

## Island of Maui, Hawaii

### *Git there while the gittin's good*

"How," asks Al Haas, of San Francisco, "do you maintain your anonymity after three years in this business?"

"It ain't easy," I answered. Of course we have a couple of other reviewers, including our mysterious East Coast correspondent, but I take the lion fish's share. Only twice after a review have I found it necessary to tell the dive operator of my purpose so as to obtain additional information. Once was in Lahaina, Maui. To which it was now time to return to review the numerous changes. And I wondered whether I would be remembered. Since my certification card had my real name, I could use no phony moniker. I would just have to wing it.

I called Lahaina Divers, a new operation which I was certain would be a safe start, and reserved a seat on their Friday boat. "Your name and hotel?"

"Charlie Clark," I replied. "I'm at the Lahaina Shores. Room 318."

"Charlie Clark! The same Charlie Clark that edits Undercurrent?"

"Undercurrent? Undercurrent?"

"Yeah. You know. The newsletter for divers. You're not Charlie?"

"No, not me. I mean not that Charlie. I never heard of Undercurrents."

"Well, a lot of people haven't. Just thought it might be you. Same name and all."

As I was to learn, awhile back this fellow had worked for Central Pacific Divers, the shop where I had unzipped my mask. Since the next phone call was to CPD, I would have to be more careful. I reserved my seat on the boat as "Crandall Clark," and blanched when I was told, "Don't forget to bring your c-card."

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Two days later I walked into the shop. Recognizing the owner behind the counter, I said I'd like to pay for Wednesday's dive. "The name's Clark."

He thumbed the pages of his log until he came to Wednesday. "Let's see," he mumbled, as he ran down the dozen names. "Here it is. Clark. Crandall Clark."

"Uhhh," I hesitated, knowing he would ask for my c-card, "the name's Charlie."

He stepped back from the counter, squinted, then showed his "gotcha" grin. "I know you. You dove with us, once. Was it a few months ago?"

"Nope. Not me. I was here once before. Maybe five, six years ago."

"Wait. I know," he said, looking more devilish. "Sausalito. Charlie Clark. You didn't have a beard then."

"Well, the name's the same, but I've always had a beard and I'm from Seattle."

"Well, you sure look familiar."

"We all do."

"Sir?"

"People with beards. We all look alike. Just like porpoises. Or mantas. They all look alike, too."

He shrugged his shoulders, not wanting to hear anymore, and took my money.

\* \* \* \* \*

I like Hawaiian diving -- that is, at the right places. Using the Caribbean as a benchmark, one will not find soft corals, brain, antler or elk horn corals, tube sponges, or gorgonia. The setting is not so supreme. But against the backdrop of pale green and brown and grey common corals, the water is alive with the yellows, whites, and fluorescents of reef fish. And many sites are punctuated with caves, arches, and lava tubes. I find it adventuresome diving. Now, three years after my last visit, I wondered if increased tourist trade had left its mark, and if the newer shops were up to the high standards of the old.

Well, two new shops meet my high standards, but let me tell the bad news first. Divers are beginning to leave their tragic trail. Boats of novices daily dive the reefs near Lahaina. I inspected two sites I had dived four years ago which then had shown wear and tear. Today, one is a pile of rubble; the other soon will be. Anchors from dive boats and glass-bottom boats, unskilled divers raising hell, and shop policies permitting resort-course divers to scoop up souvenirs are the reasons for the despoiled reefs.

But experienced divers have long avoided these mediocre sites and headed across the channel to Lanai and Molokini. There, diving remains exciting, yet at some spots at Molokini one can see the swaths cut in the coral from anchor chains of carelessly moored dive boats. At Lanai, where three years ago I could spot at least one lobster, one cowrie, and one lion fish in every dive I made in the caves, I saw none on four dives. A couple of divemasters confirmed that col-

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lectors have taken their toll. Still, I had fine diving. But will that be the case five years from now? Only if the shops and interested divers develop a strong conservation policy. There's not much time.

Central Pacific Divers (780 Front Street, Lahaina, Maui, HI 96761, (808) 661-4661). Located in the heart of town, CPD runs a charter operation from which anyone may take lessons. It's one of the best day-boats anywhere. A cheery staff in this moderately well-equipped shop knows how to persuade divers to join their charters (rather than the charters down the street). And it's a good thing, since many of those other charters are a waste of good money. CPD runs only 3-tank, inter-island charters. The \$55 tab is a bit high by Maui standards (and awfully high by Cayman standards), but it is indeed a quality operation. Their 42-foot dive boat is comfortable, with plenty of room for the 14 divers they normally permit aboard. They depart each morning at 7:30 a.m. and return between 2:30 and 3:30 p.m. On my trip, skipper Ed Robinson gave us a dockside introduction: "There's juice in the cooler and oranges for between dives; behind the curtain is a head; visit me in the pilot house during the trip." During the 75-minute journey, guide Kelly Croke talked with each of us, then arranged buddy teams between strangers according to skills and interests. Upon arrival, he gave us a thorough dive plan, explaining that if we stayed with him we would not have to watch the tables and would not need to decompress during the three dives. If we dived on our own, we were told, we would be responsible for ourselves.

The first dive was to 115 feet for 3-4 minutes, then we worked our way up to 30 feet; the second dive was 60; the third was 35. Each was about the same in scenery and each was enjoyable. At any time I would see hundreds of black-and-white and banded butterflies. On the reef, long-nosed butterflies, ornate butterflies, one-spot butterflies, blue-line butterflies, and masked butterflies are common. Among them, cleaner wrasses worked over a variety of colorful wrasses and surgeon fish. Graceful Moorish idols glided by in pairs. Molokini, now a preserve, is the best spot to view the full splendor of Hawaiian fishes, and it's terrific for fish photography (although when I tried extension-tube photography I could hardly find a subject).

But good diving, to me, requires adventure, the unexpected, the unique. On this day we peered under a ledge and watched a 3-foot white-tip shark swim circles less than five feet away. On the last dive, oblivious to everything but my lens' subjects, I missed the 7-foot white-tip the others observed at close range. (White-tips are commonplace at Molokini, and quite used to seeing divers everyday.) I did not miss, however, the two 5-6 foot mantas which performed their marvelous ballet for a minute or two within fifteen feet of me. What a treat.

Yet, for all the professionalism at CPD, I tender two mild criticisms. Between the second and third dives they offer lunch. Now, when I was a child, my mother often put over on me a single, tasteless, white-bread and tuna/egg sandwich, accompanied by carrot sticks and corn puffs. But I won't let CPD get away with it. For a \$55 charter, I expect lobster, Beef Wellington, and paella; I'd be satisfied with hard rolls, cold cuts, cheese, Maui chips, or anything demonstrating concern for a hungry, suffering diver. One white-bread sandwich doesn't do it.

And I learned the hard way that the CPD boat might not be available if one walks in off the street. For five of the seven days of my stay, the craft was chartered by a dive club; on one of the two days I could not get space, because, I was told, "friends" had been added. I suppose if I ran the shop I'd do the same, but I was disappointed to miss their excellent three-tank trips. If you can't travel with CPD, however, there is at least one very good alternative.

Lahaina Divers (The Wharf, 658 Front St., (808) 661-4505). Ex-CPD guide Blain Roberts opened this shop and hired ex-CPD manager Jon Good. Blain's two-tank trips are \$36 (tank, pack, and weights included), and for an extra \$1 you can use the Scubapro Stabilizing Jacket. He takes six divers in his 24-foot Radon to the same spots CPD visits, but gets there in 1/3 less time, although it's a rough ride through the channel.

At Washrock on Lanai we were greeted with a school of grunts 2,000 strong and, of course, the ubiquitous butterflies. In the surge, tangs and surgeons fed. On an afternoon dive with Blain, we dropped to 140 feet, then rose to 110 feet, and then began to explore the deck of the U.S. Bluegill, a submarine sunk by the Navy in the 1960s for training, but now visited only by sport divers. The 300-foot submarine, in 60-foot visibility, is an eerie and fascinating subject. On this dive Blain anchored a bit too far from the Bluegill and, on ascent, guide John Smead missed the anchor line, and the stiff current carried us a couple hundred yards from our boat; Blain quickly motored over to pick us up. That's not the first time that's happened to me at the submarine; it can be a tricky dive.

On my dives with Blain he provided excellent dive plans and personal service. He usually leads the tour underwater, but Smead, an owner of the shop, who lives in Los Angeles, led these tours. A number of novices who had dived with Blain said he is a conscientious, gentle, and competent guide. When discussing the only other Lahaina shop that runs inter-island charters -- Blue Waters Divers -- one local said: "There's a simple difference between Blain and those guys: Blain cares."

Blue Waters Divers (Whaler's Market Place, (808) 661-8621). And, indeed, the quality of caring makes the difference. Blue Waters runs to the same spots as CPD and uses a boat similar to Blain's. There the similarities end.

