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P.O. Box 1658, Sausalito, California 94965  
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THE PRIVATE, EXCLUSIVE GUIDE FOR SERIOUS DIVERS

Vol. 14, No. 3

March 1989

## The Bitter End Yacht Club, B.V.I.

*-- And The Bitter End ...*

Dear Reader:

The Bitter End Yacht Club, located on Virgin Gorda in the British Virgin Islands, has been a longtime favorite of sailors and lovers. It's always listed among the "best" Caribbean resorts. The diving needs of its guests -- and of other hotels in the area -- are served by the legendary Bert Kilbride, who has discovered scores of wrecks in the area and, no doubt, knows the reefs better than anyone. But is that enough?

C.C., travel editor

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No roads lead to the Bitter End. Not even from the airport on Virgin Gorda. No matter. After arriving at the main airport on Tortola, I was on my way to the dock of the North Sound Express, the rapid transit launches that travel between Tortola and the Bitter End several times a day. That stirred up my romantic feelings right from the get-go. A good start. Eastward from here is nothing but open ocean. To the south, a chain of islands by the hundreds that stretches all the way to Venezuela.

While the Bitter End is not primarily a diver's resort, it is indeed first-class, every bit as good a Caribbean resort as you'll have the pleasure to visit. Tucked as snugly as possible in the lee of the hills behind North Sound, it is as pretty a picture and as safe a harbor as you can find in the Caribbean. In fact, the name tells the story. This is where once many ships stopped off before heading out to sea for voyages of commerce or plunder. And anyone sailing the Virgins today feels obligated to pay a call here, if only to quaff a cold one in the bar.

Great angles for dive stories are often so hard to come by that you need a protractor, but not so here at the Bitter End. Right off the bat I hooked up

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with "insiders" who confirmed my observations that diving at the Bitter End presented some serious problems. We met often over glasses of neat rum and, in the end, I pieced together, with my first hand observations, the story of "Kilbride's Underwater Tours: to the bitter end." But first, more about the resort.

Quite logically, sailing is the main force at the resort, but one need not be an expert sailor to come here. The large number of misty-eyed couples constantly demonstrated this was a great place for lovers who also want to dabble in a bit of water sport. But it's somewhat less the right destination for the truly committed diver. But, what the hell. The Bitter End is just about the best once-a-year compromise I can imagine.

Great resorts have wonderful food, beautiful rooms, break-your-heart views and special, thoughtfully discreet service. The Bitter End gets five stars on each count. The 45 units at the Bitter End are understated and perfectly designed to maximize the views. Choices are either the Beachfront Villas just above sea level, or the newer Chalets which rise like a tropical village of thatched roofs up two beautifully landscaped hillsides. The more adventurous might also choose to stay on one of the eight or so liveboard sailboats.

Upon my arrival, a bottle of Cruzan Virgin Islands rum was in my room, inviting me to toast my good judgment. A constantly attentive but invisible maid service kept the gravel walkway to my room raked so that it seems no one has ever been there before. I appreciate riding up and down the hills in the tiny 4 wheel drive Daihatsu taxis that are easily paged from the numerous call boxes around the property. For such service, you pay a price: the Admiral's Package, which includes all meals and the use of sail boats (up to 24 feet), runs between \$300-\$400 per night per couple, depending on the season. Diving is additional, of course, and the use of a larger sailboat, a Cal 27, adds \$50 a day to your tab. On the whole, I think it's fair compared to similar island digs. And though the Bitter End is expensive, barefoot living is the style.

Meals are served in either of two open-air restaurants: the Clubhouse specializing in seafood and the Carvery, offering a consistently delicious buffet of meats and fowl presented beautifully and served by the native staff decked out in crisp white culinary garb. I was drawn to the perfectly pink rack of lamb, done magically correct every time as only Her Majesty's kitchens can do. Others stuffed themselves on tenderloin of pork (with bernaise), roast beef au jus, curried shrimp and herbed game hen, accompanied by fresh vegetables and other healthy fare. At The Clubhouse grilled lobster is available each night for a reasonable additional price -- most of the guests at the resort are on "The Admiral's Package," which includes meals. Grilled fish and shellfish are done to order. Desserts are wonderful: the Bitter End even makes its own ice cream.

If the Bitter End tickles your fancy and you hope for diving as fine as the dining, you may be disappointed. I was. But disappointment may be avoided if you don't follow the "party line" that you'll get from the Bitter End -- that the

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resort is served exclusively by "Kilbride's Underwater Tours" and that's it for diving in Virgin Gorda. I know better . . . now.

For decades, diving in the B.V.I. has been synonymous with one unique character: Bert Kilbride, who lives on his own private island, where he keeps his dive business which serves the Bitter End and other hotels. The beautiful and deadly Anegada Reef virtually belongs to Bert. The hundreds of ships wrecked over hundreds of years are his special province. He has located and dived them by the dozens. He wears a round of Spanish gold around his neck as if it's just another silver dollar. He's been on 20/20 with Geraldo and Hugh and his treasure-hunting exploits have been featured in a scores of magazines and newspapers. He is still larger than life and a first-class storyteller and dreamer. It is impossible not to like him and everyone I met speaks reverently of him. But the problem is that at 75 years of age, Bert has more youth and vitality than his sorry dive operation.

#### HOW WE RATE IT:

Diving for Beginners	★ ★
Diving for Experienced:	★ ★
Diving potential with other operators:	★ ★ ★ to ★ ★ ★ ★
Hotel Accommodations:	★ ★ ★ ★ ★
Food:	★ ★ ★ ★ ★
Potential Moneysworth:	★ ★ ★ ★

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

Diving at Anegada, about 11 miles away -- and an hour and a half by Bert's slow boats -- can be quite good, if you get there. We only got a single day in, due mainly to stiff January trade winds. In about 75 feet of water off Anegada Reef sits the wreck of the Rochus, a steel-hulled steamer that went down earlier this century while carrying a cargo of animal bones to a fertilizer plant. When I hit the water, I could see much of the wreck below me -- the stern compartments, the former holds amidships, and what looked like the ship's boilers. And on the bottom lay the ship's cargo, bones. Leg bones, jaw bones, thousands of bones. Dead ahead were several penetrable compartments and I glided in. Here were large Nassau groupers, hundred pounders, easy, and one was in the middle of gulping down an unidentifiable fish a third his own size! I encountered blue and grey angels as large as the door of a '59 Cadillac. Forward I came into a school of black durgon. Beautiful. We made a second dive on the Rochus to cover it all.

