats, olives, samosas, pretzels, cookies or a full lunch of everything from sandwiches to a treat from the barbee. Dinners were excellent; meals ranging from steaks, chicken to exquisite Indian dishes always complemented by plenty of vegetables and fine Aussie wine. Although there seemed to be meat at just about every meal, I'm not a red meat eater and had no problem stuffing myself. [Don't expect fresh-caught fish; fishing is not allowed in much of the area]. After dinner, there were great bull sessions around the table, with Warren discussing the founding of Australia and its greatest discoverer Matthew Flinders, or describing the many wrecks that populated the area. Another guest: Chet Tussey, developer of the top-of-the line housing for the Nikon 8008. Diving since 1937, he told us of how, at the age of 20, he built a tank out of a hot water heater, and had a friend pump air into it as he attempted to dive in Newport Beach.

As well as nightly bull sessions, there was night diving. At the Great Detached Reef, with my path illuminated by the 1500-watt flood lamp mounted off the rear deck. I spotted an epaulette shark laying on the bottom at 60 feet. As I snapped away in glee, an 8 ft. white tip circled. He moved closer and closer and, when 15 feet away, he went into his full aggressive display, putting his fins down and arching his back, shooting right at us with his head feinting from side to side. I quickly waved my light back and forth at him and, at four feet from us, he veered off and disappeared. Whew!

The different sites here provided spectacular dives. Blue spotted rays, trumpet fish, lion fish, morays, as well as huge schools of pacific barracuda, mackerel, yellow-tailed barracuda, jacks and unicorn fish and the full compliment of sharks were present on almost every dive. Night dives brought out lobsters, banded coral shrimp, huge crabs and many sleeping fish. Walls complete with giant fans and beautiful soft corals were abundant.

Exploration reached its peak at the southern end of the Great Detached Reef. For my first dive one morning, Allan asked three of us to explore a blue hole inside the reef. The chart showed it, but he knew nothing of its depth or other characteristics. I dropped off the dinghy and was greeted by the usual 4 or 5 white tips. We started mapping the area and came across a field of soft coral trees. From the distance, a huge 13'-14' manta ray came closer and closer,

## Shark Zapper!

Australian shark experts Ron and Valerie Taylor have been experimenting with a device that sends electromagnetic signals to sharks' brains, diverting them from swimmers and preserving other marine life.

Recent tests off the northern coast of Queensland on the *Reef Explorer* proved the device was effective against six breeds of sharks. The device was tested for a period of ten days on at least two dives a day.

Valerie Taylor told the Associated Press that initial tests in tanks and the ocean had proved successful. "I wore a personal zapper, which scared sharks away after only three pulses. The sharks are not damaged. They simply swim away."

The shark must be within a few body lengths of the individual-sized device for the waves to have an effect. A larger version has a greater range.

"At one stage I was feeding sharks by hand. There was a feeding frenzy going on, but the sharks went away after three pulses from the zapper," Taylor said.

Allan Payard, skipper of the *Reef Explorer*, told *Undercurrent* that the Taylors tried two models, one a portable unit the size of two cigarette packages and weighing less than one pound. It was powered by a couple of D cell batteries that will last for an hour or so.

Payard said the unit affected only sharks. Sea snakes, turtles and other sea life did not seem to be affected or notice it.

A larger unit about one cubic foot weighed 5-6 lbs and, for the test, was powered by a cable from the *Reef Explorer*. South African inventor Norman Starkey hopes the device will eventually replace the shark nets that are used to keep sharks away from major beaches in both Australia and South Africa. Shark nets catch dolphins, whales and turtles, which die when trapped. A young surfer who also became trapped in netting recently died.

One of the test subjects was a man on a surf board paddling around with bait attached to him. With sharks in the water he turned to the inventor and said, "This damn thing better work, mate." It did.

Starkey plans eventually to offer his invention for sale commercially. Payard said the portable model needs some cosmetics, such as a container to hold it and some method for fastening it to the diver.

Payard said they wanted to test them on tiger sharks but never found any. But, he said, Starkey told him that the unit worked on great white sharks when they conducted tests in South Africa.

finally gliding directly overhead. As I swam to the edge of the hole, I passed a large mackerel and went over the top of the reef to the outside of the wall, where I was in the midst of huge schools of a myriad of fish. Back on board, we mapped out the site for the *Reef Explorer's* records, to give the next divers a line on what to expect.

Throughout the week, you dive with the same steel 72 tank; climb up the stern ladder, drop the tank in the rack, and unscrew your regulator, that's the signal for the crew to put a fresh fill into your tank. The bench in front of the tanks covers bins that hold your fins, weights and other equipment. Wet suits are hung over the racks or stashed in the bins. [The dive area is crowded when everyone is gearing up, but there is seldom a need to gear up all at once.]

The next dive had everyone running to be first on the dinghy. I was on the first shift and was dropped off into a veritable sea of sharks. There were actually too many to count as the multitudes circled us. Here, I exhilarated among the schools of tuna, hundreds of sea perch, and the beauty of the soft corals and fans. As I handed my tank and fins to Allan and climbed onto the dive platform, I wondered if life got any better.

