

undercurrent®

THE PRIVATE EXCLUSIVE GUIDE FOR SERIOUS DIVERS

P. O. Box 1658, Sausalito, California 94965

Cable Address: Gooddiving

Vol. 12, No. 3

March 1987

Reports From Our Readers, Part III

--Jordan, Jamaica And Jew Fish

After last month's dream diving in Palau, we're back to readers' comments for the rest of the alphabet.

I'm delighted that printing the comments of readers is stimulating others to respond. Not every reader is as perfectly objective as I am (that statement, itself, can be used by any drugstore logician to prove precisely the opposite), and as space permits I'll publish rejoinders to comments where it's important to maintain our balance. We receive a lot more comments than we can publish, so we select those which seem most representative. Here is this month's offering.

JAMAICA: I've dived at several spots in Jamaica and readers have reported on dozens of others. For experienced divers, I don't know of any decent diving. Beginners find a few pretty reefs here and there, but any fish bigger than your thumb have been sought out for the stewpots of the protein-light population. As Albert Pfitzmayer (Franklin Square, NY) reports of his dives with Scuba Jamaica at Montego Bay: "Fish life on the six dives I made was completely gone. They have over-fished and cleaned out the reefs. Large coral, sea fans and shells can be purchased on the roadside. The Jamaicans are destroying their reefs." Go to play, not to dive.

MEXICO: Cozumel is ever-so busy, thanks to its proximity to the U.S. and the low prices, due to the devaluation of the peso. It's well-suited for divers with herding instincts. There is some excellent diving, thanks to strict conservation measures. As Chris Peterson (Mountain View, CA) says: "I last dived at Cozumel in 1975, before the national underwater park was created, and diving is now ten times better." Ken Knezick (Houston) says: "Want excitement? Drifting at Barracuda reef on the north wall, I've seen a big shark, dolphin mother and child, 150 lb jewfish, the largest angel fish anywhere, all in a current that realized dreams of free flight." . . . Tom and Dusty Hardegen's Dive Paradise continues to get solid reviews from

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readers lucky enough to have found them. Says Dave Melvin (Chicago): "I've had positive dive experiences on three trips this past year with Dive Paradise; I always request the fast trip with divemaster Sergio Mendez in advance; he's an excellent guide, knows the local waters well, matches the dive to the level of the diver, and carefully follows the tables." Says Cynthia Reinero-Niccum (Renton, WA): "They run a tight ship. We missed one dive and they gave us rain checks that will not expire. Tom and Dusty care about people and that creates good fun and safe diving." But then John Lightner (La Rue, OH) says that: "I had to spend 45 minutes bobbing on the surface at night, waiting to be picked up, a deplorable situation for any diver." And he's right. Still, Dive Paradise seems numero uno here, at least from readers comments. (206/441-3483). . . .By the way, if you haven't been to Cozumel, a round trip to Palancar reef on a classic Cozumel craft can take up to four hours, depending upon the departure site. Fast trips cut it to an hour. . . .Galapago Inn gets good marks. Steve Smith (Walnut Creek, CA) says "had excellent dives, including night dives off the hotel beach. Hotel staff is great, service excellent; you really get your money's worth." (800/847-5708 or 987/20663 in Cozumel). . . .Tobi Press (Coral Springs, FL) says: "I love the La Perla Hotel; the rooms are clean and large and the hosts very obliging. [But there is no restaurant, so one has to go to town for dinner every night, which many people do anyway.] I've used several shops, and prefer Discover Cozumel, and recommend paying extra for diving from their boat the Caribbean Princess, which is pure luxury. Barbara Perry says the guides at Discover Cozumel were "very knowledgeable, extremely helpful, and in control without being restrictive." (987/20280 in Cozumel). . . .A lot of people like the Barracuda Hotel, adjacent to town and dive boats, and inexpensive. . . .You can get a good sense of the diving in Cozumel by reading our September '83 issue, but it has changed so much in service that it's time for another full scale review.

John C. Norris (Cleveland, Ohio) is among the several people who write well of the trip and the crew aboard the Don Jose in the Sea of Cortez: "The August visibility was 50 to 90 feet and there was a lack of sponges and corals, but there are all kinds of marine life from Moorish idols and angel fish to sea lions and hammerhead sharks -- and everything in between. The boat crew is helpful, running us to locations several hundred yards from where we were anchored." (Baja Expeditions, 619/297-0506). . . .Steve Berman (Wilmington, CA) took a day boat from La Paz offered by Baja Diving Services. "I asked to go to the seamounts, and was told they go every day. I paid \$55 but the next day they said they don't go in the spring or winter; instead, we went to a spectacular 300 foot wreck, but the captain couldn't find it. He took us to Sea Lion Cove, but then said the sea lions hadn't been there for years. I ended up with horrible and boring dives." . . .Bob Scott dives with the Aguillar Brothers and said "they didn't check c-cards and had teenage guides, but they have a fast boat and took us to great diving with sea lions." . . . "I haven't dived Puerto Vallarta for ten years -- it was interesting, but no place for a dive vacation." Ira Weiner (Narberth, PA) fills us in about his December trip. "A few big fish and interesting tropicals, okay coral, and good variety of caves and ledges. Water 80° and visibility ran from 50-90 feet. Chico's Dive Shop takes tourists to common sites, so I was lucky to find Julian Ortego (tel: 2-40-38) who picks you

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up at any hotel, speaks good English, and only takes four divers at \$35 for two tanks."