On the two-tank dive to Lahaina we departed from the wharf with barely a word from Bill, the skipper and co-owner, and heard little from him after that. He devoted his attention to the NAUI executive aboard. Our first dive was at a site shallower than the second; he made no effort to help us with our gear, and, although he had no information about our dive skills, he made no effort to lead us or check us out underwater. The tanks were pumped to 2100 psi. One fellow brought up several live shells. Bill grunted. The speedy ride home was wet and chilly.

To be fair, I decided, I must dive again with these folks. Although they were headed to the reefs along Maui -- which are never very interesting -- I went along. The day before, I was told by a staff member, the dive boat had departed two hours late because someone had failed to get gas the previous night. This day, as I checked with the shop two hours before the 11:30 departure, I was told we might leave as much as two hours late: "The owner has taken the boat to Molokini to play." Another boat was found, but still we left an hour late, after sitting aboard the uncovered boat for 15 minutes waiting for back packs to arrive -- in a tropical downpour. At the site I asked guide David why the shop filled their tanks to only 2100 psi. His answer: "Because we use them everyday, we have to stay at 2100 or they'll stretch." Not a bad joke, but I think he was serious.

After dropping his weightbelt on my strobe, which was resting on my dive bag (he repeated the same act between dives), David gave a brief dive plan, and, repeating what we had heard in the shop, he said, "We're gonna give you guys a good dive here." I've never had worse. The first was a dying reef with a few hearty tropicals of interest only to people who have never dived before; the second was a dead reef of interest only to marine biologists documenting death. Unfortunately, shops like this will always survive because enough unsuspecting tour-

ists who don't read Undercurrent stumble in off the street and buy the rap. I can't imagine that many return.

Kihei Sea Sports (Kihei Town Center, P.O. Box E, Kihei, 96753; (808) 879-1919). Kihei is a new and developing resort area about 35 minutes from Lahaina and much closer to the airport. NAUI Instructor Orley Paxton has opened a full-service shop and runs charters out of Buzz's Marina, about 20 minutes by car from Lahaina. If you're staying in Kihei and have no car Paxton will pick you up. His inter-island charters can visit nearly every spot frequented by the Lahaina shops, but he also has access to many seldom dived spots south of Kihei. On my two-tank trip we dived two pinnacle reefs located about a thousand yards off the Maui coast. I found the dives quite interesting. Maximum depth was about 90 feet and the pinnacles rise to about 30-40 feet. The coral here was as virgin as I've seen in Hawaiian water, attesting the few dives made. The normal range of tropical fish was present, but the highlight of the dive was four turtles in shells at least four feet long which must have weighed from 500 to 800 pounds. As they rested in sand valleys between the reefs, I was able to approach to within six feet for head-on photography. These were good Hawaiian dives, and at \$25 for two tanks (\$35 inter-island) the price was indeed right.

Jared Simons ran the boat and Jack McAllister assisted; we received good plans, plenty of help, and the freedom underneath to do our thing. The 26-foot Radon was large and comfortable for six divers, but it was without a ladder. Jared said the ladder was being repaired. A temporary substitute would have been more than welcome by all of us who had to struggle into the boat in rough water. However, my biggest complaint was that at the beginning of our second dive I saw two 25-pound jacks, which seemed to live on the reef and showed little fear; at the end of the dive, one was in the boat dead, a spearhole in the side of its head. Why a shop permits spearing on its trips at its prized reefs is beyond me. What can they say to the person who collects shells; what can they say to the hunter who pursues the turtles for soup; what will they say when in two years we return to write that the coral is still virgin, but the big fish are gone?

Orley, you've got a fine operation and a fine staff. But lay down the law.

Bob Lovelette, Beach Shack, Kaanapali Beach Hotel. Diving through the large rooms in the cathedrals at Lanai, allowing the surge to shoot you through the tight holes in the wall, is indeed a thrill. Yet for people who haven't been in the water for awhile or who have been in open water, many Hawaiian dives might seem a bit frightening. Two certified novices were overwhelmed on the submarine dive, for example, and didn't complete it. One (who claimed to have no problems clearing) discovered, when he realized he could not see the bottom and felt the current tug, that he couldn't clear his ears; his wife made it to the submarine deck but burned up 1400 pounds in the 90-foot descent and turned right back for the surface. Most Maui shops offer warm-up dives, but our friends have always found the tutelage of Bob Lovelette among the best to overcome first-dive fear. Lovelette, a NAUI and PADI instructor, will take you off the beach on a decent little dive and guide you gently through waters with light current and moderate surge. He's a competent and helpful fellow who understands pre-dive jitters, and he'll get you off to the right start. One need not be staying at Kaanapali to employ Lovelette's services.

Accommodations, food, and other essentials: Lahaina is as good a tourist town as you'll find, but the folksy charm of just a few years ago is rapidly giving way to modernization and commercialism. Three miles from Lahaina, the beach at Kaanapali is excellent. The modern, comfortable hotels, with plenty of nearby tennis courts, golf courses, and other diversions for the non-diving family, including fair beach snorkeling, begin at \$35/double. In Lahaina, \$20 will

get you a double at Lahaina Luna, but expect nothing more than a bed. For \$37/double, a room at Lahaina shores includes a kitchen, which on Maui is useful since most of the restaurants couldn't earn three stars in Dubuque. The Lahaina Shores is only 2 blocks from where the dive boats load, so you needn't rent a car if you lodge there. Perhaps the best bet for accommodations is to rent a condominium. Your travel agent can help you, but if you look under vacation rentals in national magazines or West Coast newspaper classified-ad sections, you may find condos going for as little as \$200/week, double occupancy. Some deals include a car, which otherwise can be rented for \$12.50/day, no mileage charge.

So, have a nice stay on Maui and feel free to tell the people that Charlie Clark sent you. You won't be blowing my cover, since that's not my real name anyhow. And since no one checked my c-card anywhere in Lahaina, I could just as well have used any name.

## Critique of World-wide Dive Sites

### — Readers update

Twice yearly we publish an update of world-wide dive resorts, based upon readers' comments, our own observations, and letters from resorts themselves. Individuals subscribing to the April, May, and June, 1977 issues received the basic information, which we have periodically updated. The same information also appears in the one-volume, 12-page Critique of World-wide Diving. This is our latest update:

Belize, Lighthouse Reef: Superb and unlimited diving; plenty of tropicals and big fish among the virgin coral; fish and lobster taken for dinner; beachfront tents outfitted with 4-inch foam mattresses, and your own sheets or sleeping bags. Readers report no bug-bites during this "roughing it" vacation. For a week, \$550 plus two nights' hotel tab for arrival and departure. Lighthouse Reef Expeditions, P.O. Box 1249, Turlock, CA 95830, (209) 634-1133.

Canary Islands: H. Schwarte, of Key Biscayne, FL, writes of great caves and ledges at Ten Bel, Terife, Canary Islands, but not much in the way of fish and coral. "To find the dive shop ask for 'Disco Snoopy,' which it's called."

Colombia, San Andres Island: Reader R. E. Hicke found abundant tropicals and decent underwater-scenery diving with the beachfront shop at the Grand Hotel, but "hardly anyone spoke English, making communication everywhere difficult."

Cruises: Impossible Dream (Bahamas). In the last update we reported dissatisfaction, but several subscribers now report good diving at many virgin sites, good food and accommodations aboard, and an amicable crew. For information: Seaventures International, P.O. Box 1262, Melbourne, FL 32901, (305) 723-9312. Virgin Islands: Dr. John Kihm, from Kalamazoo, writes: "The more I see what you print, the more I realize that we have found the best diving in this hemisphere for the most reasonable price. This July we made our third trip on the Bonaventure, a 50+ foot motor sailer. The \$55/day tab includes tanks, weights and air, three generous meals, and all the booze you can tuck away. The diving in the Virgin Islands is really quite good." Write: Captain Manfred Zerbe, Ocean Enterprises, Homeport, St. Thomas, VI 00801. Or call: (809) 774-5630.

Grand Cayman: Underwater photography courses run by Jim and Cathy Church at Spanish Bay Reef continue to receive high marks from students. The hotel is undergoing management changes, now that Lach MacTavish has extricated himself.

For information write Jim and Cathy at P.O. Box 80, Gilroy, CA 95020.