Star Reef had one of the most spectacular walls on the trip featuring a multi-colored crinoid garden covered one part of the wall. Black Rock Reef: beautiful walls, caverns and canyons set the background for the soft corals and sleeping white tips we chanced upon. A 10' tiger shark moseyed into the main group of divers. On one dive, I passed a cleaning station for a huge, remora-covered sweet lips that was being cleaned by purple wrasses and who looked alarmingly like Eeyore from Winnie the Pooh. Another dive had me drift through many, many beautiful fans and soft corals to end in a shallow ravine near the

boat that was filled with great corals and regal angels, beautiful butterfly fish and lots of clowns and damsel fish. My ascent to the boat was through a mushroomed world of scores of little yellow and clear jellyfish.

The Reef Explorer is one of a few Australian boats that have full Commonwealth Surveys enabling them to operate outside the Australian 200 nautical mile limit. Allan has added satellite navigation to go along with auto-pilot, radar and side scanning sonar, a weather fax and a mobile phone that operates when close to the coast to provide instant communication. It is a safe and secure vessel and Allan is a top-notch captain. Prior to purchasing the Reef Explorer in 1986, he created and ran a successful fishing-charter business from his home in Gladstone. His experience as a commercial diver in Indonesia adds more depth to his seemingly unbounded energy.

Seventeen days is a long trip [my 11 meant only nine days of diving] which was too short for my taste]. On a couple of occasions, we popped into the dinghy for some reef walking; at Turtle Cay, we went ashore to observe the green giants as they came to lay their eggs. However, every time the turtles were about to make it onto the cay, they would catch our scent and go back into the water. We were still rewarded with some beautiful shell collecting.

On a dive at the Narrows, I gasped in horror as I noticed my strobe filling up with water. After returning to the surface and signaling Allan to come and fetch the strobe (which he did instantly), I returned to an exceptional dive. As I passed a sleeping white tip, a six foot bull ray greeted my reentry and I swam with him for about 10 minutes. Gliding through a maze of coral we played a kind of undersea tag, each waiting for the other before swimming on. Here, I found myself immersed in the center of hundreds and hundreds of barracuda, schools of jack, humphead unicorns, trevali, tuna, plus the usual assortment of multi-colored tropicals, all being watched by a couple of white tips on the perimeter. This spiraling fantasy of fish was so unbelievable that even I, the Dreamer, couldn't tell if this were real or not (and I had no camera for proof).

The next morning, Allan volunteered to lend me his extra strobe for the remainder of the trip. But once again the winds of fate changed direction and

## Pacific Reef Bleaching Worsens

Greenpeace issued a report on May 6 describing a "drastic increase" in damage to Pacific Ocean coral reefs as a result of global warming.

The damage is "demonstrably a result of increased sea surface temperature," said Greenpeace scientist Dr. Jeremy Leggett. An increase in sea temperature results from atmospheric warming because of the trapping of fossil fuel gases such as carbon dioxide.

Coral "bleaching" occurs when the colony of the tiny animals in a coral reef is under stress and releases the algae that lives with it in a symbiotic relationship. By releasing the algae, the coral stops growing and loses its color, hence the term "bleaching." He said eight out of the last 10 years have been the hottest years on record and scientists have documented the largest increase in coral bleaching in huge areas of the reefs.

Greenpeace's report was submitted to more than

150 countries that were beginning negotiations for a U.N. agreement aimed at stemming global warming. The talks have bogged down because the Bush Administration has rejected any document that would compel it to cap the limits of carbon dioxide emissions by the year 2000.

"We are releasing this report in an attempt to steer these climate talks away from sordid backroom politics and back to the scientific research and warnings which prompted the whole process in the first place," Leggett said. Scientists also have said an increase in sea temperature would raise ocean levels, constituting a deadly threat to small island states.

"The consequences would be disastrous," the Greenpeace report said. "Entire island states would become vulnerable to massive erosion and even total removal during storms."

the extraordinary diving simply became ordinary. The current picked up and the visibility dropped to around 50 feet. There were still some schools of fish, a few sleeping white tips and a turtle, but the magical moments of the day before were gone. As Jerry Garcia said to his audience of Deadheads while being inundated with their repeated requests for popular songs, "If it's consistency you want, you've come to the wrong place." Such are the ways of the sea.

The weather turned for the worse the farther south we went and the quality of the diving did likewise. Unable to dive the outside walls of the reefs due to winds, we were forced to stay on the leeward side. The first dive here was one of the worst. The 20' visibility rose to about 50' in the morning, but the 'wrong-way drift dive' with no fish and dead coral was just as poor as the previous day. Some giant Queensland groupers perked up some otherwise drab dives in poor visibility the rest of the way to Lizard Island. The trip basically ended for me at The Gut, which was my last dive. The vis reached 80' at this nice spot and the bull ray and giant grouper left me with a good memory for the very rough 15 hour steam to Lizard. This was the price we had to pay for spending most of our time up north. As the boat bounced toward Lizard, even the Game Boy addicts retreated to their cabins.

I ended up jumping ship with a couple of others at Lizard Island, figuring it wasn't worth another 18 hour bumpy ride to Cairns for two dives at Cod Hole. We caught a plane from Lizard and zipped down to Cairns after a quick visit to the Lizard Island Research Station. The following morning the RE pulled into port a couple of hours early and we were there to greet her. I felt like a deserter as I unloaded my gear and heard everyone tell of their great dives at Cod Hole. However, I, and most everyone else, felt the trip should have ended at Lizard Island after the dives at Cod Hole. [I dived Cod Hole; I'll talk more about it in the next issue.]