PHILIPPINES: Spectacular diving abounds in the distant waters, though the Philippines is continually threatened by the dynamite of fishermen and the poison of tropical fish hunters. The Lady of the Sea (See Undercurrent, June 1985) gets high marks from our readers as it did from our reviewer. Says E.J. Leen (Houston): "Diving far exceeded just about anything I've ever had and I've been all over the world, from Fiji to the Red Sea; the food and crew were outstanding. The people at Poseidon, who arranged the trip, were great." (800/854-9334 or 714/644-5344). . . . We got a couple of complaints about trips last May aboard the Tristar: one diver said "for the money, this was just not good enough; the guides didn't know the right places." I hope they've been able to correct that in the past eight months.

PUERTO RICO: Two reader reviews about the island of Culebra, as opposite as can be: Richard Claenda (the Bronx) went with a group of twenty. "The Coral Reef Hotel was too small for our needs and had no hot water and very low water pressure after 7 p.m. We didn't go to the better dive sights since the captain of the 37-foot boat wasn't from Culebra and didn't know those sites. Marine life is small and sparse and locals are taking living coral. No one we knew had ever been here before so we only had the proprietor's word and a brochure to go along with. Should have listened to Undercurrent. But we eventually had a great time because we made it happen." Kay Lasley (Princeton, NJ) writes of a beautiful island, small town ambience with friendly people, fine little restaurants, and

Sea Of Cortez

Dear *Undercurrent*,

"The diving is, in a word, superb" -- *Undercurrent*, November, December 1985.

So my wife and I ventured into the Sea of Cortez on the Marista II last September. Superb? You must be kidding.

"Four tanks with sea lions were the most fun I've ever had diving; huge varied fish population at two sites for more than six dives, an interesting wreck, and an amazing snorkel ride with a whale shark But, too many dives were fairly shallow over a jumble of algae-covered boulders with not many fish in somewhat murky -- 30-40 foot visibility -- waters. Expecting superb, it was far too often boring and ugly. The food was good and when cooked local style, delicious.

I and others aboard, got horrible tasting air and the old compressor, a vintage wheezer, could barely get to 2000 pounds and usually gave me 1700.

The captain and his wife were somewhat bewildered to have a group interested solely in diving; they considered their trip more of an excursion to the starkly beautiful out islands. They were upset with *Undercurrent* promising so much and so were all sixteen of us on the trip.

Undercurrent, you let us down in a big way.

Jim Chubb
Hailey, Idaho

Dear Jim,

I am sorry you were disappointed. It does sound like you had some great dives, but you had plenty of bummers as well. I can't answer whether Adcock took you to the same spot that our reviewer went to and whether you missed the better diving -- which you did. But we can never promise fish and we can never promise visibility.

In the short review you referred to, we were short on information, but we did suggest that readers refer to a previous article that appeared in January 1984, in which we reported visibility varying from 30 feet to 100 feet, the bottom varying from barren boulders to good coral.

The Sea of Cortez is a volatile body of water (e.g., see the review of Sea Fans magazine this month where they acknowledge that they saw little of what they were led to expect -- but still had great fun). What you get one week you won't get the next. I can assure you, however, that our two articles were accurate reports of the trips we took.

We received two other letters about the very same trip you took, with equal complaints. We also received one positive letter, saying "Second boat trip I have taken -- I was happy with my cabin, the food was good, and the diving very good."

Read the following letter from Neal Watson. No matter how we cut it, we too have our critics.

C.C., travel editor

remote and beautiful beaches. She dived with Dive Cuda and a 41-foot custom dive boat. "At Cayo Raton I saw more fish than I have ever seen in any one spot, and another place we had a beautiful underwater arch to swim through." Culebra sounds like a place to get away from it all -- and have a couple of good dives.

RED SEA: "I've been diving for 30 years, and my September trip on the Fantasea was one of the best ever," writes Jim Klien of Wappingers Falls, N.Y. (For a full review, see Undercurrent, October 1985). "Four or more fabulous

Andros

Dear *Undercurrent*,

[Regarding the readers' comments in the Nov./Dec issue], Andros Undersea Adventures has been operational for less than three years and has a growth rate of over 30% a year, which is possible only by repeat and referral business, and by marketing a quality product. We have a 13 room hotel, a freshwater swimming pool, a full service restaurant, and a 40 foot fiber glass diesel boat built by scratch three years ago for \$100,000.

When I have an unhappy customer, it is because of one or both of the following:

When the weather is good, you can do no wrong; when the weather is bad, you can do no right.

Customers do not properly research the destination and simply wind up somewhere that is not what they were looking for. This is not the fault of the resort.

Every diver that visits my resort is mailed a self-addressed stamped report card. I am enclosing some responses from the period during which one of your complainers visited. How do all of these people have such high praise for every aspect of the entire operation?

I received a complaint letter from a customer which was copied to you last month. This man was so obnoxious that other guests refused to sit at the same table with him at dinner and had a celebration at the bar in honor of his departure. Is this the type of person you are judging me by?

In the same issue of *Undercurrent*, there were several customer comments on dive instructor attitudes at other resorts. Dive instructors are human beings and generally respond to the attitude of the customer. In defense of myself, as well as every other offshore dive operator, who is busting their asses under the most adverse of conditions in an effort to provide a quality service, I feel you people are either ignorant or unrealistic.