Grand Turk: Our April, 1978 review of Phil Pruss' operation on Grand Turk prompted letters from several people. Here are condensed versions of a few:

"I've been to Grand Turk, and the reefs, water, people, hotels, meals, and Phil Pruss and his operation are as stated in your article, but you failed to mention Paul Hudson, who is a fine dive guide. Hudson owns Underwater Research, has two dive boats, 40+ rental tanks, and has been there for two years. Your ignoring him clouds your credibility." (Jim Maletto, Johnsonburg, PA)

"We took the dive package offered by the Kittina Hotel and Underwater Research, but not without a little worry because this was not in your pages. It turned out to be a very pleasant experience. We dove every day with Paul Hudson and found him friendly, helpful, competent, and without an overblown ego. You owe your readers an apology!" (Michael Stewart, Houston, TX)

"Great people, fantastic visibility, easy diving, really an ideal place for serious divers to vacation, but didn't see any big fish. Salt Raker Hotel is wonderful, Hotel Kittina is the pits -- terrible food, noisy all the time. After two miserable days we left, forfeiting our package deal, when we learned that their divemaster Paul was off at Pine Cay. We had to find someone to take us. Fortunately we found the remarkable Phil Pruss." (Capi Peck, Baton Rouge, LA)

"More big fish than Grand Cayman, but better sponges and coral on Cayman. Grand Turk wall was fascinating -- seemed to have more caves and overhangs. A fantastic dive vacation." (Steve Black, Shaker Heights, OH)

"Yes, Phil Pruss does make himself available every night, so much so I felt just once I'd like to be left alone to enjoy the other people I was meeting. I cruised the drop twice a day for six days and saw not one big anything. I rate Turk in the same category as Anthony's Key. Food, company (when I managed to shoo off Phil), and hotel were fine." (Felix Vivas, Newport Beach, CA)

To this, the writer of our review has written the following:

I pledged in my April review of Grand Turk that I would return. Return I did this past June. My feelings have not changed, although some of the underwater vistas have. Fish wait for no man. Where last December I saw mantas and large groupers each day, during these two weeks I saw but a single manta, a single lemon shark, a single nurse shark, and a few large jacks. But this time I visited "Coral Meadows," a pinnacle reef two miles out to sea which can seldom be visited or even sighted because of rough water. Here, on two tanks with Phil Pruss, I saw half-a-dozen skittish six-foot black-tip sharks move in and out of a beautiful coral reef, watched a dozen porpoises dance about, and spotted a lobster so large it couldn't find a hole big enough to fit in. It was a magnificent dive.

I stayed at the Turk's Head, which has cleaned up its grounds and cut down the noise since my last report. The owner and staff here -- just as at the Salt Raker -- are pleasant and helpful folks who know how to make a stay enjoyable. I cannot say that about the Hotel Kittina, where I found the staff somewhat unfriendly and occasionally discourteous. I prefer lunches at the Kittina, but dinners are barely suitable. Pruss now offers a package of lodgings at either the Salt Raker or the Turks Head for 8 days and 7 nights, hotel transfers, all meals, and two tanks a day for \$456. You can eat dinner at either hotel, regardless of where you lodge. The Kittina has a dive package, but it requires that you eat meals there; diving is with Paul Hudson.

During my first trip to Grand Turk, I did not know of Hudson's operation until several days after I arrived, when I learned of it from a dinner companion. He reported that Hudson had agreed to provide his sons with scuba lessons, but then Hudson failed to show up on three different occasions, which I witnessed. My friend was livid. Hudson, I learned, was taking out fishermen. I decided not to dive with him and not to write about him. On this trip I returned to dive with Pruss, although I observed Hudson's operation one day and it seemed perfectly acceptable.

Reservations can be made through the Caribbean Information Office, 7777 W. Talcott, Chicago, IL 60631. An operation which calls itself the Hotel and Reservations Information Center in Coral Gables, Florida, apparently favors the Kittina Hotel and may not have accurate information about bookings at the other hotels throughout the Turks and Caicos Islands.

Nassau, Bahamas: Bob Lessman, of Sacramento, CA, telephoned all the shops in Nassau and decided on Underwater Tours, Ltd. His trip was a disaster: "Tanks were rusty and valves corroded. The crew and guides were drinking grape juice and Jim Beam on the way out. Our guide swam above us and herded us along the rapturous depth of 20 feet. One obese diver, who had claimed to be the world's best, had to return for a second, then a third tank during this 45-minute dive. I was annoyed at being herded like cattle, and was ready to call it quits, when the guide went streaming past me with his cocked Hawaiian Sling and speared a lobster under a rock."

Negril, Jamaica: Zig Zigahn (Rye, NY) complained that our review (September, '78) was too positive and wondered if our reviewer were into Jamaican herb. To restate our review: The diving was average Caribbean reef diving, with small tropicals, no big fish, no walls, decent coral and sponges, not much excitement. A beginning diver will find acceptable scenery in a beautiful vacation setting, but for an experienced diver boredom will quickly set in. Zig thought the food was adequate; our reviewer thought it much better; Zig couldn't get into the Negril Beach Village; our reviewer partied up a storm. Reefs' inhabitants change, meals change, management changes. What we found in July, Zig did not find in May. We still stand by our report.

Panama: Cornelious Van S. Roosevelt (Washington, DC) reports Moody's Pider-tupo Village as a picturesque retreat with enough diving sites "to keep us completely happy. Fish life was abundant, as were the variety of sponges and hard and soft corals." This resort, with thatched huts, fine meals, and good diving, is located on its own island, which can be circumambulated in ten minutes. Write: Hans Ebbensten Travel, 55 W 42nd St., New York, NY 10036.

## Deep Water Rescue

### *Two techniques to bring 'em back alive*

A diver who has embolized, who has had a heart attack, or who is near drowning may arrive at the surface alive, but not breathing. He can be a minute or two away from death. Unless a boat or the shore is just a few yards away, there may be no way to save his life other than performing resuscitation in the water until the victim can be pulled into the boat or towed to shore.

In some diver-certification classes, mouth-to-mouth resuscitation is taught, but in-water resuscita-

tion is seldom taught, and often not even discussed. In fact, two techniques may be employed to breathe life into a dying diver: mouth-to-mouth and mouth-to-snorkel resuscitation. Each is important to know, and this brief description may help you, someday, save the life of a buddy.

#### **Mouth-to-Mouth Rescue Breathing**

*Step one:* Put your arm around the victim's neck.

Grasp the victim's chin, and lift his face upward. Turn his head and, using your free hand, pull down the corner of his mouth to let any water run out.

*Step two:* Hook the same free arm over the victim's near arm beneath his back, using the back of your hand to support his neck and head.

*Step three:* Release the chin, pull and tilt the diver's head back by pressing the heel of your hand on his forehead, to open his airway. Then, pinch closed his nostrils with your thumb and forefinger.

*Step four:* Turn his head and body toward you.

*Step five:* Seal your mouth over his and blow. Lift away slightly while he exhales and you inhale, to avoid dripping water in his mouth, then seal your mouths again and blow.



**TO PREPARE FOR MOUTH-TO-MOUTH RESUSCITATION, SLIP ONE HAND UNDER THE VICTIM'S ARM AND SUPPORT HIS NECK WITH THE BACK OF YOUR HAND. PINCH HIS NOSTRILS WITH YOUR FREE HAND.**

In conducting mouth-to-mouth rescue breathing in deep water, these points are important to remember:

★ The victim's primary and immediate need is air. Before you struggle to get into position or manipulate his or your gear, you should give the victim at least four quick breaths, but even one may help immediately.

★ Turning the victim's head and body toward you allows you to seal your mouth over his without lifting your head high out of the water. Should you drop below the surface, you can still blow if the mouth-to-mouth seal is tight.

★ Your mouth should be pressed tightly over your victim's lips and the seal kept tight while blowing to fill his lungs. If you feel a blockage, tilt his head farther back. If water is in his lungs, blow harder to overcome the effect of the water.

★ If the victim vomits, stop and clear his mouth of any matter.

★ A second or third rescuer can be used to support the victim and to push him toward the shore.

★ Provide sufficient buoyancy for you and the victim by dropping weight belts and inflating vests. However, if both vests are fully inflated, and perhaps even if only one is, you may not be able to get close

enough to make good contact.

## **Mouth-to-Snorkel Rescue Breathing**

*Step one:* Begin with the chin pull, as in mouth-to-mouth, holding your victim's head against your chest. Your free hand can control the snorkel.

*Step two:* Clear the water from your snorkel by letting it run out or by blowing it out. You may need to bend the snorkel tube or rotate the mouthpiece so the tube end can be kept out of the water.

*Step three:* Release your fingers from the chin pull to receive the snorkel mouthpiece between your middle and ring fingers, but keep control of the victim's head by holding it tightly between your wrist and your chest.

*Step four:* Press the snorkel flange over the victim's mouth, making sure your fingers press tightly down all the way around the snorkel flange.

*Step five:* Seal his nose with the thumb and forefinger of one hand.

*Step six:* Place the tube end of the snorkel in your mouth with your other hand and blow. Then remove the tube from your mouth to allow the victim's air to escape. Continue blowing and releasing as you tow the victim to safety.



**WHEN PRACTICING MOUTH-TO-SNORKEL RESUSCITATION, HAVE YOUR "VICTIM" DISPLAY THE OK SIGN TO ENSURE HIS SAFETY DURING PRACTICE.**

In conducting mouth-to-snorkel rescue breathing in deep water, these points are important to remember:

★ With each breath fill the victim's lungs completely; work rapidly but don't inhale his exhalation.

