

Vol. 12, No. 9

September 1987

Uepi, Anuha, Guadalcanal; Solomon Islands

-- 1942, 1962, And 1987 In The South Pacific

Dear Reader,

As I walked up the stairs to the old main house on 250-acre, jungle-covered Uepi Island, somewhere in the Solomon Islands, familiar music drifted through the door... "Close your eyes and I'll kiss you, tomorrow I'll miss you..." A dozen people sat at two tables, drinking coffee, and eating wheat biscuits soaked in powdered milk, eggs, and toast. A giant, lumbering Great Dane walked over to examine a piece of half-eaten toast which had fallen to the floor, but its vegemite coating discouraged him, so he deliberately sprawled in the doorway so that anyone leaving would need to climb over him. On the other side of the room comfortable chairs and a couch were placed in front of a low row of shelves stuffed with books visitors have left behind, including three copies of To Kill a Mockingbird, Advise and Consent and a Reader's Digest Condensed Book or two.

Just as skin in the tropical sun, the house was aging before its time; built three decades ago, it could pass for a pre-Depression Iowa farmhouse. Even the floor bore the broom marks of never-ending battles to keep out the sand. Only the Boom Box in the corner, powered by an auto battery, came from the 1980s, yet it played the Beatles, unless it was turned to the Solomon's one radio station, which played the Sons of the Pioneers. For the next five days, I settled back into the 1960s.

Uepi Island is the most out-of-the-way diving destination in the Solomons, which themselves sit a few hundred miles to the east of Papua New Guinea, less than 100 below the equator. My partner and I arrived near Uepi, from the capital city of Honiara, on an eight-seat, regularly scheduled plane, which used a grass airstrip constructed by the Japanese during the War. (In the Solomons, it's just called "the War"; Korea and Vietnam are as distant as the galaxies.) A young man nodded and whispered a greeting, grabbed what luggage he could and motioned us to follow him 200 yards to a long and slender, outboard-powered aluminum canoe. Although we had risen three hours ago, the sun had been up only

INSIDE UNDERCURRENT

Diver Malaria Warning.....	pg.3
The Harvard Report: Part VI -- <i>Some Lingerin' Thoughts</i>	pg.7
Cave Deaths Continue.....	pg.8
The Bursting Of High And Low Pressure Hoses -- <i>Problems At Dacor And Tabata Raise Questions</i>	pg.9
Sam Davison.....	pg.10
America Is Afraid Of This?.....	pg.11
Dacor Low-Pressure Hose Recall.....	pg.12

an hour; it poured through the cracks of the morning cloud cover, shining spotlights on jungle-covered islands and a few thatched houses on the water's edge. It was to be a 45-minute ride across Morovo Lagoon, as fine a way anywhere to be gradually introduced to a new dive destination.

I selected Uepi because it had a "PADI 5-star facility" and my partner, who had been half-certified in the US, needed to finish her ocean dives. When I took a gander at the dive boats -- the ladderless, four-foot wide, 22-foot canoes which had transported us across the lagoon -- my image of a "5-star facility" quickly lost focus. But within a day I realized that if a truly 5-star instructor runs the show, then not much else will matter.

Lee Dell, who along with his wife, Judy, manages this private retreat, is indeed a 5-star manager and instructor. At his doorstep lies some of the most fertile diving one can expect near a land-based operation. Divers gear up in front of the shop, then walk 30 feet over a sole-punishing, coral beach into three feet of water to climb aboard the canoe. I slipped my tank over the side of the canoe and climbed in, joining three other divers, Lee and the boatman. Traveling less than 200 yards to "The Point," Lee's boatman dropped anchor and I and the others struggled to don our tanks while remaining seated. To keep the canoe stable during entry, two divers would fall off the side in unison. To get back in, a diver had to kick up over the side, then tumble into the boat. It proved to be much easier than it seemed, thanks to a low sideboard which became nearly water level as a diver clamored in.