It appears that for some reason you no longer report first hand but rely on reports of a few disgruntled guests. Your publication which used to be quite accurate and informative has slowly deteriorated so that it is not just misleading, but actually lies to the subscriber who is relying on you

for insider truths. Maybe the time has come for you to evaluate yourselves, before you so righteously pass judgement on others.

Neal Watson
Undersea Adventures

Dear Mr. Watson,

Thanks for your letter and the customer cards from guests who were pleased during the same period that others wrote us to complain.

I would agree that most travelers don't properly research their trip, but just how do they do that? For the most part, travelers are forced to rely on full page ads and complimentary stories.

That's why *Undercurrent* has been in business for 11 years -- as an alternative source of information. Readers comments supplement and update *Undercurrent* first-hand reviews and have always been a feature. Not many operations have gotten as many complaints from our readers as has yours. In April 1985, we reported that your resort was getting "mixed reviews," and find that 18 months later, the responses are far more negative than positive -- more so than just about any other well-advertised resort that we receive comments about. We have several additional letters in our own files as well as completed questionnaires.

For the future let me offer one suggestion. Many of our readers who write critical letters to a resort send a copy to *Undercurrent*. A number of resorts take the time to respond directly to complaints and send us a copy. That always gives us another perspective.

We have no ax to grind with you or any other resort. In the same article scores of resorts are given very positive comments by our readers. And what about that complimentary first-hand report on Neal Watson's Bimini Undersea Adventures in our September, 1986 issue? Does that support your belief that we are misleading and lying to our subscribers?

Since our comments were published, a number of readers have written, most to rise in your defense. We'll publish those in a forthcoming issue.

C.C. Travel Editor

dives a day led by Amos Nochum (as usual he was in rare form). The accommodations were good, the crew cooperative, the food excellent. We took a two day tour of Israel and I felt safer there than I do in my native New York." (800/348-3669 or 212/599-0886). . . .Ann Pinciss (NYC) says she had a couple of first class divemasters at Eilat, Israel's, Lucky Divers: "Fish are spectacular and the reefs beautiful, but far from one another; Sue Ellen is a nicely outfitted boat used for day charters; take booties for rocky shore dives; several 5 star hotels are within walking distance of Lucky Divers." Another reader tried Lucky Divers and didn't think so highly of them. He preferred nearby Red Sea Diving Center guides, who "took experienced divers down first. There are limited sites due to squabbles with the Egyptians; fish are fantastic, coral much less so". . . .Not far from Eilat, in neighboring Jordan, reader Mike Bennett found good diving at the PADI facility at Aqaba's Aquamarina Club and Hotel. All the dives were from the shore, in water 30 to 100 feet deep. "One remarkable reef had more than 30 lion fish; others had brilliant and numerous tropicals, often unlike their Caribbean cousins." Aqaba is a modern resort city, and Jordan offers superb historical touring. Bennett sings high praise for the tour organized by Spirit of Adventure Scuba Tours in Mississauga, Ontario (416/275-8747). . . .

SABA: Our reviewer loved this tiny and unique Caribbean island and its diving (see Undercurrent, June 1984). Alan Bloom (NYC) just returned in January, and says: "A must for experienced divers; extremely large marine life and dive sites are close. Lou and Joan Bourque of Sea Saba Dive Center run an extremely efficient and safe dive operation with two 24-foot boats. Captains Quarters Hotel has 10 rooms, many with four poster beds." (800/541-2255 or 011-599-4-2246)

TONGA: Bruce Cohen (Chatham, PA) stayed at the FAFA Island resort and exudes: "The perfect South Pacific Island in a typical Tongan hut; no electricity or water but great charm. Coralhead Diving is very professional, safe, and friendly, helping you with gear and picking you up on the beach. Their African Queen is well-fitted for diving and gets to all sites in 10-30 minutes. The most beautiful and plentiful soft corals anywhere and feeding shellfish everywhere; walls and rolling hills of coral reefs. Tonga rivals Palau in a different, more serene way."

Why Divers Die: Part II

--In Twos And Threes, With And Without Buddies

This is the second part of a series on why divers die. We are presenting the data from 1983 and 1984, as developed and analyzed by John McAniff, Director of the National Underwater Data Center at the University of Rhode Island.

★ ★ ★ ★ ★

Activity Of Victims During The Fatal Dive

Table 4 presents the activity in which the victim was engaged at the time of the accident.

During 1983, 68 of the 110 diving fatalities reported were engaged in unspecified recreation. There were 16 cave diving fatalities, a huge increase

over the previous safest year of this study, 1982, in which only three cave diving deaths were recorded. Eight 1983 victims were wreck diving, while six were receiving instruction. Four of the fatalities in 1983 occurred while the victims were spear fishing, and three while gathering shellfish or lobster.