★ A near-perfect seal will result if the snorkel flange is inserted between the victim's lips and teeth, but don't waste time struggling for the perfect seal. Even if some air escapes, the victim may be getting sufficient air.

★ If the seal is imperfect or if the victim's nostrils are not pinched shut, you may feel the air escaping around your fingers or notice a lack of pressure built up as you blow. If you feel an air blockage, tilt the victim's head farther back or blow harder to overcome the effect of water in his lungs.

★ If the victim vomits, wash out the snorkel and mouth and start over.

★The best snorkels for mouth-to-snorkel resuscitation are either flexible or have swiveling mouthpieces which permit the snorkel to be positioned properly.

★If you use a snorkel attached to a mask, don't waste time trying to separate them; just allow the mask to dangle.

### Practicing Is Important

Because both techniques require skill, the unpracticed diver may not be able to employ them successfully in an emergency. A prepared diver will practice these with one or more buddies first on land, then in shallow water, then in deep water wearing full scuba gear. Getting the snorkel to seal requires practice; getting proper buoyancy requires practice. It would be tragic to lose a victim — a close friend — just because the techniques had not been practiced.

### Which Technique to Employ?

The method used is up to the individual and the water conditions. With mouth-to-snorkel you can't see your victim as well or tell whether he is breathing or vomiting, so occasionally between breaths check his face. Also, because some snorkels don't work well, one may find it necessary to employ mouth-to-mouth. However, with mouth-to-snorkel you will be closer to being parallel to the surface, and therefore less likely to be swamped by waves.

With mouth-to-mouth the sea's motion may have

an effect. You may be able to avoid flooding the victim by holding him on the leeward side, turning his head away from the waves, timing his breaths with them, and covering his mouth before a wave breaks.

Therefore, it's important to learn both techniques well. One woman trained in both found her buddy not breathing. She began with mouth-to-mouth but inadequate flotation and two-foot waves hindered her. She quickly switched to mouth-to-snorkel and gave him air during a five-minute tow to the boat. On board he started breathing on his own.

Deep-water rescue cannot be properly learned by reading. On your next dive, or in a practice pool session, work on the techniques. Your skills might someday save the life of your buddy. Or someday your buddy's skill might save you.

### A Film From The Author

This article was condensed from a manuscript written by Al Pierce, a NAUI and PADI Instructor and a Red Cross Water Safety Instructor and Instructor Trainer. You may order the 12-page manuscript, illustrated with several drawings, by sending \$1 to Pierce at 663 Parkview Blvd., Yeadon, PA 19050.

Pierce has also produced a ten-minute 16-mm. color training film entitled *Deep Water Rescue Breathing*. It may be rented by dive clubs, dive shops, instructors, or other individuals for \$15 for three days. Full purchase price is \$110. To order write Pierce Productions, P.O. Box 1037, Westford, MA 01866.

## Train Women Divers

"I wish she would learn to dive, but she's just plain chicken."

It is not uncommon to hear a male diver voice that opinion, whether about a wife or about a ladyfriend, but the problem is less often that the lady is a chicken than that she views herself in such a traditional sex role that her willingness to step into a "man's world" is inhibited.

Or consider a woman who has had a near-drowning experience. Or another who can't free-dive without scrambling and clawing for the surface. Or one whose first underwater experience was being tossed overboard in full scuba gear with no explanation, while her "teacher" rowed to shore.

Make scuba divers out of these women? Ten years ago, not a chance. But today courses designed for women who might feel inhibited in a conventional

### *Techniques may differ*

mixed group are producing safe and competent women divers.

One asks, why a course for women only? Obviously, males who suffer from similar limitations could well benefit from a course designed to meet their special needs. However, due to the stereotypical roles which men and women play in our society, women more often than men behave in a dependent rather than in a self-reliant manner. They often need a push to change their self-images and become safe, conscientious divers who think for themselves.

Although attitudes are rapidly changing, the sport has long been viewed as an activity more suited to the strong, mechanically minded male. Most women have been taught that to be mechanically inclined is not feminine, and that to lift heavy equipment is man's work. Although these learned responses are

continued on page 13

# Undercurrent Travel Data Bank

## Response Requested

Have you taken a dive trip to some famous dive resort recently and found it didn't meet your expectations? Have you discovered a new dive resort or location that other divers might be interested in reading about? If you have taken any tropical trip in the last six months, we'd like to hear about it. Your reports will be used to update our world-wide review of diving and appear in future issues of Undercurrent. Won't you take a moment and evaluate your last trip for us?

Location being evaluated \_\_\_\_\_

Date of your trip \_\_\_\_\_ Hotel \_\_\_\_\_ Dive shop \_\_\_\_\_

Would you return? \_\_\_\_\_ Did you get your money's worth? \_\_\_\_\_

### criteria:

### evaluation: check the item closest to your impression:

fish size	<input type="checkbox"/> large ones plentiful	<input type="checkbox"/> a few big ones	<input type="checkbox"/> too small to eat
tropical fish	<input type="checkbox"/> abundant	<input type="checkbox"/> not bad	<input type="checkbox"/> sparse
kinds of tropicals	<input type="checkbox"/> impressive variety	<input type="checkbox"/> fairly interesting	<input type="checkbox"/> common ones only
coral	<input type="checkbox"/> plenty and colorful	<input type="checkbox"/> o.k.	<input type="checkbox"/> kind of a bore
sponges, gorgonia . . .	<input type="checkbox"/> very nice	<input type="checkbox"/> pretty average	<input type="checkbox"/> not much
caves, ledges . . .	<input type="checkbox"/> good variety	<input type="checkbox"/> some of interest	<input type="checkbox"/> none worth diving
wrecks	<input type="checkbox"/> exciting	<input type="checkbox"/> worth a tank or two	<input type="checkbox"/> none
sharks	<input type="checkbox"/> a couple for fun	<input type="checkbox"/> none	<input type="checkbox"/> too many
spearfishing	<input type="checkbox"/> all you want	<input type="checkbox"/> a few possibilities	<input type="checkbox"/> none or prohibited
shelling	<input type="checkbox"/> excellent	<input type="checkbox"/> o.k.	<input type="checkbox"/> none or prohibited
snorkeling	<input type="checkbox"/> some of the best	<input type="checkbox"/> not bad	<input type="checkbox"/> nothing to see
photography	<input type="checkbox"/> top possibilities	<input type="checkbox"/> average	<input type="checkbox"/> nearly a bust
water temperature	<input type="checkbox"/> no wet suit needed	<input type="checkbox"/> wet suit top needed	<input type="checkbox"/> full suit useful
visibility	<input type="checkbox"/> 90 ft. or more	<input type="checkbox"/> 50-90 ft.	<input type="checkbox"/> less than 50 ft.
rated for advanced	<input type="checkbox"/> terrific	<input type="checkbox"/> o.k.	<input type="checkbox"/> go elsewhere
rated for beginners	<input type="checkbox"/> terrific	<input type="checkbox"/> o.k.	<input type="checkbox"/> go elsewhere
guides for good divers	<input type="checkbox"/> top-rated	<input type="checkbox"/> acceptable	<input type="checkbox"/> lousy
guides for new divers	<input type="checkbox"/> top-rated	<input type="checkbox"/> acceptable	<input type="checkbox"/> lousy
diving frequency	<input type="checkbox"/> 3 or more tanks/day	<input type="checkbox"/> 2 tanks per day	<input type="checkbox"/> one per day
night diving	<input type="checkbox"/> frequent	<input type="checkbox"/> 1-2 times/week	<input type="checkbox"/> none
boat diving	<input type="checkbox"/> two tanks under \$20	<input type="checkbox"/> \$20-\$30 for two	<input type="checkbox"/> over \$30 for two
beach diving	<input type="checkbox"/> as good as the boats	<input type="checkbox"/> fair possibilities	<input type="checkbox"/> no way
dive shop manager	<input type="checkbox"/> a great person	<input type="checkbox"/> just does the job	<input type="checkbox"/> a real bastard
air quality	<input type="checkbox"/> no problems	<input type="checkbox"/> I wondered	<input type="checkbox"/> I worried
air fills (check two)	<input type="checkbox"/> 3000 psi	<input type="checkbox"/> 2250 psi	<input type="checkbox"/> short-changed often
new equipment	<input type="checkbox"/> full range available	<input type="checkbox"/> limited range	<input type="checkbox"/> come fully prepared
rental gear	<input type="checkbox"/> everything you need	<input type="checkbox"/> tanks, wt. belts . . .	<input type="checkbox"/> bring everything
repair capability	<input type="checkbox"/> can handle anything	<input type="checkbox"/> some repair capacity	<input type="checkbox"/> pray nothing breaks
hotel food	<input type="checkbox"/> gourmet	<input type="checkbox"/> surely acceptable	<input type="checkbox"/> ough
nearby restaurants	<input type="checkbox"/> must try	<input type="checkbox"/> adequate	<input type="checkbox"/> better off fasting
luxury accommodations	<input type="checkbox"/> indeed luxury	<input type="checkbox"/> o.k.	<input type="checkbox"/> far below par
moderate accommodations	<input type="checkbox"/> surprisingly good	<input type="checkbox"/> o.k.	<input type="checkbox"/> terrible
car needed	<input type="checkbox"/> of no use	<input type="checkbox"/> only for touring	<input type="checkbox"/> a daily must
nightlife	<input type="checkbox"/> swinging	<input type="checkbox"/> enough	<input type="checkbox"/> dead
action for singles	<input type="checkbox"/> a paradise	<input type="checkbox"/> if you're a mover	<input type="checkbox"/> bring your own
other divers around	<input type="checkbox"/> all over the place	<input type="checkbox"/> a few	<input type="checkbox"/> hard to find a buddy
locals	<input type="checkbox"/> helpful, friendly	<input type="checkbox"/> no complaints	<input type="checkbox"/> hostile
weather	<input type="checkbox"/> great everyday	<input type="checkbox"/> o.k.	<input type="checkbox"/> many bad days
package deal	<input type="checkbox"/> the best way to go	<input type="checkbox"/> seemed o.k.	<input type="checkbox"/> better off without it