And though I also dived the Rosenbleu, a ship several hundred years old in about forty feet of water and under lots of powdery silt, and the famous wreck of the Rhone at Salt Island (the Rochus is a superior dive), most of the dives were on mediocre reefs close by. Except for a night dive on Great Dog's Coral Garden Reef, most of the dives were rather ho-hum. No dramatic walls nor endless canyons, no regular encounters with pelagics. In fact, on our very first dive, Bert announced he would take us to the Chimneys, "one of the few places in the world where white sponges grow." These were small canyons with virtually no life, save for an occasional sea fan and sponge and a few small fish. I finally found the white sponges, three or four of them about four inches by two inches. Other shallow dives, where there were no world famous white sponges to see, were not much better, although once I did see a sizeable Southern Stingray.

Even though there's better diving to be found, Kilbride's operation concentrated on giving us the lowest common denominator. As if to protect the old, run-down boats as well as several new and not particularly capable staff members, we stayed about as close to home as we could. Frankly, I think that's about all his operation is up to these days. Just because his two boats need

serious scraping and painting to start with isn't enough to suggest that further maintenance is needed. But all I had to do was watch.

On my very first dive, there were no weights or belts available, so our departure was held up for more than an hour while weights were collected, belts found and ends of several frayed belts burned so they could be slipped through buckles. Two boats departed from the Bitter End dock, but one didn't return promptly. I watched it drift freely, with a complete compliment of divers aboard. They needed a tow back to port. Several days before, a Kilbride staffer told me, the boat had run aground and bent a shaft. It didn't get repaired properly, causing her to break down.

One day, one of Bert's captains found his anchor slipping, so he had his crew pull the hook. Trouble was, three or four divers, all recently certified, were hanging on the anchor line at about 20 feet, trying to equalize their ears. They were yanked to the surface, unhurt, but angry as hell. Many of the staff were unimpressive, hired recently to fill in because of relatively high turnover. Bert's step-son, Aaron, and Flynn, the divemasters, were exceptions: they were both consistently professional, attentive and helpful.

There were quite a few folks at the Bitter End the week I stayed -- up to twenty on each of the dive boats -- so when a night dive was planned a couple of divers asked ahead about Cyalumne light sticks. Both were told they had none, but a third diver went to Kilbride's island on his own, rummaged about and found a few. Kilbride's rental gear is not up to snuff. The lights he provided were ancient and, as it turned out, inadequate to serve all the divers. Some divers had their own, but still the ratio of divers to lights was about 3:1. His aging BC's smelled of the dead sea from inadequate washing.

A number of locals I talked to attribute the management problem to Bert's newest wife (he's had a few mates before, including "Jacki" Kilbride who swam in shark scenes for "Jackie" Bisset in The Deep, who was followed by "Jaki"). While we were motoring around, Bert was on the radio talking lovey-dovey. But could it be that this lady, who Bert seems to have put in charge of the business, is trying to wring the mostest out of the business by giving divers the leastest? Diving at the Bitter End is not world-class, but at least we ought to get to it.

The staff of the Bitter End suggested that I take one of their fleet of Boston Whalers and do my own diving. But there is a better solution. Call Dive BVI, at the nearby Leverick Beach Hotel. They're about 5 water minutes away and will pick you up on their 35 or 38 foot craft. (Dive BVI, Box 1040, Virgin Gorda Yacht Harbour, Virgin Gorda. 809/495-5513.) Or, when making reservations with the Bitter End, specify Dive BVI and they'll arrange your diving. Unfortunately, I didn't dive with them, but they appeared efficient and our readers speak well of them. Owner Joe Giancinco, a yankee expat, has two locations and has been in the British Virgins for eighteen years. Two morning tanks are \$60.

As for Bert, well, here's a picture I'll never forget. We're anchored dead center of Horseshoe Reef in one of Bert's two dive boats, with whitecaps all around, but dead calm here at the center. Bert's at the stern, white hair blowing in the breeze, commanding everyone's total attention. And, what's the rap? It's the story of the \$50 million-plus, half-submerged (fish in your bedroom) dive hotel that he's about to plant right here. Any day now . . . got it all worked out . . . airfoils, hydros, desalinization plant just over there. . . .

Sure, Bert's entitled to his dreams and reveries. He's earned them. And

he'll spin them out for you virtually any evening in the Bitter End bar. You'll have a great time. You'll like him. I like him. Everyone likes him. But the services he offers are fifteen years out of date. The Bitter End, classy hotel that it is, is failing to serve its diving guests and on that score alone, it doesn't live up to its reputation as a great hotel. But that's no reason not to go. Just ring up Dive BVI.

In the meantime, rest assured, Bert Kilbride will be hanging on to the Bitter End . . . and to the bitter end.

Diver's Compass: Don't ignore the chilled lobster salad at the pool; there you sit, after your morning dives, with lobster and cold cervesas and gorgeous sailboats everywhere. . . . Bitter End Resort, 875 N. Michigan Ave., Ste. 3707, Chicago, IL 60611. 1-809/494-2745, 1-800/872-2392; 1-312/944-5855.