Unspecified recreation accounted for 46 of the 70 fatalities occurring in 1984. Seven victims were engaged in cave diving, down from the 16 in 1983, but still higher than the safest cave diving year of 1982. Six individuals were receiving instruction, while five others were reported to have been shellfish or lobster gathering. Two of the 1984 fatalities occurred while the victims were diving on undersea wrecks

Table 4: Sport Diving Activity Engaged in at Time of Fatality

Activity	Number of Fatalities														
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Spearfishing	14	6	8	11	7	3	4	7	3	1	6	8	2	4	1
Photography	2	2	0	1	2	0	1	0	1	0	2	0	0	0	0
Ice diving	0	1	3	3	1	4	3	2	3	3	2	5	0	1	2
Cave diving	10	9	19	17	25	20	21	7	13	12	10	17	3	16	7
Wreck diving	2	3	2	1	6	5	9	0	4	6	2	7	1	8	2
Night diving	0	0	2	4	3	2	2	2	2	2	4	5	0	1	0
Research	3	0	0	0	1	0	2	0	0	0	0	0	0	0	0
Underwater search	2	3	2	2	3	4	6	2	1	1	2	3	0	1	0
Abalone diving	6	7	7	2	7	3	1	0	3	1	0	1	2	0	1
Shell/lobster fishing	5	3	2	0	5	4	6	4	5	1	2	4	4	3	5
Attempting to save diver	2	2	0	0	1	0	0	1	0	0	0	0	0	1	0
Testing equipment	3	1	1	0	2	0	0	0	0	0	0	0	0	0	0
General underwater maintenance	0	0	0	0	0	0	1	1	0	1	0	2	0	0	0
Unspecified recreation	46	61	58	67	59	59	73	57	67	88	69	43	51	68	46
Instructing	4	0	0	2	2	3	0	1	0	0	0	0	0	0	0
Receiving instruction	11	14	15	15	20	24	18	18	14	14	10	9	11	7	6
Total	110	112	119	125	144	131	147	102	116	130	109	104	74	110	70

and two while diving beneath a cover of ice without proper safety lines and tenders.

Each year the NUADC records several instances in which more than one person dies at the same time while engaged in nonoccupational underwater diving. During 1983 we discovered four double fatality incidents and one triple fatality. In addition, we recorded one double fatality while the participants were skin diving.

Two of the double deaths and the one triple event occurred while the divers were cave diving in Florida. Another double diving death occurred in the ocean off Kauai, Hawaii and another off the Indian River Inlet in Delaware.

In the Hawaiian case it seems that the two victims became stranded offshore by strong currents and tides and were unable to make it back to the beach after running out of air.

"The double fatality off the coast of Delaware occurred while the two partners were conducting a 140-foot deep decompression dive on an old wreck. It was reported that the divers had been buddy breathing prior to the actual event."

The double fatality off the coast of Delaware occurred while the two partners were conducting a 140-foot deep decompression dive on an old wreck. It was reported that the divers had been buddy breathing prior to the actual event. Autopsy reports indicate that one suffered an air embolism and the other drowned. The two bodies were recovered from a depth of 80 feet on the deck of the old wreck.

All of the multiple deaths while cave diving in Florida followed a classic scenario. None of the victims had received cave diving training or certifica-

tion. All of them entered the caves without the proper cave diving equipment, such as back-up lights and proper guide reels. It is suspected that in each of the three separate instances, silt was kicked up and the divers lost their way and ran out of air.

Diving Partners And Their Activities

Table 5 presents the number of divers in the water at the time of a fatal accident. Once again, we must emphasize the need to practice the "buddy system." The buddy system does not mean having several buddies in the water with you, but rather, a one-on-one buddy pair each looking after himself and being available to assist his buddy if the need arises.

In Table 6 we indicate what type of activity the buddy took in the role of the diving accident fatality. Upon examining these tables the reader should not assume that because of the difference in numbers between those fatalities that occurred while diving alone and those which occurred while diving with a buddy, diving alone is safer. In fact, what these numbers mean is that there are situations in which it is impossible for the buddy to affect a rescue simply because of lack of training or lack of experience.

Medical Aspects Of Scuba Fatalities

The results of autopsies on nonoccupational underwater diving fatalities for the years 1970-1984 are presented in Table 7. In 1983, the NUADC managed to obtain autopsy information on 74 of the 110 fatalities, but we are concerned about the accuracy of some of these cases despite the publication and distribution of the special autopsy protocol. A medical examiner/prosecutor who may lack any knowledge of diving physiology or hyperbaric medicine is very likely to miss cases of air embolism

Table 5: Number of Sport Diving Partners During a Fatal Accident

Number with victim	Number of Fatalities														
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Zero (diving alone)	13	12	11	10	21	13	18	8	6	22	18	14	15	14	12
One other (buddy)	47	54	41	60	51	67	63	46	64	52	64	24	24	38	18
Two others	11	20	20	25	27	20	27	12	17	9	17	12	5	12	5
Three others	10	10	4	2	14	11	9	6	12	12	17	1	7	6	1
Several others	19	16	33	14	11	27	15	6	22	12	7	2	4	6	12
Unknown	10	0	10	14	11	9	11	7	13	4	8	10	19	34	22
Total	110	112	119	125	144	131	147	102	116	130	109	103	74	110	70

Table 6: Buddy Activity During a Fatal Accident

Activity	Number of Fatalities														
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
Buddy stayed with victim	25	27	22	40	20	39	24	32	25	26	21	9	20	9	
Buddy lost victim underwater	24	25	38	36	52	34	12	18	25	23	20	15	21	11	
Attempted buddy breathing	15	14	7	11	14	15	14	8	6	10	8	3	6	1	
Buddy fell water before victim	9	4	4	3	6	11	4	2	6	2	8	1	9	4	
Buddy lost victim on surface	12	15	14	11	12	7	6	9	11	8	5	8	9	2	
No buddy	12	11	10	21	13	18	24	22	23	25	14	16	14	12	
Unknown	15	23	30	22	14	23	18	24	34	15	27	22	40	31	
Total	112	119	125	144	131	147	102	116	130	109	103	74	110	70	

or barotrauma. We believe that of the 48 cases in 1983 which listed the cause of death as drowning, at least 8 were probable air embolism cases.