Just as the dive boats come from the 1960s, so does the diving. It is rich, lively and untouched. Everywhere were lush corals and swarms of fish. We dropped to the 25-foot bottom, then into a canyon leading to the edge of a wall. Gradually descending to 100 feet, I watched a school of jacks swim in. Clouds of fish floated in the seas. Two eagle rays drifted by. We swam to the Point, a coral outcropping, then sat back to watch half a dozen black-tipped reef sharks circle. As I edged my way up into shallow water, I was astonished at the range and health of the hard and soft corals. Lee pointed out a couple of unique nudibranch, I passed a large anemone with resident clown fish and watched a lion fish, then a couple of clown triggers sauntered by. The Point juts into the channel between Uepi and an adjacent island, and the tidal flow can produce sharp currents. As we moved back up to 40, then 30 feet of water, the current quickened and I had to grab on to coral to pull myself along. But all the time swirls of surgeons and moorish idols and other fish kept my attention. And, in 20 feet of water, a garden of eels rose from the sand, permitting me to crawl within a couple of feet. The Point is a magnificently varied and occasionally breath-taking dive, one which I took twice more without the slightest trace of boredom.

On another dive, we drifted back to the boat dock from the Point, easily riding the gentle tide. The terrain is a little beaten up by the constant tidal flow, but the fishlife remains magnificent. After proving your mettle, you can

Copyright 1987 by Atcom, Inc., Atcom Publishing, 2315 Broadway, New York, NY 10024. All rights reserved. *Undercurrent* (ISSN: 0192-0671) is published monthly by Atcom, Inc. Copies of this guide are not available on newsstands, but are furnished directly to the diving public by mail subscriptions only. To maintain its independence *Undercurrent* carries no advertising. Permission to photocopy articles herein is granted by Atcom Publishers, Inc. to libraries and other users registered with the Copyright Clearance Center (CCC) for internal and personal use only at the base fee of \$10 per article plus \$1 per page paid directly to CCC, 21 Congress Street, Salem, MA 01970. Serial Fee Code: 0871/87\$10 + \$1. Other copying by any

electronic or mechanical means, including information storage and data retrieval systems, without the expressed written permission of the publisher are strictly forbidden. News media may use no more than one quarter page of material per issue, provided that *Undercurrent* is credited. POSTMASTER: Send address change with old label to *Undercurrent* Newsletter, 2315 Broadway, New York, NY 10024. Second Class Postage paid at New York, N.Y.

If you wish to receive the accurate, inside information *Undercurrent* offers, please send your check for \$36 (U.S. funds) to *Undercurrent*, Atcom Publishing, 2315 Broadway, New York, NY 10024-4397, and get a valuable free gift.

Diver Malaria Warning

Travelers in the Solomon Islands, Papua New Guinea, the Philippines and other remote areas must take one or more antimalarial prescription drugs, but it's not always easy to determine just what drugs should be taken. The Embassy of Papua New Guinea told me nothing was required, the local county health service said one drug was essential and another should be considered. The International Association for Medical Assistance to Travelers (IAMAT), which I've come to count on for information, says two drugs are essential.

Chlorquine is essential. You take one tablet a week, beginning two weeks prior to entering an area with malaria-carrying mosquitoes and continue to take it for six weeks after leaving.

Both the Solomons and New Guinea have malaria resistant to chloroquine. The IAMAT recommends that if you are traveling there for more than three weeks, then Fansidar should be taken. Fansidar may have serious side effects, so some doctors don't prescribe it as a prophylaxis; they give you tablets to take only if symptoms—high fever, sweating—appear. Because I traveled four weeks, I took Fansidar weekly.

Malaria, untreated, is a serious disease. As many as 25% of the deaths in the Solomons are attributable to it. More than 1,000,000 third world people are reported to die from it each year. One

of our correspondents who helped with the PNG story contracted malaria, even though the chloroquine regimen he followed should have prevented it.