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## *Reader's Reviews; British Virgins*

One of the largest liveboards anywhere, the Aquanaut Explorer, has been touring the British Virgins; in November it was moved to Bonaire and Curacao and replaced with the new sister ship, the Aquanaut Holiday. Our readers found the Explorer a first class ship with sizeable and comfortable accommodations. But the reports on diving are not consistent. The following comments, though about the Explorer, should give a flavor of the Holiday. Nancy and Mike Easler (Lighthouse Pt., FL) says: "Above-average diving. Did not have many large fish but did see several eagle rays on drop off dive. Schools of tarpon. Night dives were great -- morays, orange-cup coral, conchs & crabs. Many anemones, peacock flounder and all tropicals." M.J. Forbes (Fresno, CA) says, "Some excellent dives. The Rhone was great but the Fearless was a real bore -- however, on the wall beside the wreck was a great stand of black coral. We dived off 7 islands." Joanne Zabaldo (Tampa) there last April says, "Better than Grand Cayman, close to Cayman Brac and Cozumel. Better than many Bahamas locations." Paul Prysant and Victoria Blanks (Houston), there in July, write: "First class trip, but overall diving was boring, clearly inferior to Cayman and Cozumel and light years from Australia. We would recommend only for beginning divers who don't know any better." Bob Scott (Agoura Hills, CA): "I am a diver, my wife is a non-diver and snorkeler, and consider the whole cruise package a very pleasant experience. Diving was mediocre. Had I gone to that part of the Caribbean just for the underwater experience and not have it coupled with the cruise, I would have been very upset. I was expecting something like Cayman and for the most part got dull dives, little in the way of marine life and poor visibility. I can recall 5 good dives." (1/800-327-8223; 1-800/432-8894; 1-305/491-0333)

Captain Duncan Muirhead and his wife Annie operate three boats, the Cuan Law, the Lammer Law and the Misty Law. They always get high marks. As S.A. Hudley (Lexington, MA) says of last April's trip: "Misty Law crew sailed and dived according to our wishes at relaxed rate. They like to explore new sites, and many "regular" sites are rarely dived because of wind changes. Variety of dives -- wrecks, drift, rocky, coral, cuts. Sister boat Lammer Law is more spacious. Cabins spacious for a boat, private heads, plenty of fresh water." . . . The Coral Star, says Diane Morton (Lindenwold, NJ) of last February's trip, "is a magnificent boat with a fabulous crew! The boat is luxurious & spacious -- our cabin had queen-size bed, full bath (with tub!), TV, stereo, and more storage space than we needed. The crew was genuinely anxious that we have the best time

possible and anticipated every need -- even needs we never thought of like having a hot towel waiting to wrap around you after each dive!" (1-800/433-7262; 1-305/563-1711). . . . Alan and Eva Baskin have cornered the Tortola market with Baskin in the Sun, located at the Prospect Reef Hotel and serving several other hotels. Says reader Chris McLaughlin of a trip last spring, "The diving ranges from open ocean (the Chizuken wreck, Tiger Mound) to shallow reefs, 10-foot ocean swells to flat water at the shallow reefs (20-40 feet). The divesites are highlighted by their intact living reefs, large diversity of marine life. Divemasters are first-rate and professional." Randy and Darla Highley (Oak Brook, IL) were with Baskin in the Sun in January for the fifth time. "The healthy coral reef serves up a consistent array of octopus, morays, turtles, jacks and a large number of species of nudibranch, in addition to the more common reef animals. At Blonde Rock we dove with a school of a hundred or more horse-eyed jacks, clouds of southern sennett, ocean surgeon fish, a cobia and a huge chubb. With both of us toting Nikonos 5's, we appreciate the proximity of the Rainbow Visions professional photo shop." And John Todd (Marietta, GA): "Great for new divers -- like us -- or older divers (50+) like us who like a lot of help." Phil Bortel (Bowling Green, Ohio) adds: "Reservations made through Baskin get better treatment at the hotel -- even better rooms. We wanted an ocean view room and were told none was available -- while rooms sat empty! Baskin's customers had no problem getting them." (Baskin in the Sun, P.O. Box 108, Road Town, Tortola. 809/494-2858; 800/233-7938.)

C.C., travel editor

## The Edge: Sport Divers' Favorite

### -- But Just How User Friendly?

*Last summer we conducted a survey about dive computers and received more than a thousand responses. In this issue we will report on the Edge, and in the subsequent issues we'll report on other models.*

★ ★ ★ ★ ★

The oldest of modern dive computers, the Edge is owned by nearly 43 percent of the respondents in our study. The Edge and its little brother, the Skinny Dipper, are the most loved while, at the same time, are not without their problems.

Ninety percent of the Edge owners report they are satisfied with their computers, making the Edge the leader in the satisfaction derby. (Eighty-four percent is the average of all *Undercurrent* computer owners.) Seven percent said they would not buy one again and three percent "don't know."

The original Edge units, Orca's Paul Heinmiller told *Undercurrent*, came with the "version 3" program. This program was later modified to include an ascent rate indicator, a change in temperature readout from centigrade to fahrenheit, and modifications in the slow tissue limits. Those units that have been upgraded to this version are called "version 4." Those units that come new with this program are "version 5." The cost of an upgrade is \$85, which includes full servicing. When the unit is turned on, the

version number will light up just below the whale logo.

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*"The obvious advantage the Edge has over its competitors is the graphic display in which 12 pixel bars, representing 12 body tissues, approach a decompression line as the diver approaches decompression circumstances."*

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The obvious advantage the Edge has over its competitors is the graphic display in which 12 pixel bars, representing 12 body tissues, approach a decompression line as the diver approaches decompression circumstances. That feature, above all others, is perhaps why divers still choose the Edge, a heavy and cumbersome device compared to newer computers. As Larry Anderson (Montclair, NJ) simply says, "I'm a graphic diver."

#### Following the Pixels

Most divers never let the pixels hit the no-decompression curve on the face of the meter. For example, Steven Mortell (Marietta, GA) says, "I dive 'The Gap' not the Edge. In other words I try to leave a two pixel gap between all tissue groups and the

decompression line." Gary Wittstock (Wheaton, IL) goes further. "I watch the pixels fall in and make sure I never hit the line. I also watch the scrolling information. I leave 3-5 minutes before I'm maxed out and ascend per the Edge guidelines and take 5 minutes at 10 feet for repetitive dives."

Some divers let the pixels cross the no-decompression line, then bring them back at shallower depths. For example, Anne C. Hyland and Marc S. Lewis (Bethesda, MD) say, "On dives below 100 feet we may let the five and ten minute half-time pixels go beyond the edge but then ascend to shallower depths until all pixels are at least one above the edge. Ascent rates are never faster than 30 feet per minute and we always make a safety stop of five minutes at five meters on dives below 60 feet and two minutes at this depth (minimum) on shallower dives."

For some people, the graphic display is essential to their underwater pleasure. "Because of the graph -- even with aging eyesight like mine -- while narced, I can still read it," says Bob Curran (Kailua-Kona, HI). And Alan Baskin, who operates Baskin in the Sun in Tortola writes: "I like the ability to monitor the 12 tissue loadings and unloadings," which pretty well sums up why many divers prefer the Edge. The Edge is just a little more fun to use.