Now I'm back home with nothing but sweet dreams circling around my head. Adventure, exploration, education, natural beauty and a profound sense of history await you in the far northern fields of the Great Barrier Reef. Until my next trip, I have my dreams to keep me content.

And in a dream, he'd rather be,  
 where the oysters all are pearled.  
 Yes, here things all are happily  
 a part of his own world.

*The Dreamer*

[Allan Payard and Kim Campbell run a fun and friendly craft. No complaints, there, mate. But, I must say that many of my dives at the same sites as the reviewer were nowhere near as memorable. I had hoped for big fish action: big fish, big sharks or big schools. While there were some beautiful dives along relatively shallow coral reefs as pretty as one can ever expect, there were half a dozen dives which I could have done without, due to low visibility, struggles against currents, or hanging around the same area for more dives than we wished. In retrospect, I think the main reason for the differences is simply that fish swim. Just because they're found at one place is no assurance they'll be there the next dive. The reviewer surely found this. Furthermore, weather and tides

## THE REEF EXPLORER

### Northern Great Barrier Reef

Diving for Experienced	★ ★ ★ ★ ★
Diving for Beginners	go elsewhere first
Food	★ ★ ★ ★
Cabins	★ ★ ★
Boat Overall	★ ★ ★
Ambience	★ ★ ★ ★ ★
Moneysworth	★ ★ ★ ★ 1/2

★ poor, ★★ fair, ★★★ average, ★★★★ good, ★★★★★ excellent

affect where moors and dives. And, in an 11 day trip covering hundreds of miles, the boat has to keep moving.

I've heard more than one person from this industry suggest that Allan has not been diving the vast reaches of the Northern Great Barrier Reef long enough to know all the good sites. Had you been on my trip, you might buy that. Had you been on my buddy's trip, looking over the charts with marked dive sites left on board by Ron and Valerie Taylor, you would call that malarkey. But, on either trip, you would have realized that for the superlative diving, one needs go north - far north of Cod Hole. I'll offer more words about that next issue. . . .]

C.C. travel editor

Divers Compass: If you fly to Thursday Island on an Australian Air De Havilland Dash-7, it may not hold all dive and camera gear; so, have your travel agent or Kim and Allan work out arrangements to ship your gear separately; . . . The Reef Explorer has several 11 day trips following this itinerary in 1992; price is \$2400; U.S. Booking agent is Sharon Thomas owner of Chestnut Travel Service (800/558-7575); she's a diver who has taken the trip herself and can provide further details. . . .there's spare gear on board, but on these trips bring a backup computer, spare batteries, and anything else you need. Air fare from the West Coast to Cairns is \$828 aboard Qantas. Next issue: other options for the Great Barrier Reef.

## ST. KITTS, WEST INDIES

### — *When the nondiver insists*

I'm a deal cutter. It's the only way I can get away alone for an adventurous diving trip. You see, I've got a nondiving spouse who has different ideas about where to vacation, and it's always a place where diving doesn't get top billing. Last year, after a trip aboard the Caribbean Explorer, I scoped out St. Kitts for a day: clean beaches, good restaurants, modern facilities, a championship golf course, a casino, and kindly residents. And, I'd be able to take a few tanks. I cut a deal.

St. Kitts sits southeast of St. Maarten and Saba. From the air, it looks like a giant turkey drumstick. The meaty part is covered with sugar cane fields, a mountain range and a verdant rain forest. Here most of the locals live and work, as they have for generations. As the drumstick narrows, the only large town, Basseterre, appears on the Caribbean side. Then, just over low-lying hills from Basseterre is Frigate Bay, where most of the modern tourism infrastructure is located. Southwest peninsula, the "handle of the drumstick," sports a new highway (courtesy of Uncle Sam) that will open excellent beaches and spectacular views to developers.

### Should you tip dive guides?

We often get questions regarding the tipping of dive personnel. "Should I tip?" "How much?" "Do other divers tip?" It's a sticky question and I know that I, personally, don't have a consistent policy.

So that we may report what seems to be the practice among traveling divers, we have developed a questionnaire contained with this issue.

We'd love to hear from you. Please respond by the end of June so we can get the results analyzed and back to you. Send your questionnaire to *Undercurrent*, P.O. Box 1658, Sausalito, CA 94966.

C.C., travel editor

# TIPPING SURVEY: YOUR RESPONSE REQUESTED

Figuring out when or if to tip on a dive trip is often confusing. To help other divers with tipping problems, we would like to know how, who, when, or if, you tip on a dive trip.

For this survey, we will be concerned only with tipping those people that are involved with the dive operation in the following situations: a) a dive resort where the diving is provided by the resort; b) where the dive operation is different from the hotel operation; and c) liveboard boats.

## AT A RESORT THAT OFFERS DIVING

At any resort offering diving, do you ever tip any of the following?:

**Dive guide** Yes  No  Sometimes  Why is that? (Be as specific as possible)

**Boat skipper** (if different than the guide) Yes  No  Sometimes  Why is that? (Be as specific as possible)

**Crew** (if other than skipper and/or guide) Yes  No  Sometimes  Why is that? (Be as specific as possible)

If "YES" or "SOMETIMES" to any of the above, when do you tip?