Thanks to modern drugs, I don't consider the threat sufficient to avoid countries with malaria mosquitoes. But everyone must be prepared. I like the information available from the IAMAT. To get a good run down on malaria risk in every country and prophylaxis and treatment recommendations, as well as other information, including a worldwide climate chart, brochures on other area-specific diseases, and booklet listing member physicians worldwide, send \$20 to International Association for Medical Assistance to Travelers, 736 Center Street, Lewiston, NY 14092.

A final note: During three weeks on these two islands, I saw few mosquitoes -- they only come out at night -- and received about half a dozen bites. Bugs in the Bahamas and the Caribbean are far worse. Yet, when I would look up in my mosquito net at dawn, and watch one of those little buggers try to squeeze her way through a tiny tear, it was momentary terror until I sprayed her down. Off is a good repellent and I found that Avon Skin So Soft -- which many people swear by worked as well. Come prepared.

C.C., travel editor

get great diving from the shore. Off the boat dock, two large tridacna clams are in waist-deep water and Willie, a giant Maori wrasse, will rise to inspect you. Snorkeling is superb -- I saw three lion fish, one red, one pink and one black, hovering in formation, two feet below the surface. But you might keep your eye out for an occasional blacktip, though they don't seem to bother anyone. On a dive here, six blacktips, 5-6 footers showed up as soon as we hit 50 feet. There's a large cave to explore and chimney to swim through, but the sharks' graceful swoops were so mesmerizing we watched them for a good 20 minutes. A while back, Lee was feeding the sharks for photographers when one took a swipe at a diver's skull while he was bending over to adjust his camera. The diver had applied a zinc oxide sun screen to his bald pate and it's Lee's hunch that the glint of white may have looked fish-like. The injury was little more than a scrape, but Lee no longer feeds the sharks. They're friendly enough.

My partner was trained well under Lee's expert tutelage. On her first dive she nearly rode a turtle, and on the second she swam with sharks. A retired military officer, Lee's strong and gentle manner made everyone feel very comfortable throughout the diving. During my several dives the visibility always ran about 50-70 feet in these plankton-rich waters. At times, I am told, it does exceed 100'. One dive was mediocre, but the rest were filled with lush corals, every sort of tropical, 20-30 pound cod and groupers floating around, and clown triggers, Moorish idols, and more than enough anemones with clown fish. One sight called the Coral Gardens was a real winner. For the Caribbean diver, one might say that many were along walls as nice as the Cayman wall, only here the

parade of fish was nonstop. Perhaps like it was in Cayman in 1962.

Scattered about the coconut palm grounds, each of six cottages has a large porch, a large firm bed, double bunks and 1962 furniture. In July, the "winter", one night was chilly -- about 65o, I'd wager -- while another I sweated because no breezes wafted through the screened windows. Uepi has a camplike ambience, similar to old Caribbean fishing camps. Guests would gather on the porch of the main house about 6:30 pm for an Aussie lager and return after dinner for a game of charades or, one night, singing 'round the piano. Like camp, food was bountiful. Some offerings would be devoured, and some remained untouched. One dinner, for example, was luscious mangrove crab claws and fried fish, tomato and onion salad, eggplant ratatouille, sweet potatoes, cold bananas with coconut and lime, freshly baked bread -- sort of post-WWII island cooking. Lunches of fresh fruit, bread and cheese, once a piece of Spam, were delivered to the cottages each day. One time pizza was made with canned spaghetti instead of tomato sauce. Since a few guests brought their kids to Uepi -- they were always fed before the adults -- it was real camp for them.

A prominent American dive trip organizer visited Uepi not long ago and said his divers would never go for the cold lunches, the cold showers (there is no hot water, a problem only in winter), the dive boats, the food and the generator, which runs only mornings and evenings. "My wife wouldn't be able to run her hair dryer," he reportedly said. True enough, but this place sure worked well for me. It is homey, comfortable, friendly and isolated, not at all fancy, and just what it's about when you go back to 1962. And those prices! Cottage and meals, \$97/day for two; guided dives, \$16/person.