The functioning of the graph has caused a few minor problems for Edge divers. One reported that a row of pixels "just disappeared" while diving. Another, Martha Bartsch (Pleasantville, NY), said "The Edge said I was ascending too fast, and when I surfaced it said to 'descend now.' My ascent had been *unbelievably* slow and I knew from the pixel on the bottom that I had extra bottom time. I continued to surface." And a third diver, Susie Snowdon (McLean, VA), says, "It was adding pixels for no apparent reasons. I've since had it upgraded and it's behaving fine again."

Other divers, especially working divers, prefer the Edge over many competitors because it permits decompression diving. Bill Hooper, a sport diver from Camarillo, CA, says: "I like the decompression dive information. I've never taken the computer into a decom situation, but if it happens the data may help to prevent problems."

The Edge has not been without its own problems. Of the 389 users who reported to *Undercurrent*, 94 (or 24%) reported that their computer has malfunctioned one or more times during a dive. In some cases it was due to diver error (made easy because of the case design) while in other cases the device itself was faulted.

### Disappearing Display

A number of divers report that for no apparent reason, their Edge just stopped reading out. Says Elizabeth Glass of Mission Viejo, CA, "The com-

### Test of the Edge

In 1987, the U.S. Navy Experimental Diving Unit reported on its tests of early models of the Edge. Rather than test the commercially available algorithm, the Navy reprogrammed it with its own algorithm. The Navy did not approve the Edge at that time, because water leaked into several of the models and oil leaked from the transducers, giving inaccurate readings. Nonetheless, some useful information for today's Edge users came from that report:

Edge depth readings were normally accurate to within +2 feet to 230 feet, but occasionally deviated to +3 feet. The timing of the dives and the surface intervals was very accurate.

The depletion of Duracell MN 1604 alkaline batteries ranged from 75 hours to 89 hours, with an average of 82 hours. (New lithium batteries give several days of power.) The low battery warning had a time range of from 9 hours to 27 hours with an average of 13 hours. After being exposed to 10°F surface temperature and turned on, the alkaline batteries failed after 10 hours. They must be protected from extreme cold.

After being test-dropped from four feet to a concrete floor, the models performed normally.

The NEDU noted that NiCad rechargeable batteries "can develop a 'memory': recharging should only be conducted when the low battery warning has initiated."

puter shut off as I reached the bottom of my first dive of the day. I came up at once and the computer came on again. I changed the battery to the other wires and was OK. Rhonda Kasow (Granada Hills, CA) says, "the Edge shut down then turned back on. It was in its holster so I didn't do it. The dive was aborted and all diving was resumed the next day."

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*"But the battery compartment, itself, has been the Achilles' heel of the Edge."*

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Of course it's impossible to determine the precise reason for the failure in these instances and if anyone experiences such a problem the Edge ought to be returned to Orca for analysis. The Edge switch, however, is sensitive to magnetism; it can be turned off accidentally if brought near the magnets such as those in the magnetic switch in the Pelican Light. But the battery compartment, itself, has been the Achilles' heel of the Edge.

The Edge is powered by a nine-volt battery inserted in a chamber on the back of the device. Inside are two sets of terminals, so when one battery is dying (a



signal on the front will indicate a low battery) another may be installed to keep the device running while the dying battery is disconnected. Alkaline batteries power the Edge for up to 100 hours, while the new lithium batteries give 200 hours -- or eight days. Nonetheless, because the diver must change the batteries himself (unlike many of the newer models on the market which have with battery lives up to five years), there can be problems. Dozens of Edge users reported their battery compartment had flooded for one reason or another. Since it often takes a while for the batteries to short out, a dive can be underway before the display goes blank.

Batteries should not be stored in the computer. Heinmiller told *Undercurrent* that one Edge owner put his away for two years with the alkaline batteries intact. They leaked and corroded the case. The cost

of repair fell on his shoulders, not on Orca's as the user demanded.

### User Unfriendly

As did many readers, William Butler (Naperville, IL) admits his own error: "I improperly installed the O-ring and it flooded. I stayed shallow and relied on buddy's Edge for the remainder of that dive." Jerome Apple (Miami) says that "the battery compartment flooded because I did not tighten the screws enough. I cleaned the computer and started it up the next day -- after a 14-hour surface interval."

When the display goes off, divers select a variety of ways to conclude the dive. When Charles Friesens' battery compartment flooded, he "finished the dive well within time remaining shown last time checked while working." Joseph Garcia (Springfield, NJ) says he "remained on the original dive plan and proceeded to utilize the Navy tables." Gale Anne Gurd (Beverly Hills) said "when it flooded it stopped working on a first dive. Since it was not a repetitive dive, I surfaced before reaching 33 feet and started over." And Tim Walden (San Antonio) reports that the display "went blank at about 70 feet at the end of the dive. I notified my buddy and we agreed to ascend to 20 feet and finish the dive."

If your Edge battery compartment does flood, all is not lost, as John Ridout (Indianlantic, FL) explains: "I flooded my battery compartment by not properly seating the O-ring. Upon return to boat, rinsed and blow dried the unit, replaced the battery and used it successfully for duration of trip. I've since had it factory reconditioned."

Orca struggled with the O-ring leakage problem

## Eels And Alligators

Do eelskin wallets erase the information on the magnetic strips on the back of bank cards, rendering them ineffective when run through automatic tellers or through machines to verify the authenticity of the card? That's what was reported about a year ago in other dive publications and much of the national press. But it just ain't so.

The original story seems to have emanated from an hypothesis by Dr. John McCosker, director of the Steinhart Aquarium in San Francisco, a leading ichthyologist who received his Ph.D. studying eels. McCosker's well publicized speculation that the "colloidal goo" that comes out of the slime glands may be a cause of demagnetization had been disseminated in many national news articles. But further research found a less exotic culprit: the magnetic clasp on purses, checkbooks and some wallets destroys the field on the magnetic tape on the back of a bank card (a similar problem: pass an Edge meter near a magnet and the Edge's magnetic

switch may turn off).