**Dive guide** 1st day  Daily  End of stay  **Skipper** 1st day  Daily  End of stay

**Crew** 1st day  Daily  End of stay

How much do you tip? (Write in) **Dive Guide** \$ \_\_\_\_\_ **Skipper** \$ \_\_\_\_\_ **Crew** \$ \_\_\_\_\_

How do you determine how much you will tip? (Write in, be specific)

## AT A RESORT WHERE THE DIVING IS SEPARATE

At any resort where the diving is separate from the hotel, do you ever tip any of the following?:

**Dive guide** Yes  No  Sometimes  Why is that? (Be as specific as possible)

**Boat skipper** (if different than the guide) Yes  No  Sometimes  Why is that? (Be as specific as possible)

**Crew** (if other than skipper and/or guide) Yes  No  Sometimes  Why is that? (Be as specific as possible)

If "YES" or "SOMETIMES" to any of the above, when do you tip?

**Dive guide** 1st day  Daily  End of stay       **Skipper** 1st day  Daily  End of stay   
**Crew** 1st day  Daily  End of stay

How much do you tip? (Write in) **Dive Guide** \$ \_\_\_\_\_ **Skipper** \$ \_\_\_\_\_ **Crew** \$ \_\_\_\_\_  
How do you determine how much you will tip? (Write in, Be as specific as possible)

### ON A LIVEBOARD DIVE BOAT

Do you contribute to a "pot" for the entire crew? Yes  No  Sometimes  Why is that?

Do you ever tip any of the following in addition to or in lieu of contributing to a "pot"?

**Tip the dive guide** Yes  No  Sometimes  Why is that? (Be as specific as possible)

**Tip the crew** Yes  No  Sometimes  Why is that? (Be as specific as possible)

**Tip the skipper** Yes  No  Sometimes  Why is that? (Be as specific as possible)

If "YES" or "SOMETIMES" to any of the above, when do you....

**Contribute to a "pot"** 1st day  End of trip       **Tip Dive guide** 1st day  End of trip   
**Tip Crew** 1st day  End of trip       **Tip Skipper** 1st day  End of trip

How much do you (Write in) **Contribute to a "pot"** \$ \_\_\_\_\_ **Tip Dive guide** \$ \_\_\_\_\_  
**Tip crew** \$ \_\_\_\_\_ **Tip skipper** \$ \_\_\_\_\_

How do you determine how much you will tip? (Write in, Be specific)

### IF YOU DO NOT TIP

If you have indicated in the questions above that you do not tip, why is that? (Write in be as specific as possible)

Have you been in a situation where the dive operator seemed to push for tips? Yes  No

If YES, please describe what happened and which operation it was, by name.

When at a resort that has diving and there is a 'service charge', do you consider the diving personnel to be covered under that service charge?

Yes  No

Name \_\_\_\_\_ Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone Number \_\_\_\_\_

*Return to: Undercurrent PO BOX 1658 Sausalito, CA 94966*

Although January is the "high season," after a few phone calls, I realized there would be plenty of rooms so we arrived without reservations, planning to check out units and negotiate prices on the spot. I rented a car in advance and, upon arrival, a driver met us at the airport with a new Nissan and chauffeured us to the police station to obtain a St. Kitts driver's license (\$15). We splurged (\$200/day, which included \$20 for our 18 hole greens fees) on a two floor, two bedroom, two-and-one-half bath unit at Timothy Beach Resort, complete with a color TV and U.S. channels. This condo, on the Caribbean side of Frigate Bay, provided complete housekeeping, an excellent, priced restaurant and a smiling staff. Kenneth's Dive Center was less than 50 steps from the front door of our unit.

Dive operator Kenneth Samuel is a friendly and courteous Kittian who has been diving for more years than he will admit. He no longer routinely dives with the tourists, contenting himself with the management of the operation from his Basseterre office. My diving was handled by Dave Howlett, a Canadian who comes down from the cold country several times a year to assist Kenneth, and Stan Margolis, a former Peace Corps advisor who fell in love with the island and now works full-time as a divemaster and instructor.

Their slow-moving Lady Peggy, a flat deck, double keel, craft has an immaculate head and a large awning for shade. Tanks are stowed in racks and there's plenty of room for gear. On my first dive, a short run from the dock, Dave led me on a leisurely tour of the wreck of the "River Taw," while Stan took the only other passenger, a resort course "dunkee." Dave knew the "Taw" like the back of his hand and showed me crabs, octopi, the resident gnarly toothed cuda, and the

## Treasure Hunter Mel Fisher Accused of Offshore Drilling

The federal government filed a suit on April 30 against Mel Fisher and his company, claiming they blew huge holes in coral reefs while exploring in the Florida Keys National Marine Sanctuary. Fisher gained fame several years ago when he uncovered ancient treasures worth millions of dollars from the wreck of the *Nuestra Senora de Atocha* in the Florida Keys. Fisher's company has been working in the so-called Coffin's Patch off Marathon since January. Nineteen Spanish galleons sank there during a hurricane in 1733.