Contrast Uepi with the Solomon's Anuha island, which is being heavily advertised in America, and ran about \$150/person for cottage, meals and dives ... and electricity to run a hair dryer 24 hours. I flew from Uepi to Honiara, but not until I weighed myself and my baggage in on a rusting bathroom scale in the middle of a barren landing strip. It's a 15-minute flight from Honiara to Anuha, and we were handed a fruit punch as soon as we landed -- just like a luxury hotel. Once settled, I ambled into the dive shop, introducing myself to Ian Butler, an amicable Aussie. He was surprised when I told him we were here to dive. We weren't expected and, furthermore, he said, tomorrow's boats were filled, mainly by a group that had prepaid. Had we prepaid our diving, he asked. No, but I had prepaid the hotel through Aquarius Dive Travel Agency. He couldn't guarantee anything, he said, but as it turned out we always got a spot on the boats because people who had signed up cancelled -- mainly because it would be their third or fourth time to a site. Nonetheless, even the likelihood that I could be refused dives after making reservations at this touted dive resort is a warning.

Barracuda Point is an exceptional dive. I can't imagine more fish being packed into a single spot. During the dive along this finger reef, a squadron of barracuda came to watch. Among the astonishing corals, I chased a big puffer, watched bannerfish, regal angels and plenty of butterflies. It was a magnificent coral garden. Although billed as a dive resort, the boats only visit three other spots regularly, but they are fine dives: Anuha wall, which is loaded with big gorgonia, Resort reef, and Rick's reef, all with plenty of fish and coral. Visibility ran about 50-70 feet, as it had at Uepi.

Anuha's pleasant cottages had a double bed draped with mosquito netting, a second room with bunk beds and plenty of hot water. Some units were on the beach, most were not. Windsurfing and waterskiing was available at the hotel beach but the flies were so bothersome I couldn't relax until I doused myself

with the repellent provided in the rooms. Food, frankly, was an embarrassment. For two breakfasts there was no bread, and at one no eggs. At virtually every meal the salad and vegetables and the preparations were exactly the same: white rice with soy sauce to make it brown and vegetables; bananas in whipped canned milk, a corn, pea and potato succotash and ... well, after having it for lunch and dinner 5 out of 6 times, who cares. Generally the fish was tasty and the meats at the weekly barbecue were quite good. A year ago there was a top chef, but the current chef is a joke, and a bad one at that.

For the Solomon Islands, private Anuha with its palm trees and soft beaches is as luxurious as it comes, so one in search of true luxury really should go elsewhere. During my stay, the two dozen guests sat around staring at each other, wondering why the other person traveled so far for so little. The biggest event was rescuing turtles, fish, crabs, and starfish that staff had taken from the sea and put in a salt water pool without running sea water. Within a day the critters began to die and rot, so the guests rallied to remove the remaining live ones, to the mild protests of staff. If I were in the Solomons for a month, I might stop in for three days and six dives. But no more. And not at the price, with dives, of about \$150 per person. That's the outrage. And with only 3-4 regularly visited dive sites.

Actually, most divers come to the Solomons to experience 1942, i.e. the WWII wrecks off the island of Guadalcanal. The main hotel here is the pleasant Mendana, a large cinderblock modern (about \$50 US double), furnished Holiday Inn-like. Its open lobby and bar provide relief from the small, but traffic-clogged city of Honiara. Its junior-sized beach sits on a commercial harbor, dotted with sail and commercial boats. I stayed here for a night, but did not dive. An Undercurrent correspondent writes this of her two trips to Honiara:

"Island Dive Services operated directly out of the Mendana Hotel and operates daily trips to several nearby wrecks. The most popular is the Bonegi, a Japanese transport close to shore with part of its bow in 15-feet of water, and the rest continuing downward to 180 feet. All dives here are decompression dives. At 100 feet a five foot sponge rests on a big turret, permitting great shots of divers sitting on the guns. The wreck, decorated in developing hard and soft corals, houses a goodly number of tropicals, stone fish, puffers and nudibranchs, and at 60 feet resides a crusty old turtle covered with barnacles. Leaving the water, I had a little surprise, running into an orange and white sea snake, venomous no doubt. This and other wrecks are a great thrill.