Nevertheless, autopsy protocols in 18 cases revealed the cause of death as being barotrauma or air embolism.

Of the five cases listed in Table 7, under cardiovascular syndrome, three were reported to have been the result of a heart attack. The three victims were 41, 52 and 54. Of the four cardiovascular cases in 1984, three were listed as heart attacks and the fourth victim suffered from severe arterial sclerosis. The victims were 43, 52, 55 and 60.

In 1983, one 25-year-old male victim suffered from a burst blood vessel in the brain. Attending physicians indicated that this could have happened at any time and was not necessarily associated with the activity of scuba diving.

Two autopsy reports in 1983 indicated decompression sickness as the cause of death. However, the NUADC believes that both were due to embolisms because in each instance the victim had not been diving deep enough or long enough to have suffered from decompression sickness.

"A 25-year-old female who, upon exiting at a beach, was struck from behind by a large wave. She fell forward and landed on her equipment, dying within minutes."

One unusual event during 1983 involved a 25-year-old female who, upon exiting at a beach, was struck from behind by a large wave. She fell forward and

Death In The Mud

San Diego Harbor Police scuba divers develop their diving skills in Convair Lagoon, an arm of San Diego Bay. In their practice sessions divers practice rescue by pulling themselves along the muddy lagoon floor in near zero visibility. When they're not practicing or conducting body or weapon searches, they conduct bottom surveys, which also require crawling along the bottom.

Two of San Diego's long time divers, both 41 years old, have developed identical forms of cancer, lymphoma. It now comes to light that the mud in Convair Lagoon is laced with PCBs, a known carcinogen which appears legally in some electrical equipment, but has been otherwise banned by the federal government.

The company charged with putting PCBs into the water -- Teledyne Ryan -- has denied it is to blame and claims, as do some toxicologists, that it's premature to allege that the PCBs in the water can cause cancer. But there is no doubt that crawling along the bottom increased the divers' exposure to the deadly chemical.

The *San Diego Evening Tribune* reports that the San Diego Harbor Police Chief has declined to state whether other police divers are worried about the PCBs. The chief says it is a "personnel problem that shouldn't be discussed publicly."

The two ill divers, while fighting their disease, are also contemplating a law suit against the polluters.

Table 7: Results of Autopsies

Primary Complaint	Number of Autopsies														
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Asphyxiation or drowning	25	26	22	32	29	29	39	45	49	61	60	45	44	48	26
Barotrauma/Embolism, etc.	9	12	9	8	14	12	10	16	12	17	12	13	11	18	11
Injury to head (often plus "drowning")	5	2	2	0	2	0	2	0	2	3	2	0	0	0	0
Cardiovascular syndrome	5	1	3	6	5	4	8	2	5	4	6	3	4	5	4
Aspiration of stomach contents	3	1	2	1	1	1	0	2	1	2	0	0	1	0	0
Acute decompression sickness	0	0	1	1	1	0	0	0	0	1	0	0	0	2	1
Intestinal disorder	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Bilateral ear rupture	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
Gas contamination	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
Major hemorrhages/body trauma	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1
Cerebral seizure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	47	42	40	48	53	57	65	65	70	89	80	61	62	74	44

landed on her equipment, dying within minutes. At the autopsy it was determined that she had suffered a severe bruising of the heart.

The results of 1984 autopsies showed 26 cases attributed to asphyxiation due to drowning, 11 cases of barotrauma or embolism, four involving cardiovascular syndrome and one case each involving decompression sickness, body trauma and a case that was reported as cerebral seizure.

The NUADC believes that 5 of the 26 reported asphyxia due to drowning cases should have been classified as embolism cases. Two of the eleven reported air embolism cases occurred during emergency swimming ascent training.

"This victim apparently used up all the air in his double tanks, but was unable to reach the regulator on his pony bottle which was mounted in an awkward position, well behind his shoulder blades."

The one case reported of decompression sickness involved a 37-year-old male, with extensive deep diving

experience, who had made a dive to 240 feet for 20 minutes on the wreck of the Andrea Doria off the coast of Massachusetts. This victim apparently used up all the air in his double tanks, but was unable to reach the regulator on his pony bottle which was mounted in an awkward position, well behind his shoulder blades. He apparently made a rapid ascent from a depth of about 50 feet and was unconscious when he reached the surface, having skipped all of his required decompression time.

A 37-year-old female died off the coast of Cozumel, Mexico from multiple injuries after being hit by the propeller of a speeding boat.

A 37-year-old female was found in 35 feet of water in Narragansett Bay, Rhode Island, where she had been scuba diving for shellfish. Her boyfriend was diving with surface-supplied air which enabled him to stay down for almost an hour and a half. She was reported to have been undergoing a neurological evaluation for "spells" and had been advised by her neurologist not to engage in diving or swimming. The autopsy revealed an intrinsic central nervous system abnormality which made her prone to seizure activity.

(To Be Continued)

The Undercurrent Regulator Survey: Part II

--The Users Comment

In the January issue we described the general results of our survey on regulators, to which we received 658 usable responses from our readers. In this issue, we'll look at specific brands.