The lawsuit, brought by the National Oceanic and Atmospheric Administration, asks a judge to stop the salvors from any further destruction in the sanctuary, and seeks unspecified damages.

The suit accuses Fisher and his company, Salvors Inc., of blowing about 100 craters in a mile-long stretch off Marathon, Florida. Federal officials say the craters, about three miles offshore, were created by forcing a ship's wash downward to wash away loose sand that may cover artifacts. These devices are not normally used in archaeological excavations because they tend to damage historical and archaeological resources, the lawsuit claims. Some of the craters are 30 feet wide and 10 feet deep.

"This is as if you had taken a giant auger and essentially egg-beaten the bottom," said Reed Boatright, a spokesman with NOAA.

Fisher's attorney, David Paul Horan, said the

salvors haven't caused any damage. He said Fisher has used the technique since the mid-1960s.

Fisher, who lives on Key West, said the lawsuit caught him by surprise. He denied the government's contentions that the deflectors are causing damage. "I've been building a beautiful reef out there," he said. "The coral reef was all covered with mud and silt and grass on top of that. I uncovered the reef and it's growing magnificently. That's the only real reef in the entire area."

Fisher said it appeared as if the government was trying to use the environmental concerns as an excuse to take away the treasure he has salvaged over the past 28 years — including treasure from the famed *Atocha* and *Santa Margarita*, 1622 wrecks Fisher discovered west of Key West. "It looks like they're going to own the *Atocha* and *Margarita* the way they write it," he said.

He also said he had stopped salvage work after receiving a request from the Army Corps of Engineers several weeks ago. "A guy from the Corps of Engineers asked us to stop and we did," he said.

Thomas Campbell, NOAA general counsel in Washington, said, "We contacted Mel Fisher's counsel and attempted to arrive at an accommodation that would assure us that continued damage to natural resources would not occur. We were not able to arrive at the necessary assurances," Campbell said.

innards of both segments of this wreck. One incongruity of this site is a number of wrecked automobiles that have been dumped by Kenneth. At first, I was turned off by reminiscences of West Virginia quarry diving, but the cars were full of life, including spotted eels, crabs, octopi and colorful reef fish. Nearby were a number of flying gurnards that, when gently prompted, showed the kaleidoscopic colors of their pectoral fins. Dave later told me he was attempting to persuade the Kittian government to regulate fishing. In particular, he would like to see lobsters protected. They're fished year round.

Kenneth claims that he can set up dives up-island at sites known only to him by using a van to transport the divers to rendezvous with the dive boat. He tells of the wreck of the ferry Christena that, sank in 1970 with the loss of 240 lives. Kenneth brought up the bodies and told me that by the end of the effort, he had to rig up a cage to protect himself from the sharks feeding on the victims. Although it sits in less than 70 feet of water, it's not dived for reasons I could not fathom. He also claims that a long run to Redondo Island off Montserrat would provide world-class diving, and diving the rougher Atlantic side of St. Kitts would produce lots of sharks. He has a speedboat that he says he uses for diving, but I saw it used only for taxi service between St. Kitts and the nearby island of Nevis.

I never made another dive with Kenneth's. Although he runs a friendly, competent facility, he caters mainly to introductory divers who come through the Jack Tar Village, a Club Med-type resort. I moved on to Pro Divers, owned by an amiable young Scotsman Auston MacLeod. While growing up in the Turks and Caicos Islands, Auston says he spent more time underwater than the typical American kid spends in front of a TV set.

During the high season, Auston keeps his shadeless speedboat at Turtle Beach at the tip of the Southeast Peninsula, which necessitates a car. I suppose he could arrange a pick-up for divers staying at Frigate Bay, but on St. Kitts, a car is essential, I think. Turtle Beach is a fine place for the nondiver to wait out the divers return--good beach, good food, great cheeseburgers.

Typically, we waded our gear a few feet to the boat, climbed in and hooked up our regulators to the aluminum 80's already on board. Auston would gun the twin 125 hp outboards and run us to reefs, not only along St. Kitts, but also at Nevis and the Monkey Shoals reef complex. Although Auston advertises "Wall Diving," I never saw anything resembling a wall; this is reef country, depths generally above 100 feet, more like 50 feet at Monkey Shoals.

On my first dive, after an easy roll off the side, I spent five minutes watching a pair of spotted eagle rays performing acrobatics. Typical of Kittian friendliness, they seemed to enjoy staying with me as much as I enjoyed watching them. By the end of the trip, my log book was full of sightings of southern sting rays, spotted eels, lots of lobster, peacock flounders, green morays, angels, nurse sharks and a good-sized reef shark. I spent several minutes with a large turtle at Nevis Caves and, at Monkey Shoals, I saw swarms of reef fish including several juvenile spotted drums. Snapper and grunts were plentiful, cardinal fish and squirrel fish can be seen hiding out, file fish and lizard fish are common. Larger fish, including grouper, are rare, probably because this area is fished by the locals. I saw no fish traps (although I had seen them further north when on the Caribbean Explorer last year). Throughout the area were lots of vase sponges and a good collection of pillar coral.