"The Bonegi II is a similar wreck, horizontal to shore, and popularized by

STAR CHARTS:

Uepi Island, as a summer camp

Food:	★ ★ ★ ★
Accommodations:	★ ★ ★ ★
Diving:	★ ★ ★ ★ ½
Beach Snorkeling:	★ ★ ★ ★ ★
Money's Worth	★ ★ ★ ★ ★

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

Anuha Island, a Native Style Luxury Resort

Food:	★ ★
Accommodations:	★ ★ ★ ★
Diving:	★ ★ ★ ★ ½
Money's Worth:	★ ★

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

Mendana Hotel/Honiara Wreck Diving

Food:	★ ★ ★
Accommodations:	★ ★ ★ ½
Wreck Diving:	★ ★ ★ ★ ★
Money's Worth:	★ ★ ★ ★ ★

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

local swimmers. Visibility is lower here, but I got fine shots using portholes for framing. Twenty five kilometers from town, a well-preserved B17 sits upright, and one can enter the cockpit to join the hordes of resident fish or sit outside and photograph a buddy, through the plastic window, as an imaginary pilot. Eighteen months ago Island Dive Services took us by boat to these wrecks; six months ago they trucked us down the island for easy access from the beach. A tip: get the name of the local dive club leader from the shop, ring him up, and you'll be welcome to join their dives to these wrecks and others that tourists don't normally reach."

There are some Solomon operations. About an hour van ride from Honiara is Tamea, a natively-like resort with a small restaurant and bar. Island Dive Services operates the boat and, according to reports from several people who dived here, they find the sea life occasionally as prolific as at Anuha, for example, with far more sites. Our correspondent dived through a beautiful labyrinth of canyons and crevices among fine corals and tropicals. The highly-touted submarine Visalee she found undergrown and under-interesting, in comparison with the wrecks nearer Honiara. The resort is quiet, the people friendly, and the friendly Island Dive, which rotates its guides between Anuha, Honiara, and Tamea, will see to it that you get to the reefs -- as long as they know you're coming. A dive operation runs in the tiny town of Gizo, which, people report, has diving similar to Uepi; the small Gizo hotel is the main hostel thereabouts, making it a journey for adventurers and people who want a glimpse of the culture. It won't be that way for long, however. The developers of Anuha will be developing here shortly. They have the capacity to build a lovely place, but whether they'll know how to manage it remains to be seen.

My recommendations? For such a long journey, set aside three weeks. Stop over in Fiji, visit Vanuatu or Papua New Guinea (all of which have flights between them), or even drop down to Australia, Brisbane or Cairns. Don't consider coming unless you're willing to put powdered milk on your cereal and play it as it lays. Best bet is to camp out at Uepi for a week, dive Honiara wrecks for 3-4 days, and maybe test Tamea or go way out to Gizo. If you think you must have luxury, go to Anuha, but with low expectations, and your own bread and eggs. Frankly, in all its funk I found nothing to do on Uepi but sit on the sand, dive 2-3 times a day, take a boat trip to other island villages, read, snooze, and gawk at a Milky Way so magnificent in the pollution-free black sky that I met my God. What could be more relaxing and luxurious than that.

Getting there: In a forthcoming issue, I'll discuss some of the secrets of successful South Pacific travel; doing it without a travel agent can be time consuming and complicated -- but it can be done. The main U.S. agent booking the Solomons seems to be See and Sea (50 Francisco St., San Francisco, CA 94133; 800/348-9778 or 415/434-3400). I called Aquarius Travel in Australia, where Carol Kurop had quick and accurate answers for my many questions and pieced together a complicated itinerary in less than an hour. (More about using an Australian agent in a forthcoming issue). For good brochures or bookings: Aquarius Dive Travel, 40-42 Taylor St., Ashburton, Vic 3147; telephone 03/ 25 8863. If you insist on doing it yourself (you will save a few bucks) write Roco Ltd/Uepi Island, Via Sege, Morova Lagoon, Solomon Islands (telex HQ 66412, code BBS). For diving Honiara's wrecks, Tamea or Anuha and help with bookings: Island Dive Services, PO Box 414, Honiara, Solomon Islands, telex HQ 66315, telephone 2-2103.