Comments:

Location being evaluated \_\_\_\_\_

Date of your trip \_\_\_\_\_ Hotel \_\_\_\_\_ Dive shop \_\_\_\_\_

Would you return? \_\_\_\_\_ Did you get your money's worth? \_\_\_\_\_

**criteria:**

**evaluation: check the item closest to your impression:**

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shelling	<input type="checkbox"/> excellent	<input type="checkbox"/> o.k.	<input type="checkbox"/> none or prohibited
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car needed	<input type="checkbox"/> of no use	<input type="checkbox"/> only for touring	<input type="checkbox"/> a daily must
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package deal	<input type="checkbox"/> the best way to go	<input type="checkbox"/> seemed o.k.	<input type="checkbox"/> better off without it

Please compare this trip to other resorts you've been to, and add any additional comments:

PLEASE RETURN THIS TRAVEL DATA BANK SURVEY TO UNDERCURRENT,  
P.O. BOX 1658, SAUSALITO, CA 94965

Name \_\_\_\_\_

Address \_\_\_\_\_ Telephone Number \_\_\_\_\_

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

diminishing, many residual effects of the traditional male/female role-playing carry over to either prevent females from learning scuba altogether, or, what may be even worse, cause them to become dependent divers who rely on their buddies to heft the loads — and to make the decisions.

Decisions in diving involve such things as the location of the dive, the proper response to water conditions, the depth and time of the dive, the figuring of timing for subsequent dives, and what to do if the unexpected occurs. If a woman has learned to rely on her male buddy to make the important or "technical" decisions, she may not, depending upon the judgment of her buddy, always find herself on the right side of safety.

An article by Dale Cyphert, "Buddy Pairs: Cultural Traps for Unwary Females," appearing in the *Proceedings of the PADI Women In Diving Seminar*, supports the theory that training in a typical scuba course tends to be filtered through a woman's perspective of herself in her traditional role. Cyphert states: "Facets of the 'typical' scuba course aggravate social circumstances to result in poorer training for female than for male divers, weaker motivation for female students, and ultimately a higher drop-out rate among divers." Cyphert contends that "male-female buddy pairing in classes could result in poorer female divers." Because of a male buddy's assistance in hefting gear, navigating through a rough surf entry, or resting on a long swim, the female student, although she may actually be a competent diver, may finish the class lacking assurance and be willing to dive "only when male buddies 'take' her diving."

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*"Male-female buddy pairing in classes could result in poorer female divers."*

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Impaired communication can result from using male-female buddy teams in teaching. If a woman consults her buddy before she consults the instructor on a problem, she may find he responds by providing the information as *he* sees it, rather than admitting that *he*, also a novice, is equally befuddled.

Cyphert says another problem stems from the self-image of the traditional female. Cultural pressures work against the development of a "competent novice diver" image among women, says the author. Because of her fewer chances to lead, make decisions, or feel responsible for her buddy, and because of her reluctance to compete aggressively as a student, as opposed to seeking approval and cooperation, the traditional female is more likely to label herself as a "person who has taken scuba lessons" or as "an apprehensive beginning diver."

The key to overcoming these traps in a scuba

course is sensitive, expert training, geared to the individual problems of each student. Because some women may have special problems, an all-woman scuba course can offer the ideal climate for the development of "competent novice divers," regardless of the background of the student.

Annette Donner, an experienced dive-tour leader and NAUI instructor who lives in Guam, is one person who is developing and teaching courses for women only. When Donner began, she had no idea that in addition to the "cultural trap" problems she would be taking on a whole range of physical and mental limitations which meant backing up to the very beginning of getting acquainted with the ocean. A pre-scuba snorkeling class was offered to bring the students to feel comfortable with beginning on scuba. Donner, who has certified more than 300 divers, states: "Actually, the physical limitations, such as poor snorkeling or other water-skill abilities, were almost always a result of negative mental attitudes. Once we established a 'can-do' attitude, teaching the rest was easy."

Her students are quick to confirm this. One woman said, "From the very beginning we were made to feel like we would pass this course and become scuba divers, rather than that our skills were too poor to enable us to continue."

Another woman says, "Two women I talked to entered mixed classes with their husbands, and their husbands were doing everything for them. I wanted to learn on my own."

Further testimony comes from a student who admits, "A lot of the fears I've voiced I wouldn't have said in front of a bunch of men. I would have felt humiliated."

Without knowing anything about the "Buddy Pairing" story, Donner's students made other comments which seemed to support Cyphert's thesis: "I think I can gain more confidence by diving with women; it forces me to gain more confidence." And, "This class gears you to taking care of yourself instead of expecting the man to. It focuses on being independent." And, "It's just as much the woman's fault [being a dependent diver], because of our misconceptions based on role-playing. We *ask* men to look out for us."

To accusations that the class for women is just an "easy" class, Donner responds, "There isn't a thing required in a typical mixed class that's not done in this course. If anything, I expect more, in order to develop real preparedness." A student shares the feeling: "I feel better prepared than my husband. His course didn't involve as many things as mine did. It was especially good to do all the work in the ocean. You learn that you can work out the problems that come up right under the water."

Dave Hendricks, Donner's assistant instructor, sees the class for women as an example of what every

course should be, regardless of the sex of the students. "Most dive classes are geared to people who have some swimming or snorkeling ability. There aren't many in which the instructor is willing to spend the extra time to start at the beginning. A lot of people, both men and women, are weak in the beginning, and they tend to have a much harder time. The ideal class is one that doesn't wash people out but encourages everyone to continue."

Donner is also quick to dispel charges of "sexism" that are occasionally leveled at her class. "I'm very reluctant to label this as a women's class. There are skittish men and skittish women. In fact, men are under even more pressure to perform well without revealing fear. These people all just need a few extra steps to get to the proper mental attitude. At that point, any woman in my class can enter a mixed group."

For many women — and men — learning to dive is a difficult, often impossible, experience. A course

that recognizes the fears and misconceptions of a particular group of people — in this case the group is women with traditional views of themselves — may be greatly beneficial. More and more instructors are understanding the special needs of some women trainees and directing courses toward those needs.

If you're a man who has speculated that your wife doesn't dive because she's "chicken," it might be that a course in a local shop designed for women only might be just the approach needed to dispel the "chicken" image. If you're a woman who has contemplated diving, but has yet to sign up, it might pay to look for that special course designed just for you.

★ ★ ★ ★

Ruth Ann Le Mon, the author, is a free-lance writer living in Guam. She has been certified since 1975 and does her diving in water that most of us only fantasize about — Guam, Palau. . . .

## Chit-Chatting Underwater

### *We prefer to keep the Silent World silent*

When we first heard of "Sea Voice" last spring we were expectant and excited. "An affordable underwater communicator," the ads said. "Easy to operate and has an approximate range of 50 ft." Hooray.

The ad said, "Send \$36," but we wanted immediate delivery so we called the manufacturer (of course under an assumed name, not as *Undercurrent*) and asked how we could get quick delivery.

"Add two dollars for first-class priority," we were told, so on April 19 we sent off our check, after determining that no local dive shop had the Sea Voice in stock.

Seven weeks later, five weeks after our check cleared the bank, we called to find out what had happened to our priority mail. We were informed that the device was being redesigned, but would be sent immediately. We called three weeks later. "Where is it?" we demanded. Came the fabled response: "It's in the mail." It arrived four days later.

We prefer to run stories shortly after an item reaches the marketplace, and we could have said, "Damn it, this is *Undercurrent*. Will you send us the bloody thing!" But we didn't. So the story comes to you late, courtesy of Sea Sonics.