## St. Kitts

Diving for Experienced	★ ★ (★)
Diving for Beginners	★ ★ ★ (★)
Hotel	★ ★ ★ ★ ★
Restaurants	★ ★ ★ ★ ★
Moneysworth	★ ★ ★ ★

★ poor, ★★ fair, ★★★ average, ★★★★★ good, ★★★★★★ excellent

These are healthy reefs, dived by fewer than a dozen tourists a day. For the experienced diver, there are plenty of reef critters. For the new diver, there is more to see than to comprehend. Visibility - aye, here is the rub. We are usually talking about 70 feet or so, with some dives a bit less, some a bit more. Water temperature was 80 degrees F in mid-January.

Diving with Auston and his Kiwi assistant, Lindsey Beck, was like diving with good friends who have tanks and a boat. Almost every passenger was a friend of Auston's. One day, the group included Auston's fiancée, her sister and husband visiting from Singapore, a former resident back from Africa, a shipbuilder who specializes in restoration of older boats - and me. We recovered old ship timbers from a secret near Nevis Caves. Auston had discovered these timbers after a winter storm and wanted to bring them back to the shop for display. I doubt that an archeologist would have approved, but it was fascinating to watch the beams brought up and the cuts and rusty iron pins explained by the shipbuilding expert. It was great fun speculating on the origin of these beams, recalling the days when St. Kitts was the battleground for French and English fleets.

While I got some enjoyable diving under my belt, did my nondiving spouse and I get what we wanted beyond diving? Yes, indeed. St. Kitts provides the visitor lots to see on drives around the island. We spent half a day walking the massive fortress at Brimstone Hill, gazing at Statia in the distance, and conjuring up scenes of the sieges and campaigns. This restored edifice dominates a volcanic hill with its solid stone walls, 17th-century cannon, large citadel, and stone barracks. A respectable museum has been created within the walls.

Sugar helps define the history of St. Kitts. Large cane plantations, the sugar train, a large refinery, and the modern loading dock outside Basseterre

## Does Sharing Air Transmit Diseases?

Over the last several years, there has been an increasing concern about the potential for disease transmission from diving equipment, particularly equipment that is rented or shared. The most common concerns expressed are about the transmissibility of HIV, hepatitis and herpes viruses.

The Center for Disease Control (CDC) reports that although there are a number of unpublished anecdotal reports of a variety of infections associated with diving, diving equipment has never been documented as being responsible for an outbreak of even a single case of bacterial, fungal or viral disease, including HIV infection.

Since the mouthpiece comes in contact with oral mucosa, the regulator becomes contaminated with oral fluids and possibly bronchial fluids during its use, creating a hypothetical risk. Thoroughly rinsing with fresh water and letting it dry between use is sufficient for hygienic safety with personal equipment, but could not be considered adequate for shared regulator mouthpiece or oral-nasal units.

Although there is no commonly accepted disinfection procedure, it seems logical that mouthpieces should be removed from the regulators followed by thorough scrubbing both with soap and water and rinsing with fresh water.

The CDC recommends that this disassembled

mouthpiece and regulator be immersed in a broad spectrum germicidal solution, such as household bleach (1/4 cup bleach in one gallon of tap water with 10 minutes of exposure time) for disinfection. Rinsing and thoroughly air drying the equipment should prevent regrowth of bacterial fungus and should destroy viruses.

The U.S. Navy recommends disassembly as well, using as a disinfectant diluted Polaxamer - iodine surgical scrubbing solutions carefully diluted in the ratio of 1:213, or an equivalent dilution to 0.6 fluid ounces of concentrate to one gallon of water (if more or less concentrated, it will not act as an effective disinfectant).

Both the CDC and the Navy recommend vigorous scrubbing of the mouthpiece and oral-nasal regulator oral opening and exhaust openings with an appropriately sized soft bristle brush. This is to be followed by careful rinsing and air drying as recommended by both sources.

The Communicable Disease Center suggests that the manufacturers consider providing an alternate method of mouthpiece attachment to permit easy removal and replacement, such as a reusable clip instead of a single-use plastic ligature.

Prepared from an article in *Pressure* (the newsletter of the Undersea Hyperbaric Medical Society) by Paul G. Linaweaver, Jr., M.D., and an interview with Walter S. Bond of the CDC.

still are key to the economy. Above the sugar estates, hiking trails are cut out of the forest; guides can organize trips up to the crater of Mount Liamuiga as well as other trips into the rain forest. For the inveterate shopper, there are a number of establishments, most in Basseterre, some with schlock, some with worthy items including fine batiks.

Then, there is the Royal St. Kitts 18-hole golf course, with flags along both the Atlantic and Caribbean. While presenting challenges on every hole, duffers like me got a shot at birdies now and again. I didn't worry about sending a few balls into the Atlantic as cheerful lads along each hole gladly sell used balls. Under a small grove of palms adjacent to the 11th green sits Randolph Battice, serving from his ice chests the coldest (and most welcome) beer on the island.