Diver's Compass: Uepi offers boat trips to little villages to buy carvings and meet isolated Melanesians who may serenade their guests with the haunting harmonies of the islands ... carry a picnic for a 45-minute jaunt through an easy trail through the jungle to the far end of Uepi, passing an occasional iguana,

now and then a bird, and unusual foliage ... on Guadalcanal, there are plenty of nature trails and WWII sites to visit ... the plankton rich water means plenty of backscatter, complicating all but macroshots ... AMEX and Diner's Club are honored just about everywhere, the others aren't ... a quarter-inch wetsuit top was essential in the winter, skins work in the summer.

The Harvard Report: Part VI

-- Some Lingering Thoughts

In the last issue we concluded the five-part "Harvard Report", a study of the scuba industry produced by graduate students at the Harvard Business School. The study basically concludes that the American scuba equipment-manufacturing industry is in trouble. It reeks of petty competition, it lacks innovation and too many small companies market the same products. The result is an unhealthy industry in chaos.

These problems have permitted foreign manufacturers to gain a sizable share of the market by manufacturing quality equipment at a lower cost. Retailers are accepting the foreign goods, and American companies are losing their dominance and control. If the American industry is to survive, it will have to gain retail support through a number of marketing devices to effectively shut out foreign competition. Even so, many American companies will be unable to survive, though the better run and more innovative companies, through a modicum of cooperation with each other, will be able to hold their position and hopefully even grow.

Although the report makes scores of other points, it essentially was written to suggest ways that American companies -- U.S. Divers, Parkway, Sherwood Selpac, you name them -- can prevent foreign suppliers from becoming full-fledged competition, like Tabata has. It suggests forms of collusion that may very well be frowned upon by regulators.

To the industry, the main problem with the report was that some of the suggestions seemed to run afoul of regulatory law. Bob Gray, executive director of DEMA, told *Undercurrent* that "the Board, on ad-

vice of counsel, did not distribute the report to all the DEMA members because there were many illegal practices suggested and, as such, DEMA might be held liable for any such actions by a member company, whether or not such actions stemmed from the report."

It's unlikely that the Harvard Report told the smarter industry moguls anything that they didn't know already. The people who get the real education out of this kind of report may be individual dive shop owners who tend not to think in global terms, but focus more on how to pay their own rent. A few individual dive shop owners might have strong political attitudes that lead them to want to protect American industry, but as the report indicates in the battle to make a living, when a local dive shop can get a competitive edge and make a buck, the flag behind a product gets little consideration.

"More than one retailer has told us stories about bigger U.S. companies which occasionally attempt to freeze out competition."

Regardless of the presumed illegality of certain recommended approaches it would not be -- and, in some cases, has not been -- difficult for companies to implement some of the strategies. More than one retailer has told us stories about bigger U.S. companies which occasionally attempt to freeze out competition, how they might try to withhold goods when a retailer brings in the line of a competitor or how they pull other sorts of shenanigans.

YES, start sending me my own copy of *Undercurrent* every month.

I enclose: \$36 for a one year subscription.

For foreign air mail delivery add \$25.00/year

\$62 for a two year subscription.

For foreign surface mail delivery add \$16.00/year

(U.S. funds only)

Or charge my

Visa

Mastercard

American Express account.

Account Number: _____ Expiration Date: _____

Signature: _____

Name: _____

Address: _____

City _____ State _____ Zip _____

Please make check payable and mail to: *Undercurrent*, 2315 Broadway, New York, NY 10024.