This does not explain why the owners of men's wallets have the same problem. The March issue of *Discover* magazine quotes electrical engineer Keith Morin, whose company, Pacific Test Engineering, studied the problem. "Magnetic strips get ruined all the time," he says. People put their wallets down on TV's, stereo speakers, electronic cash registers -- all sorts of places where electromagnetic fields can damage the cards. Those who own ordinary wallets know the fault lies with them: those who own eel skin wallets think the fault lies with the eel."

For now, eel skin has been exonerated. The *San Francisco Examiner* reported that McCosker admitted he was "another individual caught up in the whirlwind of eel media misinformation." His early hypothesis, he said, has now turned into an "urban myth." Right up there with alligators in the sewers of New York.



from the beginning and, about a year ago, produced a new cover plate to which the gasket is attached. This "high performance gasket," as Orca calls it, is available for \$20 from Orca and can be used on all previous models.

#### Not a Snap

Inside the battery compartment, the snap-like battery connectors have been problematical, as Tom Miller (Royal Palm Beach, FL) found out. "During descent on a 200 foot dive the readout went blank, then went back on. I used my backup depth gauge and watch to complete dive. It turned out that the battery connector was loose." David Cibula (Detroit) says that the "battery contacts bend and can make poor contact. They must be checked regularly."

Richard Nordstrom, President of Orca, told *Undercurrent* that they attempted to use "off the shelf connectors, but they didn't work well." Orca has replaced them with battery clips, which they will install in older models for \$25.

#### Screw Short

"When I changed batteries during my dive vacation, I have shorted out my program. It's very easy to do," reports Helen Frederick (San Francisco). Several other divers have had the same problem. Mark Boyles (New York City) says he "shorted contacts while changing battery and lost all information and had to wait 24 hours for next dive." And Bill Meredith (Houston) says quite succinctly, "Poor design!"

Nordstrom told *Undercurrent* that part of the shorting problem is due to a small screw in the battery compartment, which has been taken out of newer models. Divers with older models need to be careful to keep the connectors away from the screw.

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*"A life-supporting device needs to be designed to minimize human error, and it's here where the Edge falls short."*

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A life-supporting device needs to be designed to minimize human error, and it's here where the Edge falls short. "Advanced electronics and primitive mechanics," says one reader. The result is that many people inadvertently goof, losing the Edge's memory. Robert M. Barbarite (Columbia, MD) admits to an error that more than one Edge user has experienced. "I was replacing the battery with an identical one. I got confused and left the old battery in place. Ran out of power in the middle of my second dive."

Perhaps Honolulu's Joan Farrington speaks most eloquently for all those who have had these problems. "The Edge is one son-of-a-bitch to change batteries on." She has "someone else assist so as not to lose my readings."

Who pays for a computer stopped by a flood? Arden Ann Zalman (Del Mar, CA) says that her "battery compartment flooded and it was fixed at no cost by Orca." But Paula Sachs and Bun Penny (Columbia, MD) said that after a "malfunction of O-ring on their first dive it cost \$65 for cleaning battery compartment. Not very pleasing."

#### Gross Error

In the last issue of *Undercurrent*, on page 12 in the article on dive computers, the following statement appears.

"At least seventy-five percent of the respondents computers was grossly miscalibrated."

Richard R. Nordstrom, the President of Orca, called our attention to the gross error. Several lines of copy had been inadvertently dropped from the text. This is what should have been said:

At least seventy-five percent of the respondents dive fully backed up, but few with systems so redundant as Springfield, New Jersey wreck diver Joseph Garcia, III who reports that he uses: "three depth gauges (two bourdon tube for depth indication, one capillary for decompression stops); one wind up bottom timer; two navy tables (one on my light, one in my tool pouch). I use the Edge as a back-up to the Navy tables. The major use is to guide my ascent, the secondary uses are surface interval timing, maximum depth indication, and back up bottom timing."

Edward Green (Annapolis) uses a depth gauge and bottom timer: "Orca told me that if you can verify your depth and bottom time to be correct, it is almost impossible to have computation failure." Mike Gordon (Sinking Spring, PA) backs up his Skinny Dipper because "I don't have full confidence that the chips in my Skinny Dipper are more stable than my home computer which occasionally goes wacky and needs to be reset." Linda Stough (Kokomo, Indiana) says "if I forget to turn on the Dipper, I still can carry out my dive."

Some people have had problems that confirm their need to back up their computers. A Pennsylvania pair says they have "taken the Skinny Dipper on two live-aboard trips and it failed us both times the first day of diving. We cannot rely on it." And Tim Tye (Dayton, Ohio) was diving at the Brac when one of his buddies' computers "maxed out at 126 feet while his Dacor gauge was pegged at 200 ft. Turned out the computer was grossly miscalibrated."

We apologize for the error and the confusion.

## Suicide Prevention Gear

If the seas come up while the *Cayman Aggressor* is crossing to Little Cayman, while the *Tristar* is on its way to the Sulu Sea, or while any liveaboard is in motion, you might be surprised how many divers aboard consider suicide as a reasonable alternative.

Only if you've been sick at sea, with no way out but to wait for the storm to die, will you understand the depth and breadth of the unrelenting nausea. It is profound.

A lot of divers -- and sailors -- are using Sea Bands as a solution. Worn on the wrist three fingers from the bottom of the hand, they employ accupressure to reduce and, some say, even eliminate the symptoms. A pea-sized button on the inside of the elastic bands exerts gentle pressure on the so-called nei-kuan accupressure point, wiping away the *mal de mer*.

I've packed Sea Bands with me off and on over the years, but can't attest to their effectiveness -- I've not gotten seasick. But I've been impressed with three users I've talked with who swear by them. And I'm equally impressed with the literature Sea bands uses to support its sales, in which a number of individuals attest to the effectiveness. Many people wear them throughout a cruise, while others don them only if they begin to feel nauseous.

The Bands were tested at sea by the British Navy. The Senior Medical Officer of Britain's Ministry of Defence writes of a test of 17 people aboard the *R.F.A. Sir Lancelot* passing from Europe to the South Atlantic.