Because each manufacturer has several models of regulators, it is difficult to generalize about any specific model -- there are just too few responses about each model to arrive at statistically significant

conclusions. Where appropriate, however, we'll list comments about specific models which will either help current users understand their own regulator, raise a problem to the manufacturer or provide a guideline for a future purchaser.

Perhaps the most interesting qualitative response to our survey comes from the question "Would you recommend this regulator to a friend?" In the

manufacturer by manufacturer analysis we'll talk more specifically about each product, but we should know how readers rated the manufacturers' regulators overall. The figures below are the number of respondents to the question, followed by the percentage which would recommend their regulator to a friend:

Scubapro	194 respondents	93% yes
Dacor	139 respondents	93% yes
Poseidon	32 respondents	91% yes
Sherwood	79 respondents	90% yes
US Divers	131 respondents	85% yes
Tekna	52 respondents	79% yes

As to the reasons why people will recommend or not recommend their regulators, we'll include that in the following analysis.

Another measurement of regulator quality is the number of problems cited by the users. We listed 25 possible problem areas ranging from free flowing to freezeup, from a bust hose to short hoses, to unavailability of parts to poor servicing. We then created this formula:

$$\frac{\text{number of individual complaints}}{\text{number of respondents}} \times 25$$

The resulting ratio gave the level of satisfaction of the users. The lower the number, fewer the problems:

AMF Mark 12 II	.08
AMF Mark 12 III	.03
Dacor Pacer 900	.06
Dacor Pacer 950 XL	.06
Poseidon Cyklon 300	.18
Sherwood Magnum	.04
Sherwood Magnum Bliz	.04
Tekna 2100B	.08

AMF/Mares 31 Respondents

Most of the problems with AMF regulators showed up on models other than the Mark 12 III, the current regulator from AMF Mares.

Most Mark 12 III users find it to be easy breathing, lightweight, and generally without freeflow. Nine of the ten people using the Mark 12 III would recommend it to their friends. The only person who wouldn't is a diver from West Covina, CA (he asked to remain anonymous) who has been diving for 17 years. "Mine leaks water in all normal swimming positions. During heavy surge the leakage is excessive. On two occasions the exhaust valve collapsed completely in heavy surge, causing a flooding of water and disruption of normal breathing until I cleared it. I put a stiffer Scubapro exhaust valve in the MR 12 III and reduced the problem."

No other users indicated any major problems. Indeed, they were quite satisfied.

The older MK 12 II had one problem worth men-

tioning. Chuck Zimmaro of Philadelphia, an instructor, was a member of the film crew photographing the *Andrea Doria* in the summer of 1982. He uses an AMF MR-12 II, which he finds "very easy breathing and comfortable." But, he says, "the high pressure poppet valve seems to go bad rather quickly, even annually. I know that when you turn your air valve on fast, the high pressure poppet valve slams against its seat, causing it to wear out prematurely. So, I always turn my air on slowly. However, I still have poppet problems and need to get it serviced. If it goes out while diving, it can make your dive, shall I say, 'interesting.'"

DACOR (139 Users)

Of the 56 users of the Dacor Pacer 950 XL, only one would not recommend it to a buddy. Divers find it easy breathing, sturdy and reliable, generally without problems. Of the 22 users of the 900, only one would not recommend it to a buddy; the users have generally the same positive description of the 950 XL.

Several Dacor owners, especially those using the 950 XL, complained that the second stage was too heavy. Jim Richardson (Ontario, Canada) says that the second stage of his 950 XL causes jaw fatigue on a long dive. Jaw fatigue, however, can result from an improperly fitting mouthpiece as well as a heavy second stage, and several 950 XL users (and users of less expensive Dacor models) indicated their dissatisfaction with the mouthpiece. First Lt. Doug Marcy found the mouthpiece too big and Richard Womack (Houston) didn't like the bite.

The failure of a mouthpiece to fit is a personal choice and no reason to reject a regulator. The savvy shopper, however, might explain to his dive store manager when he buys a new regulator that he expects a mouthpiece to be comfortable (and it will take a dive or two to find out). So, if the mouthpiece isn't right, he would expect the shop (or the regulator manufacturer) to provide one, at no extra charge. That would seem to be a fair and proper request.

Of the 950 users, 36% complained that the regulator freeflowed; 35% of the 900 users had the same complaint.

One area for concern is that 8 of the 56 of the 950 XL users had their high pressure hose bubble and two had it burst. Six of the 22 Dacor 900 users had a bubbled hose and two had burst hoses. This can be a problem caused by the diver failing to use a sleeve on the hose and crimping it. But that number seems exceptionally high and suggests that Dacor users pay special attention to the condition of their high pressure hose prior to any dive.

Most users appreciated the national availability of Dacor dealers so that getting servicing was easy. Art Simpson (Laramie, WY), however, complained of

the Dacor warranty — a complaint that can be applied to many other brands:

“The warranty says that you have to have your regulator serviced once a year, but it does not say (as they tell you eleven months later) that it has to be serviced within thirty days of the anniversary of the purchase date if the warranty is to remain valid. I purchased two Dacor 950 XL’s in February 1985, used them in the spring and summer, and had them serviced in August. But I was advised that I had to have them serviced again the following February to stay in warranty. I have very clean regulators and a lot invested in service.”

Overall, the top two Dacor regulators rate very high with their users: 98% of the 950 XL users would recommend it to a friend and 95% of the 900 users would recommend their regulator to a friend.