As an addendum, however, we should compliment the manufacturer. A month later they sent us a note stating they had reduced the price of the Sea Sonic to \$24.95, a check for \$2, and a second bladder. Although the second bladder doesn't seem to be particularly useful, their intention was good, we're sure.



THE TECHNIQUE FOR SPEAKING WITH THE SEA VOICE

The Sea Voice is a simple device, comprising nothing more than a bright-yellow bladder about a foot long attached to a black plastic mouthpiece. After removing his regulator, the user presses the mouthpiece tightly around his mouth with one hand and with the other stretches the bladder. He then blows a moderate amount of air into the bladder and speaks a short message. Although some air can be drawn back from the bladder to add words to the message, the instructions properly warn that the user must avoid rebreathing carbon dioxide from the bladder.

We tested the Sea Voice in two swimming pools with three different divers, and also took it on several open-water dives to communicate with people who had never seen the device. This is our experience:

Using the Sea Voice may be somewhat difficult and disconcerting to some divers, since the user must remove his regulator from his mouth and let it hang free while he manipulates the device. To prevent losing the regulator, a lanyard connected to the Sea Voice can be clipped to the user's regulator; when the speaker completes his message he simply raises the Sea Voice and lifts his regulator in front of his face and into position. The adjustable lanyard needs to be kept short, however, since one tester who left the lanyard long experienced a bit of panic after a long message when he raised the lanyard and found his regulator hung up in his BC straps. It took about ten seconds to get the regulator untangled and into his mouth. When not in use, the Sea Voice can get tangled if left dangling, so it ought to be carried in a BC pocket.

After several open-water dives the rubber strap attaching the bladder to the mouthpiece stretched and the bladder fell off during a dive. We replaced it with a second strap (provided by the manufacturer), which can be taped or glued to prevent separation.

Just as the advertising copy says, though, the Sea Voice does work. One diver can talk to another underwater and be understood. But the distance over which communication can take place and the quality of the sound are limited.

Foremost, working with the Sea Voice requires practice. The speaker must practice voice modulation and articulation, and he must practice with different levels of inflation and with the bladder stretched to different lengths. Less than ten feet from the listener our speakers needed little practice, but their skills needed to be improved as the distance grew.

The listener too must work to understand the message. No listener could hear a message if he were inhaling or exhaling; his own sounds of respiration overwhelmed the message. So during our tests the listeners had their backs to the speaker at a distance of ten feet or more and did not know the message although at least enough words were understood on half the attempts to convey the gist. As the distance lengthened, the message had to be repeated more often to be understood. The manufacturer claims that messages can be sent up to 50 feet, which is probably correct — with practiced divers and in quiet water.

We first speculated that the Sea Voice might make a good device to alert a diver to imminent danger or to call for help, but from our tests that does not seem possible. We found that if the listener were not expecting a message, he might not hear it. When our listeners had their backs to the speakers at a distance of fifteen feet or more and did not know the message was coming, they often missed it entirely. One of our divers carried the device with him on several boat dives with tourist divers. From varying distances behind the divers he shouted messages ranging from

simply "Help!" to "There's a 40-foot shark behind you!" In no case did an unsuspecting diver turn to respond. We hypothesized that they did not hear the shouts for a combination of reasons: they were concentrating on the dive; the sound of their own breathing drowned out the message; extraneous underwater sounds such as the choppy surface hitting the reef top drowned out the sounds.

In using the device we encountered other minor problems. Our moustached diver had a difficult time getting a tight seal, so that the excessive water entering the bag seemed to affect the quality of his speech. Once, when more air was put in the bladder than the manufacturer recommends, we found that the inflated bladder affected the user's buoyancy to such a degree that he began to rise while speaking.

Novice divers who are not yet in full control of their dives should not fool with the Sea Voice. Reactions to the small problems we cite can be just enough to cause mild panic. Divers should first learn to dive well and confidently before engaging in nonessential underwater activity.

Yet for all these comments, skilled divers who practice using and listening to the Sea Voice will find that they can indeed communicate. How well depends upon their own skills, but with practice they ought to be able to give and send messages with relative ease in calm waters. The Sea Voice works best at short range — up to 10 feet or so. Beyond that, its practicality diminishes quickly.

But it seems to us there might be another question to ask: Why do sport divers need to talk with each other underwater? The messages they *need* to convey are taken care of by hand signals. To attract the attention of another diver or to warn him of impending danger, tapping on the tank with a knife, rock or piece of coral surely beats yelling ineffectively through a Sea Voice. For communication between instructors and students a slate is usually adequate.

Nevertheless, some instructors may find use for the Sea Voice in classes. It might enhance descriptions of underwater creatures on marine biology dives. Professional photographers might use it to instruct models at short range. Some sport divers may find they just like to fiddle around with it. But most divers will find the Sea Voice more a novelty than a device with practical appeal. It seems to be one of those gimmicks which will be used a couple of times, found a bit awkward and complicated, then left in the bottom of a dive bag for a season, only to end up at a divers' flea market with a \$2 price tag.

At least these are our plans. We prefer to keep the Silent World silent.

NOTE: If you wish to order a Sea Voice and your dive shop does not stock it, you may send \$24.95 to Sea Sonics, P.O. Box 94458, Schaumburg, IL 60195. Their telephone number is (312) 397-3962; they do accept phone orders.

# Reader Survey of Automatic Inflators

## *Diver error or design error?*

Perhaps the most significant addition to diving equipment made in the last decade is the automatic inflator, which permits the diver to inflate his buoyancy compensator from his tank by simply pushing a button. Unlike the BC, which is in effect only an improvement over the life vest, the automatic inflator is an invention.

A majority of divers *do not* use automatic inflators, and they clearly are missing out. Automatic inflators are important safety devices. With a simple push of the button one can quickly provide oneself with enough buoyancy to get to the surface or to maintain oneself on the surface. To achieve buoyancy, one does not have to remove the regulator from one's mouth — a task a diver in panic may fail to perform. If a weight belt cannot be dropped, a push of a button provides a fast alternative.

Automatic inflators add comfort to a dive. By being able to control buoyancy quickly at any depth, the diver who uses this system will have an easier dive, will not flounder around in the coral and kelp, and will use less energy and therefore less air. Of course buoyancy can be controlled by orally inflating the BC, but to many divers that is too much of a hassle, and during the dive they fight their descent one minute and their ascent the next. With an automatic inflator, there is no fight. It's only easy diving.

In the August issue of *Undercurrent*, we published a questionnaire so that those who have used automatic inflators could apprise us of their experiences and opinions. The results attested the value of automatic inflators: only one of the nearly 250 respondents indicated he will *not* buy another, and that's because he's switching to a Unisuit — which has automatic inflation. The acceptance is not only universal; it is enthusiastic. Daniel Albizati, of Clifton, New Jersey, wrote: "I wouldn't dive without it. I find it extremely uncomfortable and a waste of valuable time having to take my regulator out of my mouth four or five times to fill the BC. I've been spoiled, I guess, but to me the power inflator is safer and more convenient."

For buoyancy control underwater, the automatic inflator is "always" used by 82% of the respondents; 18% use it "sometimes." Carlene Byrnes, of Thomasville, North Carolina, tells us what she prefers about oral inflation: "Using oral inflation, I'm less likely to misadjust and have to deflate the BC. As an instructor I've found that new students have a tendency to overinflate with the button."

On the surface, only half of our respondents use automatic inflation. We suppose that the other half

might be trying to conserve air, although the amount of air necessary to achieve flotation is nearly negligible.

Yet for all the enthusiasm, there are potential liabilities for those who use an automatic inflator. Should it malfunction and either operate inadvertently or stick open during a dive, a rapidly filling BC can mean serious problems for a diver who cannot control his ascent. A well-trained diver won't panic and will exhaust his BC either by letting air out of the hose or pulling the dump valve, or he will solve the inflation problem by breaking the connection between the hose and the BC. At least that's what we hope would happen. But we've received occasional reports of well-trained and experienced divers who, for whatever reasons, could not control the accidental inflation and shot to the surface. And not everyone is experienced, and not everyone is well trained.

One purpose of our survey was to determine if any of the popular inflators had more problems than others. Of the five we report on — the five for which we received enough responses to comment — we found no significant difference in their degrees of reliability. Many divers reported leaks, but most were attributed to lack of maintenance. For example, Lee Carey, of Palo Alto, California, wrote: "Once on the surface a piece of grit caused the inflator to stick open. I was able to disconnect it quickly with no trouble and I now pay more attention to keeping it clean." Pinched and worn o-rings also caused problems — again pointing to a lack of proper maintenance.

Divers commented that they find their inflators difficult, in varying degrees, to connect, although the divers themselves often compound the difficulty. Many said they've had trouble making the connection with gloves on, and that if the hose inadvertently or purposely became disconnected underwater, the difficulty could contribute to a serious problem. On the other hand, Donald Bowman, of Honolulu, offered his simple solution, one which a number of respondents obviously hadn't considered: "Before a dive I just put my gloves on after I make the connection."