"The bands were found to be comfortable to wear by users. Eleven people reported that the use of the bands had controlled nausea and sea sickness in them. Included in this total is one patient with a broken collar bone and crushed chest, who was in the hospital for a week, two days of which winds were gale force. He had initially been sick, but never was again after donning Sea Bands. Three people found them effective in moderate sea states, but had to supplement them with drugs in gale force conditions. Three people found them totally ineffective. . . . A double blind trial was not possible because people who found the bands effective were not willing to be without them."

Only you can determine whether Sea Bands can keep you from becoming seasick. A try is cheap enough. A pair is \$16 from Southwest Band Corporation, 400 Australian Avenue, Suite 725, West Palm Beach, Florida 33401. To order by phone, call 407/832-5112, and have your Mastercard or Visa handy.

C.C., travel editor

### Flipping the Switch

Another problem is caused by inadvertently flipping the on/off switch, causing the stored dive data to be lost. R. Harwood (Oak Forest, IL) says that "many times on land the switch will accidentally go off, destroying the data on past dives. Once the switch flipped off during a dive." Lee Godwin (Tampa) says that twice he "removed the unit from the holster and the switch got bumped to the off position." Steve Coran says "the on/off switch was accidentally raised up and my accumulated data was lost. There should be a locking mechanism as the switch need not be raised too far to cause shut down." Joan Earl (Allentown, PA) has her own solution: "Twice during one week when putting it in the holster, the on/off switch got caught and the Edge was turned off. I stayed out of the water for over 12 hours and watched my slow tissue profile. I now tape the switch in the on position when I turn it on." And Arden Ann Zalman reports that "I lost my Edge memory when the switch was accidentally turned off by curious divers -- between dives."

Nordstrom indicated that Orca redesigned the holster last year to help alleviate some of the problem (it can be ordered for \$20). Some minor problems can

be corrected when the unit is serviced, but if the switch itself is faulty the repair tab will run \$66.

### The Electronics

It's interesting to note that few incidents can be attributed to the electronic technology of the Edge. Where the first generation of meters in the early 1970's proved electronically faulty, the real breakthrough of the Edge has been that it has solved most of those problems. Only six users reported such technical problems. Peter Ham (New York) says the "transducer (depth gauge) went wrong by about 20 feet (at 100 feet) so that computer read 80 feet rather than the actual 100 feet. *Nasty* malfunction as the unit kept on functioning with the false reading." Dive shop owner Elmer Munk (Evanston, IL) has had the same problem. "The depth transponder malfunctioned. Dive was aborted and I rented a unit for remainder of the trip. Repairs were quick and at no charge." David Yourish (Boynton Beach, Florida) says that "Oil filled depth transponder leaked. This made the depth gauge read about 20 feet less than actual depth. Computer calculated based on erroneous input. Fortunately I knew the reef well and realized depth was way off. I also knew approx. pro-

file and never was endangered although I could have been." James R. Skow, M.D. (San Luis Obispo, CA) had a similar problem. "The computer's depth gauge was 12 feet off suddenly (I always compare my readings with other divers and with my separate depth gauge). When I came up another diver's Edge said we were OK, but mine read 12 feet deeper." And Susie Snowden (McLean, VA) said that "the Edge told me I was in decompression when that wasn't possible. I've since had it upgraded to the V."

Orca's Paul Heinmiller told *Undercurrent* that one batch of Edge cases were not made to specification, so to use the cases modified transducers were manufactured to fit them. They turned out to have faulty seals.

A few readers reported that their Edge gave them too short a notice when the battery ran low. "I never had a warning of low battery," says Gary G. Wittstock (Wheaton, IL): "this was a shallow dive and I made sure I stayed less than about 40 feet." Walt Schob (Palmdale, CA) says, "I got a battery 'lo' lite and within 10 minutes computer face was blank (book guarantees 4 hours after 'lo' lite comes on)." And Hugh Lynch (Herndon, VA) says that he got "no 'low battery' warning when using a lithium battery." Says Thomas K. Ucnida (Morrison, CO), "There is not enough time indicating a low battery. When the indicator does begin, and it's at night --you will lose all information by morning." And N.E. Blender (Palm Beach, FL) said, "The low battery indicator has never worked."

We reported these incidents to Nordstrom, who said that the only reason he knows that divers would not get a four hour warning would be if they had used a carbon battery, which is not as strong as the preferred alkaline or lithium batteries. If a diver has such a problem with his Edge, he should return it for

servicing. Of course, it is true that if the Lo indicator comes on during the night or on a day when you're not diving, one will miss it. A diver has to keep track of the number of hours his battery has been working and change it before the "lo" indicator.

Paul Marcotte (Virginia Beach, VA) finds that the face "fades somewhat when the unit gets cold and has a weak battery. It returns to full contrast when rewarmed or new battery is installed." Alkaline batteries, according to Nordstrom, are more susceptible to cold. In extremely cold water lithium batteries should be used and they should be changed more frequently.

A few Edge owners such as Roger B. Collins, M.D., (Oklahoma City) reported that the "script began to fade after several years. I sent it back and Orca promptly repaired and returned it."

### Broken Screws

There were other annoyances. Several readers complained that the screws to the battery compartment broke off too easily when being tightened. In three cases, the screws could not be removed from the case and had to be returned to the manufacturer for repair. Jon F. Puryear (Edmond, OK) reports that "a screw holding cap on broke while changing batteries. Had to return my Edge and have pressed in threads removed & replaced. This has happened twice. I now carry a spare cap & screws," he says. "A \$600 machine with 5-cent knurl nuts that pop off when tightening," says Richard L. Pool (Houston).

Nordstrom says that the screw has been beefed up to increase strength and the slot in the top has been made smaller so that only a dime will fit. Nickels and quarters provide too much torque. But the screws are fragile; they should be washed in fresh water, lubricated with silicone grease to prevent corrosion,

## Dacor Regulators' Air Supply May Shut Off, Recall Issued

Dacor Corporation has announced a recall of several of its regulator models. Because of a problem with the second stage regulator demand lever, the air supply could unexpectedly shut off. While not all regulators are affected, it appears that regulators purchased after October 1, 1987 are suspect.

Dacor learned of the problem in through a field report from Japan where a regulator failed in a swimming pool. Subsequent investigation revealed that some demand levers on their regulators do not have adequate corrosion resistance. Corrosion could weaken the lever and cause it to snap, shutting off the air supply.