Restaurants? There are plenty. We used the apartment kitchen for most breakfasts and some lunches and dinners, finding ample supplies in the local markets; the open air market on Bay Street in Basseterre featured delicious fresh fruits and vegetables. Yet, some local restaurants were hard to resist. Ottley's Plantation and Rawlins Plantation were in the five star category, as was one outstanding evening dining at the Patio at Frigate Bay. The pizza at PJ's, close to our digs, was as good as anything in South Philly ... well, almost. The Caribbean evening feast at Timothy Beach Resort's Coconut Cafe was surprisingly good. After dinner, one can try the gaming tables at the Jack Tar Casino. The pleasant, but jaded, croupiers let us lose our money slowly enough so that we had time to circulate around the casino, pump a few slot handles, and watch the dealers turn up more Aces and Jacks than we could.

To sum up, St. Kitts is an excellent choice for a diver with a nondiving partner. Friendly people, plenty of five star accommodations, five star restaurants, and two star diving for the experienced if you repeat local dives, three star diving if you travel a ways. If you have to cut a deal to keep things happy on the home front so you can head off alone on an Aggressor, then I suggest St. Kitts. And one of these days, if a savvy dive operator like, shall we say, Bruce Bowker of Bonaire steps in, he just might locate dive sites that move up the diving a star or two.

Diver's Compass: Obtain information from St. Kitts & Nevis Tourism Office, 414 E. 75th Street, NY, NY 10021, USA, 212/535-1234; FAX 212/879-4789; St. Kitts is served by American and BWIA through San Juan. . . .Kenneth's Dive Center, Box 83, Bay Road, Basseterre, St. Kitts, West Indies (809/465-2670/7403). . . .Pro Divers, Box 65, Ocean Terrace Inn, St. Kitts, W.I., (809/465-2754/3223; FAX 809/465-1057). . . .Neither dive boat has oxygen on board; there is no chamber on St. Kitts; DAN will recommend the fastest way to a chamber in case of emergency. . .

### **Save Snorkelers. Kill the Sharks**

The death of a Maui snorkeler from a shark attack last November led to a Jaws-like reaction by some Hawaiian officials, who called for eradicating sharks from Hawaiian waters. Save the tourist industry!

Cooler minds prevailed with the result being the introduction of a legislative proposal for the controlled fishing of tiger, Galapagos, and grey reef sharks. The goal was not eradication, but "management" of the number of large sharks that may endanger swimmers and surfers. Then, even cooler heads prevailed.

Thanks to a tight budget, the House Finance Committee defeated the proposal.

On St. Kitts, most prices were negotiable; this included accommodations, car rental, dive package cost (two tank dives are \$60; I paid \$50 because I had my own gear); be courteous and reasonable and prices seem to drop in a discussion of "discounts" . . . .In the meaty part of the island, the Golden Lemon, Ottley's, and Rawlins are luxury "plantation great houses" that cater to lovers or to those who want to stay in a historic manor house, dine on gourmet meals, and kick back; travel from the houses to the two dive operators would take 30-60 minutes. . . Voltage is 230 V, AC, 60 cycles.

# Your Regulator Exceeds U.S. Navy Specification?

## —Valid Claim or Advertising scam?

A recent ad for Mares MR-12-Navy regulator claims that it is "Designed to exceed U.S. Navy Specifications for Class "A" regulators by 20% and European CEN standards by 50%."

### A valid claim? Or an advertising scam?

The U.S. Naval Experimental Dive Unit (NEDU) tests commercially obtainable regulators and releases the data to the public. Its last report was issued in 1987 and carried in full in *Undercurrent*. The Mares regulator was not among those tested. It is currently being evaluated by the Navy, but no results have been released.

Mares' Ed O'Keefe told us that, "the testing was done in our plant in Rappollo, Italy, which has all of the equipment that NEDU uses. The only test data we have released has been the bell curve shown in the ads." When we asked for additional test data we were told that, "the curve shown in the ads is sufficient because other testing was done on durability and other functions rather than on just work of breathing."

### Consumers, beware

The U.S. Navy testing results are independent results. While some argue that their tests may not be picture perfect — in the 1987 test, for example, one or more manufacturers 'super tuned' the regulators, providing for results different than the consumer might obtain — no one can argue that NEDU itself is biased in its analysis or presentation of data. The Navy has no ax to grind and the data provided can be accepted with full faith and credit.

On the other hand, a manufacturer has a vested economic interest in how well its products perform. Even in the best of conditions, the analysis and presentation of data gathered may be colored by this self-interest.

A potential purchaser should view the manufacturer's conclusions with some skepticism. In the first place, we don't know what testing equipment a manufacturer uses. Although Mares claims its equipment is similar to the NEDU's, we can only take their word. Lt. Chris Ross says, to the best of his knowledge, no one from the NEDU has certified Mares testing facility as meeting NEDU's test specifications.

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***"An unscrupulous  
manufacturer can claim its  
regulator meets NEDU  
standards, whether or not  
it has correctly tested  
the regulator"***

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Second, without a look at actual results, we can only assume the company is being honest with us. An unscrupulous manufacturer can claim its regulator meets NEDU standards, whether or not it has correctly tested the regulator. Only an independent test can verify the validity of such a claim.

Until claims are put to these sorts of independent tests, *caveat emptor*.

### The 1987 tests:

Although we reported fully on those results in 1987, let us repeat them again because many of the regulators tested are still available.

**Group A.** Regulators which met or exceeded the 1987 upgraded work of breathing requirement up to 198 FSW, a moderately heavy work rate, and 1000 psi supply pressure.