The connection is also more difficult to complete once one's air has been turned on. That poses no problem with a flotation device mounted on a back pack, because the connection can be made before the air is turned on and the entire unit hoisted. For a BC, however, the diver has to either live with the annoyance or let his buddy turn on his air after he is

dressed. Either way, it's no big deal — although some users seemed to think it is.

But there is a more serious problem. Divers indicated that they occasionally confuse the button for inflation with the button for deflation; in some situations when they had intended to descend they found themselves rising. An inexperienced diver, surprised by the reverse of what he had expected, could find himself in serious difficulty quickly, and even experienced divers indicated their concern about the problem.

On one hand, the diver is often at fault. In many cases he has not sufficiently trained himself in the use of his equipment, and therefore simply pushes the wrong button. Yet the problem is compounded in each of the models we reviewed by shortcomings in product design, which, we believe, reflect a failure to give top priority to diver safety. The most serious deficiency is in what seems to be the most popular inflator — the Scubapro. The buttons sit side by side (one is slightly above the other) and 38% of the Scubapro users indicated that they find it "easy to confuse the button for inflation and the button for deflation." Many reported incidents in which this had happened. For example, Curtis Zollner, of Rancho Cordova, California said: "While lifting some equipment from 65 feet, I started to rise faster than the lift bags. In a hurry I grabbed for the hose and hit the inflator rather than the deflator button. The emergency dump valve worked, fortunately."

But even where the buttons are not side by side but perpendicular to each other (as is the case with three other models reviewed), several divers reported they had confused them, especially under stress. Why the manufacturers have not done more to eliminate confusion is perplexing.

In most models, the buttons feel identical to the touch. If they felt different — one flat and smooth, for example, and the other rounded and rough — touch could give a clue as to which button the diver were manipulating. Although we had insufficient data from readers to discuss Sportsways inflators, we should note that, even though their buttons are side by side, they have at least made the inflation button round so it can be distinguished from the the flat deflation button. There's no reason that the other manufacturers can't follow suit and even accentuate the difference by altering the button surface. Unfortunately, Sportsways is discontinuing its inflator.

Sequest uses a tougher spring in their inflator, which makes depressing it more difficult than depressing the deflator. The resistance alerts the diver to which button he is pushing. The buttons themselves, however, are similar. As we have learned from this survey, nobody's perfect.

U.S. Divers has solved its inflator/deflator problem by having the inflator hose come around the body directly to the BC. One inflates by pressing the

button on the BC with the right hand, and deflates by exhausting through the BC hose with the left hand.

*"...the death will be attributed to unknown causes, but if the cause of death were known it would be called 'diver error.' We think 'design error' might be more appropriate."*

Experienced divers may argue that we're nit-picking about the buttons. As soon as one hears the hiss of inflation or feels oneself rise, one's error ought to be easily correctible. If the problem becomes serious, one ought to be able to pull the dump valve. Those would surely be our reactions. We hope. But why should design contribute to the problem? With the growing use of automatic inflators, sooner or later there will be a fatality (if there already hasn't been) and an embolized or bent diver will be found floating on the surface with a filled BC. Since he won't talk, the death will be attributed to unknown causes, but if the cause of death were known it would be called "diver error." We think "design error" might be more appropriate.

Even with these liabilities, the automatic inflator is indeed a piece of equipment that the safe and easy diver ought not to be without. Here's what our readers said about theirs:

*Scubapro:* If our memory serves us right, Scubapro, in 1972, had the first automatic inflator on the market. It was difficult to connect, and, according to data from this survey, many leaked. A new design, issued in 1975, employs a sleeve on the tip of the hose, which the diver pulls back to connect or disconnect the hose from the mouthpiece.



**38% OF THE SCUBAPRO INFLATOR USERS FOUND THESE SIDE-BY-SIDE BUTTONS EASY TO CONFUSE**

In our survey, 25% of the divers still find this connection difficult to make with gloves on, and 11%

find it difficult without gloves. The leakage problem, no greater than that of any other model, generally can be attributed to improper maintenance. The inflator seems for the most part to be reliable (although some divers reported buttons having fallen off), and everyone who had had to return it to the shop for service found Scubapro to stand by its guarantee.

As indicated previously, 38% of the Scubapro users indicated that they find it easy to confuse the inflation and deflation buttons. Several would agree with T.A. Larned, of Costa Mesa, California, who wrote: "Confusion with the inflation and deflation button is not a serious problem, but it is a source of irritation." Many of the users indicated that they had inadvertently pushed the wrong button during a dive, but were able to correct the error without incident. No accidents were reported, but the potential for accident was described by instructor Felix Vivas of Newport Beach, California: "I saw a student press the inflator on ascent, thinking he was pressing the deflator to exhaust air and arrest his ascent. I thought sure as hell he would embolize. Luckily, he didn't."

**U.S. Divers:** U.S. Divers can claim the only innovation from the parent invention of the automatic inflator. Instead of the inflator connecting to the mouthpiece, their inflator connects directly to the flotation bag on the BC II and the Calypso Compensator. Air is added by depressing the button on the right-hand side of the bag, and it is exhausted on the left-hand side by depressing the button on the oral inflator. As you might expect, *not one person complained about confusing inflation with deflation.* That indeed is an advantage.

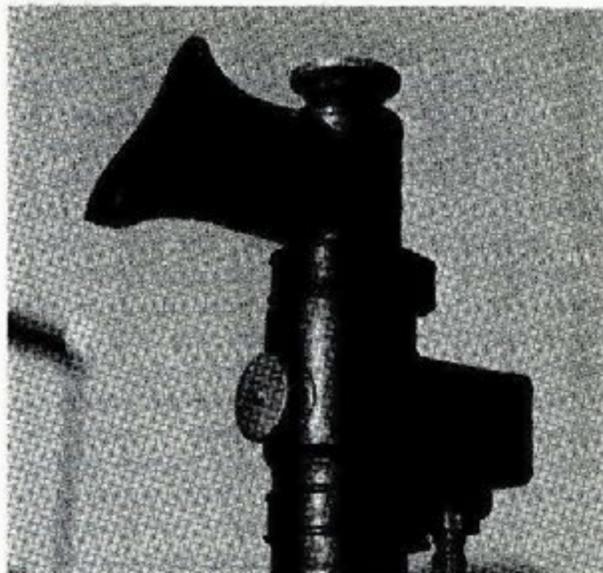
The early BC II's did have problems with the inflator — it often fell apart, we learned from a previous survey — but in this survey those who reported purchasing BC II's or Calypso Compensators during the past two years indicated few problems. The product indeed seems reliable. The only problem worth noting was called to our attention by Mike McKinnon, of Santa Cruz, California: "The button to connect/disconnect the inflator hose can get bumped and then the hose will come out just enough to make it inoperable. I always check operation at the beginning of a dive."

The inflator, because it does not attach to the mouthpiece, cannot be used with flotation bags other than U.S. Divers'. If one prefers the wrap-around inflator hose and accepts the mild disadvantage of having to use both hands for up-and-down movement, then the BC II and wraparound inflator hose would be a sensible purchase.

**Seaquest:** Users of the Seaquest power inflator reported fewer problems and seem more satisfied than users of any of the three similar inflators investigated in our survey. Vincent Abbenes, from East Setauket, New York, speaks for most users in what

he wrote: I purchased two units three years ago and have used them without any problems or difficulties arising." Curiously, many Seaquest users — more than the users of other devices — volunteered that they had tried inflators from other manufacturers before settling on Seaquest.

The biggest advantage over some other models is that the buttons are at right angles to one another; only 7% of the users mentioned that they had confused them.



**THE SEQUEST INFLATOR HAS BUTTONS SEPARATED TO REDUCE CONFUSION**

Two people noted that the inflator button requires greater pressure to activate than they would wish. We checked with Seaquest and learned that the stronger spring in the inflation button, is a feature that was added in order to prevent inflator/deflator confusion. Bravo!

A few people noted that they have difficulty disengaging the connector. Clark Ellis, of Fort Myers, Florida, commented that his "only problem was learning to press the hose into the connection when trying to disengage the inflator from the BC."

**Seatec:** As with the Seaquest, the Seatec buttons are at right angles to each other. The problems with the Seatec are few, with one annoying exception: 38% of the users complained that their inflators leak air at one place or another. Leakage was reported for all models. In many cases poor maintenance was responsible, no doubt, but the incidence of leakage complaints about Seatec was higher than that of other brands. Yet we could pinpoint no specific problem from the questionnaires. From what we could determine, the leakage has no direct connection to diver safety.