Poseidon (32 users)

The 17 users of the Poseidon Cyclon 300 liked the side exhaust, the easy breathing. Seven complained of freeflow and four of wet breathing. Jacqueline Bardach Grech (Providence, R.I.) noted that “it’s very delicate; it gets out of adjustment very quickly.” A couple of readers complained that it was difficult to find servicing, especially outside the United States. Nonetheless, each of the 17 users would recommend the 300 to a friend. Perhaps the greatest testimonial of all comes from Kelli Morrison of El Paso, Texas: “The Cyklon 300 has been used by my daughter from the age of 4 and she’s now 12. She will not even try out another.”

Two of the six Cyklon Maximum users would not recommend their regulator to a friend, both citing the difficulty of getting it serviced.

Scubapro (194 users)

In analyzing the data on Scubapro regulators, there was some confusion about first and second stage designations provided by our readers. To clarify our data, we called Scubapro President Dick Bonin. He refused to speak to one of our editors, apparently still harboring the grudge he’s held against us since we jumped on Scubapro’s SOS Decompression meter in 1976. We proved it didn’t work, that divers who followed it got bent, and called it a dangerous toy — and we were right. Ten years is too long to refrain from speaking to anyone but an in-law. Can we bury the hatchet?

Rather than distort our data, we’ll leave the individual Scubapro models alone. It’s too bad, because overall their regulator users are a satisfied lot and it would be nice to report upon that satisfaction. But, there are enough other good regulators here to give the reader sufficient choices based on hard data from previous users. A Scubapro product doesn’t really have to be considered.

Sherwood (79 users)

Sherwood Magnum users called it rugged, reliable, easy breathing and easy to service. Ninety percent of the Magnum users would recommend their regulator to a friend. Interestingly, three people complained of difficulty of breathing either at depth or at low tank pressure, a complaint not found in other responses.

The most significant measurement of the quality of a regulator is its ability to draw air when the tank pressure is low, when the diver has to work to overcome a current or other stress, at depth and in some a combination of all three situations. *Undercurrent* on three occasions has published an analysis of various regulators and will soon be publishing results of the latest U.S. Navy tests.

With few exceptions, the manufacturers and retailers ignore such regulator qualities, instead talking about single pistons, diaphragms and rainbow colors. We’ll soon report how well the Magnum and other regulators hold up in the new U.S. Navy tests.

Ninety-seven percent of the Magnum Blizzard

Heat Loss And The Wet Suit Heat Loss And Diet

A recent study of Korean women divers at Korea’s Kosin Medical College has useful implications for any cold water diver.

The researchers found that wet suits provide “unexpectedly high insulation” when worn by resting divers in water as cold as 15° C, but as soon as the divers undertook mild exercise, the insulation value quickly dissipated.

The lesson? *If a diver clad in a wet suit needs rescue and can’t escape from cold water, he should remain still rather than swim to avoid heat loss and slow oncoming hypothermia.*

In another study, this one performed by the medical faculty at the Institute of Physiology in Buenos Aires, Argentina, the reaction to immersion in 72°F water was studied in ten healthy, male volunteers, who ingested a balanced diet for three weeks (then were tested), followed by successive testing after three week diets of high carbohydrate, high protein and high fat. Caloric intake was maintained from diet to diet.

The researchers concluded that the “reaction to cold water immersion was demonstrable for all groups, but more efficient in subjects receiving either balanced or high carbohydrate diets,” suggesting that *high protein or high fat diets reduce cold adaptation.*

But one has to wonder, Would an eskimo agree?

users would recommend their regulator to their friends, citing easy breathing, durability and its lack of freezep in cold water. In fact, only one diver reported a freezep problem, and most of those who bought this regulator dive in cold water.

Tekna (52 users)

Tekna, a relatively new producer of regulators, seems to have the least customer satisfaction. We received responses from 27 owners of the 2100 BX, which gives us sufficient information to comment about that regulator.

Most of the users of the 2100 BX comment on the easy breathing characteristics and the lightness in the mouth. Walter Jaccard (Seattle) said, "it's the only regulator I have ever used that doesn't cause problems for my sensitive jaws."

Compared to the other regulators discussed in this

report, Tekna had the lowest percentage of users who would recommend it to a friend: only 74%. Excessive freeflowing was the complaint of 55% of the users; 18% complained of wet breathing, and 22% complained of sticking purge valves, and many say that unless it is properly tuned it has a tendency to freeflow and flutter in shallow water.

A so-called high performance regulator, the Tekna needs to be kept tuned to reduce freeflow. Most dive shop operators will explain to a user how he can make the adjustment himself to manage the freeflow according to the normal profiles of his dive.

Two more serious problems were cited that are worth mentioning. George Penz of Enterprise, AL, says he had "two seal rings in the second stage blow out during dives," and another reader said "the second stage blew apart at 55 feet."

Next issue: some concluding thoughts about regulators.

1987 DEMA Show

--Few New Products, But Plenty Of New Business

On Superbowl Sunday, the Diving Equipment Manufacturers Association wrapped up their eleventh annual trade show in Las Vegas. For four days, 395 exhibitors used 255,000 square feet of the convention center to display their wares to 6,000 retailers, instructors and guests. As industries go, these aren't big numbers. The International Car Wash Association was to follow, taking even more space.