1. AGA Divator MK II (FFM) with U.S. Divers Royal SL first stage regulator
2. AGA Divator MK II breathing valve with AGA mouthpiece and U.S. Divers Royal SL first stage.
3. Poseidon Cyklon 5000
4. Poseidon Odin 5. Poseidon Thor
6. Scubapro MK X/G-250
7. U.S. Divers Conshelf SE-2
8. U.S. Divers Pro Diver

**Group B.** Regulators which met or exceeded the same requirements as Group A, but only up to a depth of 132 FSW.

1. AGA Divator MK II (FFM) complete with first and second stages with AGA cylinders
2. AGA Divator MK II (FFM) used with U.S. Divers Conshelf XIV first stage
3. Dacor Pacer XL 950
4. Dacor Pacer XLE 360
5. Oceanic Omega II Max Flow
6. Poseidon Cyklon 300
7. Scubapro MK X/D-300
8. Sherwood Magnum II SRB-3300
9. U.S. Divers Conshelf 21

**Group C.** Regulators which meet or exceed military specifications for breathing resistance, but do not meet the superior performance standards up to 132 fsw in Group B.

1. Dacor Pacer Areo 950 A
2. International Divers Inc Super Star II
3. Nemrod Saturn 300 Pro
4. Ocean Dynamics RB-3000
5. Oceanic Omega II
6. Parkways Atlas
7. Poseidon Cyklon 300 (pre-1986 model distributed by Parkways)

8. Poseidon Cyklon Maximum II (pre 1986 model distributed by Parkways)
9. Pro Sub Max Air I
10. Pro Sub Pro Air I
11. Scubapro MK III/High Performance
12. Scubapro MK IX/Air I
13. Scubapro MK IX/Balanced Adjustable
14. Scubapro MK IX/High Performance
15. Scubapro MK X/Adjustable
16. Scubapro MK X/Air I
17. Scubapro MK X/Balanced Adjustable
18. Scubapro MK X/High Performance
19. Sea Pro FSDS-50 19. Sea Quest AMF Mares MR 12-111
20. Sherwood Brut SRB-2100
21. Sherwood Magnum Blizzard SRB-3200
22. Sportsways X-2
23. Sportsways X-3
24. Tabata TR-100
25. U.S. Divers Conshelf XIV

**Group D.** Regulators which did not meet the military specifications for breathing resistance established in Group C.

1. Cressi Sub Galaxie 105
2. Cressi Sub Polaris IV
3. International Divers Inc. Star II
4. Nemrod Saturn 300
5. Scubapro MK X/Air II (A BC inflator/mouthpiece not a primary regulator.)
6. Sea Pro FSDS-10

**Group E.** Regulators that could not be objectively evaluated by breathing resistance vs depth and work of breathing vs depth due to second stage inhalation pressure patterns incompatible with data analysis systems.

1. Sea Sport Zepher ZR-01
2. Tekna 2100 BX

According to Lt. Ross, the NEDU does not plan to produce a report as comprehensive as those conducted in 1980 and 1987 again. The NEDU will test regulators but will publish the findings on individual regulators in technical updates which will cover the specific regulator tested. If it passes, it will be added to the list of acceptable regulators. To limit the number of regulators in the top class, the Navy keeps upgrading its standards as the state-of-the-art advances.

If all of the protocols and procedures are followed, with adequate equipment, the bench testing should be comparable with what the NEDU would find if they had

conducted the testing. Thus, data regarding work of breathing at various depths, work loads, and tank pressures should provide good purchase decision information. But, at the present time, there is no way to ensure that such testing does indeed follow full NEDU procedures. In addition, the NEDU is now preparing a report describing how it tests regulators, listing its full specifications, protocols, procedures and equipment needed, as well as the calibration settings. When released, it will enable any manufacturer to test their regulators in a comparable manner. Such testing should lead to better performing regulators.

At the same time, it will mean that the manufacturers will surely be making claims that their regulators meet or exceed standards.

Are we to believe them?

Without independent verification, let the buyer beware.

## Chim Chimmeree

Dear Undercurrent,

"My buddy and I were at CoCo View and suddenly, at about 30 feet, my Mares regulator began to freeflow. Checking it out, we found that a high pressure seat in the first stage had developed a crack. The regulator had been serviced about one month prior to the trip and had about 20 dives on it. My dive shop repaired it for nothing, but why did it happen?"

*C. Scogin, Grand Prairie, Texas,*

Dear C.

We called Ed Pollock, Vice President of Mares, to inquire about the problem. He said that "I think what your reader is referring to is the poppet, not a seat.

"For many years we used poppets that had to be replaced yearly, when the regulator was serviced. However, some of the shops failed to replace them and we had subsequent problems with cracking and second stage freeflowing.

"Since then we have redesigned the poppet and it is now good for two years. Hopefully, the shops will change it on that basis."

So, Mares' poppet is the problem. If it happens to you, take it back to your dive shop singing Chim Chimmeree and maybe they'll get the message.

*Ben Davison*

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For subscription questions and problems only call: **1-800-562-1973**

*Undercurrent editors welcome comments, suggestions, resort/travel reports, manuscripts, reports of equipment problems, from readers of Undercurrent. Editorial offices: P.O. Box 1658, Sausalito, CA 94966*