To illustrate the wide range of problems: one diver reported that "the button stuck open, causing a leak"; a third diver said his hose leaks where it connects to the BC, and he suspects that "an o-ring is

either missing or not correctly placed"; and another said "the inflator leaked between the plug-in fitting and the inflator-button groups — it became partly unscrewed and broke the o-ring seal."

No diver indicated a failure, and the problem, of course, is found with other inflators as well. It seems, however, that with Seatec it is more widespread than it ought to be.

*Dacor:* Of the five units reported on, Dacor had the fewest responses. The data suggest that the users have more difficulty than users of other brands in connecting the hose with gloves on, but other than that they seem satisfied with their inflator.

**Conclusion:** After analyzing the responses, we conclude that our readers prefer two of the inflators reported.

*If one prefers the convenience and one-hand control of buoyancy afforded by a mouthpiece inflator, then the Seaquest seems to be the best bet.*

*If one prefers complete separation of the inflation and deflation controls, then the U.S. Divers inflator (which must be purchased as a unit with the BC) seems a suitable purchase.*

Regardless of what inflator you intend to use or presently own, we urge one precaution for all inflator users. An inflator can malfunction and the flotation bag inflate when

you don't want it to. Divers report that, even where the buttons on oral inflator-

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## Where does the money go?

"Pregnant women who scuba dive deeper than 60 feet may run a risk of harming their unborn children, perhaps fatally, research carried out under a National Oceanic and Atmospheric Administration (NOAA) Sea Grant at Texas A&M University reveals." So stated the first paragraph of a news release from the U.S. Department of Commerce which came rolling in with the mass of other government documents which arrive here and at other news operations.

The rest of the two pages made it clear that the revelation came from a study done on sheep fetuses in a pressure chamber. The code number of the release, "NOAA 78-92," implied that before the year was much beyond half over there were at least 91 other such missives put out by NOAA alone.

Perhaps many of them are of substantial value. But the scuba-diving caveat, both as to the investment of tax dollars in the study in the first place and then the expense of flooding the mails with it, dramatized the question of government waste.

Not for a moment would we suggest that damage to anyone is a matter of indifference. Perhaps there are expectant mothers at this moment planning to make deep-sea dives. We hope they will not.

We also hope, however, that they will not take up sky-diving, or mountain-climbing, or engage in heavy drinking bouts, tight-wire walking, grand-prix auto racing or seek employment as lumberjacks. We hope they will consult with, and listen to, responsible obstetricians about the care a pregnant woman, in sound medical opinion, should exercise. And we should be very much surprised, before the study of sheep in Texas had been done and committed to the mails, that many would have been sent beneath the sea with tanks on their backs.

If all that is taken as an endorsement of federally-funded studies of the risks of sky-diving and tight-wire walking and every other imaginable risky endeavor, our point has been missed.

mounted automatic inflators are separate or different, they can confuse the two and press the inflation button erroneously. It would seem, then, that to use a power inflator is to take an unnecessary risk if your flotation bag does not have a dump valve. Circumstances can arise in which the dump valve is the only means of countering a malfunctioning inflator. Diving without a dump valve is not a risk we would care to take.

### Care and Maintenance of Power Inflator

Just as a regulator should be serviced regularly, so should a power inflator. Professional servicing at a dive shop is preferable, but many divers find that they themselves can replace the o-rings, check the springs, and keep the mechanism in top-notch working order.

If the inflator is not carefully washed out after every salt-water dive, salt crystals may build up and eventually cause the inflator to stick in an open or closed position. A stuck button can often be freed by rinsing and manipulation in warm water.

Silicone is a good lubricant, but it also collects sand and grit, and may therefore cause the inflator to stick in an open or closed position.

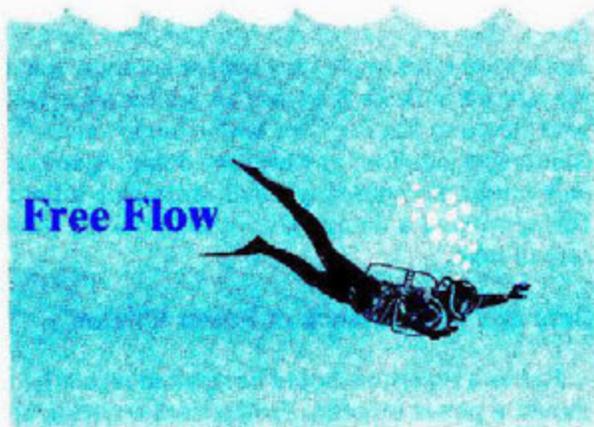
If sand gets into your inflator before a dive and can't be seen, blowing out the inflator with air from your tank valve might get it out.

Units that can't be connected or won't stay connected may be suffering from salt-crystal build-up or sand particles. If not, the problem might be solved by your dive shop with an adjustment or with replacement of a part or two.

When servicing your inflator, inspect the clamp which fastens the inflator mouthpiece to the flotation-bag hose for deterioration or tightness.

To reduce confusion, alter one button by roughing up the surface, putting several layers of tape over it, or gluing a suitable shirt button on top of it so that it can be easily identified by touch.

Check the inflation and deflation buttons to determine if they are tight. If they're loose, remove and refasten them with a drop of epoxy or Super Glue.



In the July issue of *Undercurrent*, we ran the following item in Freeflow:

When we learned, a few months back, that U.S. Divers had to recall a year's supply of regulators, our thoughts turned to the safety of Captain Jacques Yves Cousteau. As you may have noted in U.S. Divers advertisements, the Captain is touted as Chairman of the Board of U.S. Divers. We wondered whether he had been using one of those faulty regulators on a routine dive, and, if so, had any misfortune come his way or the way of his crew. No, we later learned, Captain Cousteau had survived the recall. It turns out that he and his crew don't use U.S. Divers gear, preferring instead the French-made Spirotechnique. (Of course Cousteau himself is Frenchmade.) The Captain's role with U.S. Divers doesn't require that he do much more than lend his face and name to the company. For putting out the six figures Cousteau is purported to receive, U.S. Divers probably gets a seven-figure return, which is ample reason to keep the Captain aboard, regardless of his gear preferences.

This information came directly from a senior staff member at U.S. Divers. Up the hierarchy, however, U.S. Divers people felt that our piece was incorrect. They sent us a letter, from which we quote:

Captain Cousteau is on the Board of Directors of *three* diving companies: La Spirotechnique of France, Technisub of Italy, and U.S. Divers. In the past, U.S. Divers has supplied various Cousteau expeditions with between \$10,000 and \$35,000 worth of diving equipment each year. When expeditions by Cousteau's ship, the *Calypso*, are outfitted in the U.S., approximately 80 percent of the equipment for that expedition is usually U.S. Divers' gear. This year, U.S. Divers has already delivered more than \$12,000 worth of diving equipment for Cousteau expeditions. Therefore, your statement that Captain Cousteau and his crew

don't use U.S. Divers' gear is absolutely false.

We do not intend to imply that Captain Cousteau does not use other equipment. In cases where a Cousteau expedition is initiated with its home base in Marseille, the ship is usually outfitted by La Spirotechnique. If the project is in the Southern Mediterranean or the Adriatic, Technisub equipment, from Genoa, is usually used.

In addition, Captain Cousteau has never at any time stated that he does not prefer U.S. Divers' equipment, or that he does prefer La Spirotechnique equipment to that of U.S. Divers Co. Also, it is untrue that Captain Cousteau receives "six figures," or anything near "six figures," for his services to U.S. Divers Co. and that statement has no basis in fact.

**When is a person too old to scuba dive? Perhaps the rule is when he *feels* too old. When that old feeling sets in, it's a sad day for many. But a fountain of youth might well be found in some of those dark holes under reefs. When a female octopus hatches her eggs, her eating slows down while she protects them; about ten days later she dies. *Science Magazine* recently reported that, after a scientist removed the hormone-secreting glands which sit on the optic nerve from a female octopus, the octopus immediately stopped taking care of her eggs and started taking care of herself, living about four months longer than she would have lived normally. The experiment has been replicated several times. Scientists hope that the discovery of the self-destruct mechanism in the octopus may lead to new insights into the self-destruct system in human beings that is called simply "growing old."**

If you're interested in a unique diving profession, consider the tasks performed by Undersea Systems' Robert Shourot. He inspects and repairs submerged parts in nuclear reactors. The *St. Louis Globe Democrat* reported that the suits worn by Shourot and his aides are leak-proof, against chemical and radioactive contamination; electrically insulated, against electrocution from underwater tools; and fitted with cooling systems which can be activated when they're working in hot water. In a recent three-week repair job in Albuquerque, they were exposed to radiation, "but only 10% of the maximum allowable." So why do this? For this stint the three-man team received \$25,000.

**In a recent issue of *Diver* magazine, LCdr. Barry Ridgewell and Roy E. Clark note that Canadian engineering tests found the Poseldon Cyklon 300 to slightly outperform the Scubapro Mark V. Regardless, when divers tested the regulators they preferred the Mark V.**