In a study of the industry we have begun publishing this issue, one will see just how competitive -- and self destructive -- this cottage industry is. Walk the aisles of this show and the problems with the industry jump out. For example, 28 different companies displayed underwater lights, 51 had masks, goggles or prescription mask items; 55 had knives, 36 offered BCD's, 33 offered regulators or special attachments for breathing equipment, 38 had weights and belts, 34 sold instrumentation, 44 had wet or dry suits, and 41 offered snorkels. Of course, just about every piece of equipment comes in more than one model, so it's a wonder that any retailer could make a choice between products.

Here Technasub of Italy rubs shoulders with Scubapro and Seatech. New Zealand's Moray dive suits are pitted against Fathom and Henderson. *Skin Diver*, *Ocean Realm*, *California Diver*, *Underwater USA* and the resurrected *Sport Diver* seek to separate retailers and wholesalers from their advertising dollars.

At the show, 154 dive destinations, tour operators, airlines, resorts and live aboard boats were

represented -- guestimates are that dive travel now represents twice the business of equipment. It's a real county fair. Vanuatu touts its isolation and beauty, while neighboring Australia highlights the reefs --and the pubs.

The real hustlers dress in step with their product, in pinks or pastels, in skins or wet suits, in pirate or frog costumes. And Barefoot, direct from the Holiday Inn in Grand Cayman, leads his band through the aisles.

There's a certain excitement in all this and the lover of diving can get quite a kick just strolling past the booths, listening in on the deals being cut, or sitting for a beer and sandwich and soaking it all in.

Here's where people come to sell and buy new products for the year, and although there are always new products, there are seldom breakthroughs. I'm most interested in the development of decompression meters, and though Oceanic and Tekna have been touting their meters for well over a year, they're still several months away from making it to the dive shops. The EDGE is still king, but ORCA Industries is unable to keep up with the demand and shops have backorders several months old, waiting to be filled. Their smaller Skinny Dipper, about the size of a cigarette package, was on display, but it too is not ready for the retail store. 1988, not 1987, will be the year of the computer.

Oxygen is the best immediate treatment for the bends, and Bendecz is marketing a relatively inexpensive valve that can be attached to an oxygen bottle which allows a regulator to deliver oxygen. Many

Dive Skins And Coral Destruction

A handout, with a picture of a diveskin-clad model stretched across live coral was left lying on tables and booths at the DEMA show. The unsigned handout was probably overlooked by most of the people at the show, but it carried a very important message:

"Valerie (the model in the photo) is not a conservationist. Dive skins are for thermal insulation, not abrasion protection.

"Look what we did to Pennekamp in Florida. A dive location becomes popular only to be wrecked in a few years. We are wrecking our coral reefs.

"PADI. NAUI. SSI. NASDS. YMCA.

"All teach buoyancy control to Americans who are conservationists at heart, yet everyday thousands of divers protected by dive skins and wet suits crawl over the reefs, with excessive lead, kicking and breaking coral, dragging their gauges, grabbing sponges and gorgonians, and lying on fragile coral to steady their camera.

"It takes hundreds of years for coral to grow back and we dive on reefs as if it were sand or bare rocks.

"Photographers are the worst. Everyday hundreds of ignorant shutter bugs believe they have a

right to wear kneepads over their wetsuits and literally crawl over reefs leaving broken coral to die for their measly pictures. They ought to dive naked bearing the scrapes. We should all demand the right to view undamaged coral.

"If we don't care to learn, in five years the reefs will be broken rubble. The only thrill to diving will be getting wet. We are cutting our own throats.

"Ideas: Skin Diver magazine should quit publishing ads with models grabbing coral and sponges. Training manuals should teach conservation. Agencies should require buoyancy skills for certification. Photographers should avoid damaging the reefs and limit their shots to those they can perform without crushing coral."

[And *Undercurrent* adds this one: a new diver at a resort should be required to demonstrate buoyancy control skills; if during his dive he fails to keep above the coral, he should be warned that he's got to be careful or he won't be able to dive with the charter operation. If he persists in coral destruction, he should be beached. The industry will have to forego short term income, for long term economic -- and reef -- survival.]

resort and charter operators were buying the Bendeez, and everyone ought to. It's been available in Australia for sometime.

Sea Scan Technology has a hand-held sonar gun, permitting the diver to locate objects in dark and murky waters. It had range settings of 60 feet and 600 feet. I'd imagine that would be quite a boon for rescue divers.

Most remarkable are the nondiving items for sale: games of trivia, suntan lotion, personalized t-shirts for dive shops, made-to-order neon signs, jewelry, "collector's knives," etc. It's a real hawkers atmosphere.

Outside the main hall, in the lobby way, were the booths of DAN, of Seattle's Virginia Mason Hospital recompression chamber, of rescue divers, cave divers, and handicapped divers. They weren't placed among the hoopla inside, as if they somehow represent a black mark for the industry. Someone may try to pose the argument that their organizations are "different" from the people who have displays

inside, and that they are, which is precisely why they ought to be on the inside. Everyone should have a better chance to hear their messages.

Finally, the formal convention includes scores of seminars and discussions, and even Mel Fisher, once a struggling dive shop owner, was there to recount his tales of the *Atocha*. One evening, as I walked through the lobby of the Hilton, I saw him approaching, his head bowed, his expression grim, almost disappointed. I wondered what it would be like to spend the better part of one's life searching for treasure, spurring oneself on each day by saying "Today's the day." What a great message of hope. And what do you do when you find your treasure and you can no longer say "Today's the day." Is it the treasure one was after -- or the excitement, the adventure, the hope.

Well Mel, I hope you're happy.

Ben Davison

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