Dacor has sent shop posters to all of their retail customers, notified owners who have returned the

warranty cards, and alerted the Consumer Products Safety Commission of the problem.

Owners of Dacor regulators should copy the serial number from their regulator, located just below the mouthpiece on the second stage, and call the toll-free number (1-800/233-DIVE). Dacor operators can verify if your regulator is one of those affected by the recall.

If your regulator is affected, it should be taken to a Dacor dealer for retrofitting or sent to the Dacor Corporation: 161 Northfield Road, Northfield, IL 60093, Attention: R-89. If you include a note telling Dacor what the postage is, it will be refunded. There is no charge for this retrofit.

The regulator should not be used until the problem is corrected.

and tightened with care. And extras should be carried: \$2.50 a pair from Orca.

Four users reported that the glass fogged up in colder water or when passing through dramatic thermoclines. Three readers commented that the knob hose clamp on the holster that attaches to the hose comes loose too easily, risking loss.

Although the steel case is solid and strong, one must remember that the Edge is still a delicate instrument and handle it with care. James D. Lakin, M.D. (Oklahoma City) says his Edge "once it lost its repetitive dive data following a hard blow by a tank immediately before a dive." And Charles K. Dahlgren (Daly City, CA) said, "I accidentally dropped the Edge. On the subsequent dive it registered my depth as too shallow by 7-12 feet. Which I confirmed with my other depth meter as well as my buddy's. I did a conservative dive and then used the tables for the rest of the trip."

Finally, the biggest thing going against the Edge is its size. It's heavy -- a pound and a half -- and, compared to the wristwatch-sized Suunto, enormous: about the width, depth, and half again as long as a pack of cigarettes. Many people indicate that their primary reason for switching from the Edge is to get a less bulky device, which is exactly why its little brother, the Skinny Dipper, sells so well. The Dipper does just about everything the Edge does, without the graphics and without the bulk.

#### "The Best I've Seen"

Even so, as we reported earlier, ninety percent of Edge owners would buy it again. Many who wouldn't will remain with Orca and switch to the Skinny Dipper. Says Dorothy Ohmart (Alpena, MI): "I'll probably buy a Skinny Dipper and give my husband the Edge."

Let the users explain why the Edge remains at the top of their list.

"I love the graphics and still consider the Edge (and Orca) to be state-of-the-art and most experienced." (Larry Anderson, Montclair, NJ)

"I know some people who have pushed it to the limits and they have never had any difficulty with it. They have done eight to nine dives in one day because of their job." (Hollie Borbolla, Tampa)

I'm confident about the conservative algorithm and feel the slow ascent rate is important. All the recent table revisions and new experiments seem to support the sound basis of this product." (Murray Chervcover, Toronto)

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*"Ninety percent of the Edge owners would buy it again. Many who wouldn't will remain with Orca and switch to the Skinny Dipper."*

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"High confidence level has been established by being used the longest. The new brands haven't put the time in." (W. Morgan Churchman, Wayne, PA)

"It's the best on the market with the greatest amount of research behind it." (Erin O'Neill, North Hollywood)

"User friendly." (Doug Moore, Los Angeles)

"It's the best I've seen." (Gale Anne Hurd, Beverley Hills)

NOTE: Initially, Orca did not have a recommended servicing period for the Edge. But they have found that salt can build up to the point that it could cause the case to leak. Therefore, Orca recommends that Edge users should have the unit serviced annually. For \$69.95 the unit gets cleaned and calibrated and screws and seals get replaced. For more information about the Edge, for repair, or to purchase parts or upgrades, contact: Orca, 10 Airport Way, Toughkenamon, PA 19374. 215/268-3164 or FAX: 215/268-2267.

## Mastering Underwater Photography

### -- Essential Books For The Serious Student

Anyone who has taken up underwater photography knows how difficult it is to get super shots. To become a consistently good photographer, it takes practice -- which means going through hundreds of rolls of film underwater.

Most of us can't do that. If we're fortunate, we get a couple of weeks in the tropics a year. In four or five years, we might start producing consistently good work.

You can speed up your learning by taking Jim and Cathy Church's week-long underwater photography course at the Sunset House on Grand Cayman. We

reviewed it a few years ago and people tell us it's even better now. You can get more information by writing to Jim Church and Cathy Church (no longer the Churches) at P.O. Box 80, Gilroy, CA 95020.

The next best thing is to make three special books on underwater photography part of your library: the *Nikonos Handbook*, by Jim and Cathy; *Howard Hall's Guide to Underwater Photography*; and *Mastering Underwater Photography*, by Carl Roessler.

The hardbound 166-page *Handbook* is the definitive text on the Nikonos. I don't see how

anyone serious about his camera can function without it.

Unlike earlier Nikonos cameras, the V is stuffed with electronic circuitry. Flood it and you can lose it all. The prepping your camera needs before a trip and before each dive is essential to preserving it, and the 14 pages devoted to that ritual are filled with tips: "after cleaning the battery compartment lid threads with a toothbrush, clean the battery contacts with a pencil eraser." Plenty of good photographs illustrate the techniques.

If you do flood the camera, you might get it functioning by following the advice in a section on repairs. Otherwise, send it to one of the repair shops listed in the back.

A section comparing strobes will be useful to someone buying a strobe, but it's the "how to" chapters that make this book the bible. The "how to's" include how to:

- ★ take sunlight exposures
- ★ use manual strobes
- ★ use auto strobes with remote sensors
- ★ use TTL strobes
- ★ use 35mm, 28mm, and 80mm lenses
- ★ use wide angle lenses
- ★ use close-up lenses
- ★ use extension tubes
- ★ use multiple exposures

Prior to a dive, any basic photographer could read a selected chapter and find techniques to practice or ways to improve the upcoming shots. Take the section on TTL strobes. The strobes, by turning off after covering the subject with the "right" amount of light, take a lot of guesswork out of photography. However, under quite a few conditions they overexpose.

You can push the ASA (ISO) setting on your camera to fool the TTL when you're working with bright sandy backgrounds or with shiny fish. That's good enough for many shots, but the "Church Correction," after having you double the ISO, gives you a couple of other steps to ensure correct exposure. They also spell out ways to deal with overexposures in dark conditions, and how to black out the background to highlight only an illuminated subject.

My only complaint is with its hard cover. When I travel I like to save every ounce I can, so I'm reluctant to take it along. But, if I've been out of the water for awhile, I find I can forget a few tricks I have yet to master. So I carry it as a reference.

*Howard Hall's Guide to Successful Underwater Photography* focuses on the technique of taking good photographs. First published in 1982, it has recently been updated with a chapter on Nikonos TTL photography. Hall's thirteen chapters discuss available light photographs, silhouettes, reflex macro photography, photographing people and similar topics. But what he provides is unique to underwater photography books.

Hall gives us 25 full page photos, many of them just ordinary subjects which you and I could encounter on just about any dive. He explains each element in the photograph and his technique in taking it. Here is what he says about what could have been an ordinary extension tube shot of Christmas tree worms -- except for . . .

"Michelle used a 1:1 extension tube and a single small strobe. Since she used a 1:1 tube, the size of the image of the 35mm transparency is the actual size of the subject itself, a spiral gill worm.

". . . It's not the subject itself that gives this photograph its impact, but rather the way in which she photographed the negative space.

"She chose to shoot the photograph vertically and managed to position the sun at the top of the frame, creating a blue water background. This is not an easy thing to do, since the lens must be very carefully pointed toward the sun to get this effect. Some of her attempts resulted in missing the sun, yielding more typical black background (which, though effective, are not nearly as unique as this photograph.)

"Michelle's exposure was made by holding the strobe very close to the subject -- about 3 inches. She bracketed the exposures positioning the strobe as close as possible, then backing off about an inch and a half, and then backing off another inch and a half. Her middle bracket proved to be the best exposure.

"Camera: Nikonos. Lens: 35mm. Film: KR 64. Aperture: f-22. Shutter speed: 1/60th. Subject distance: 1:1 extension tube (focus preset at 2.75 feet). Camera angle: straight up. Strobe: one small strobe held directly over the subject."

By reading the composition strategy for each photograph, the amateur underwater photography will come away with a wealth of ideas. I've taken this book on half a dozen dive trips, read a few of descriptions at night, and applied an idea or two the following day.

Upon initial examination, Carl Roessler's *Mastering Underwater Photography* appears to be written for beginners -- chapters on equipment, swimming and diving skills, and the role of light will be of great help to anyone just beginning underwater photography.

But Roessler's narrative, anecdotal style makes for an interesting read -- and along the way he offers up a lot of tips that experienced photographers may find useful. For example:

"In Tahiti . . . the coral colonies are squat and strong as a defense against storms, so they offer little shelter. In this terrain you can use the edge of the drop off as your cover. By keeping your body below the coral edge, the animals along the top see only your head and shoulders. My experience has been that they seem less threatened when they only see part of me. . . .

"Turtles will sometimes approach a single motionless diver, I suspect misidentifying the human as

another turtle. . . In two cases the turtles were so determined to discover another turtle that they returned to me several times. I find that holding my breath helps in this modest deception. . . .

"Over the years I have found that big groupers are often quite curious but are sometimes more comfortable if I avoid direct eye contact. These fish have come in to look over my shoulder as I took pictures, only to race away when I turned and looked directly at them. . . ."

For the practiced photographer, Roessler's chapter on working with human models may be the most useful.

"Using colorful diving suits then focuses the eyes quickly on the remaining problem of straps, hoses and gauges. The very first series of pictures of Jessica on a Red Sea trip, for example, convinced us that we had to get rid of the tank's waist strap. When you are after a long, slim body line, the last thing you can tolerate is a brutal black waistband interrupting that effect. You can completely eliminate that strap from the camera's view. The tank is held adequately by the shoulder straps, and the waist strap is secured with duct tape out of sight. Similarly, you can fold the tank pressure gauge and its ugly black hose out of

sight on the side of the body that is away from the camera."

Roessler's 102-page book has several photos, but the essence is his experience during the 20 years and 200,000 undersea shots he has taken. It's a rare chance to tune in to how a master does it.

One can't learn good underwater photography from a book, but these three can answer a lot of questions and provide continuing reference material. There's a lot more room for good "how to" books, especially along the lines of Hall's. For the time being, any serious shooter ought to have these in his library.

*The Nikonos Handbook*: \$22.45 (incl. p/h) from *Undercurrent*, 2315 Broadway New York, NY 10024.

*Howard Hall's Guide to Underwater Photography*, \$15.95 from Marcor Publishing, 2685 Bolker Way, Port Hueneme, CA 93041.

*Mastering Underwater Photography* \$15.45 from Sea Images, 50 Francisco St., Suite 205, San Francisco, CA 94133.

California divers must add 6.5% sales tax.

*Ben Davison*



DEMA released some interesting statistics recently regarding 1,677 full service dive shops in the U.S. In 1987 these shops certified an average of 225 divers (377,000 total) who bought an average of \$626 worth of equipment. New diver purchases accounted for 57% of the revenue of the typical diveshop. Three out of ten divers certified in 1987 were women who, the shops report, are as likely to finish a certification course as are men (though a smaller relative percentage enroll in advance courses). Women buy somewhat less equipment than men, but, DEMA reports, they are the "driving force behind the purchase of new, stylized colors." A substantial part of the inventory of a typical shop comes in color: 54% of the masks, 48% of the fins, 47% of the weight belts, 37% of the weights, and 34% of the regulators. Blue (45%), pink (45%) and red (31%) are the most popular colors, followed by turquoise, black, yellow and lavender. Most stores -- 83% -- carry equipment

specifically for women and small divers, although one out of six retailers report some trouble in fitting smaller divers, especially with wet suits.

People with asthma or diabetes are summarily told not to dive. But new evidence may suggest the contrary. Three researchers at the University of California Medical Center sent questionnaires to 1,745 PADI-certified divers and found nine diabetics and asthmatics, all of whom had several years of diving without accidents. The researchers concluded that "this limited study concludes that in this small sample, asthmatics and diabetics can scuba dive safely. From the above data it appears that the original hypothesis [that asthmatics and diabetics should not dive] should be re-examined in a statistically significant manner." (TS Neuman, AT Powers, and DE Osborne, University of California Medical School, San Diego, CA 92103.)

*Undercurrent editors welcome comments, suggestions, resort/travel reports and manuscripts from readers of Undercurrent.*

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