The individual retailer has little power in the face of a ruthless manufacturer. He can go to court, but the time and money costs of litigation today are seldom affordable by a single retailer. Although many of the strategies suggested by the Harvard report might be attacked by regulators, bits and pieces of price fixing, restraint of trade, and illegal protectionism creep into the industry every day.

Regardless of DEMA's desire not to distribute the report, it got spread around. John Gaffney, executive director of NASDS, is not a member of DEMA, but once he read the report he saw to it that it got wider, however unofficial, distribution. Gaffney told *Undercurrent* that "DEMA gets a part of their financing from the sale of booth space at the annual show. They spent part of my money and money of other non-DEMA members for this study and we should have the information. I'll still be sending out copies of the report for years to come." Once DEMA heard that the report was being passed around, they released it to all their members.

Although the report provides unusual insights into the diving business, it hasn't made great waves. Ralph Osterhout, president of Tekna, told us, "The report has a built-in bias. It reflects a philosophy of restriction rather than innovation. While some in the industry might agree with that, most of us don't. As a classroom project it is good. As a basis for making manufacturing and marketing decisions, it lacks a great deal."

Some people believe some of the data is erroneous. Dennis Graver, director of Education for NAUI, said they certify far more than the 20,000 divers the report claims. "The figures in the report just don't match up with ours," he told us.

Even so, these minor inaccuracies don't distract from the major thrust of the report -- that the American industry must be protected, regardless of the cost to the consumer. To the sport diver, that's not good news.

As product users we enjoy the benefits of rough and tumble competition. For every piece of equipment we purchase, there is an alternate purchase. If we find a regulator or BC that sells for more than we want to pay, we can go down the street, across town

Cave Deaths Continue

Divers untrained for cave diving continue to die in caves, regardless of warnings from scuba instructors, diveshops, and publications.

Here are two accidents which occurred in July in which divers didn't heed the canon of common sense: unless you've been trained as a cave diver, keep out of them.

Along the coast of Hawaii's Oahu, three sport divers, all members of the Marine Corps, entered a popular underwater cave at Shark Cove, near Sunset Beach. The cave becomes treacherous when the tide comes in because swirling water blocks the exit and makes visibility nearly impossible. The divers were trapped inside until they ran out of air. A fourth diver was to join them, but arrived late so his buddies proceeded without him. When the men didn't return, he contacted the Honolulu Fire department who sent rescue divers to locate and retrieve the three bodies.

When a 17 year old diver trapped inside a murky Florida cave lost hope of rescue, he took off his tank, unsheathed his knife, and scraped this message to his parents and brother on his tank: "I love you Mom, Dad and Christian."

In 57 feet of water in a cave at Jenkins Creek Park, near Brookesfield, Jason Tuskes got trapped in a narrow passage. He had made 100 dives since his February open water certification, but neither he, nor his 16 year old buddy, had any cave diving training.

He had a guideline, but lost it and then lost his buddy as their movement kicked up limestone and mud silt and cut visibility. Though his buddy made it out, Tuskes apparently got wedged in. Larry Green, a member of the diving rescue team, called it "a very advanced dive. Most experienced divers don't even go around it."

A "No Diving" sign is posted nearby, although it is reportedly difficult to see and may be misinterpreted to mean no diving head-first from a platform.

YOUR MOST IMPORTANT PIECE OF EQUIPMENT

You pride yourself on being a safe, serious diver. You'd never consider diving without first going through a thorough check of your equipment. But if you're not currently a subscriber to *Undercurrent*, you may be leaving behind your single most important piece of gear. Join the thousands of other serious divers already receiving the inside information that only *Undercurrent* can offer. Return the order form on the reverse today!

or to another city and buy someone else's product. Should we be concerned about whether a product is made in America, Japan or Korea if it's first-class, affordable, and backed up with good service? After all, it is no secret that American diving manufacturers buy plenty of their parts and even assembled goods from abroad.

Most U.S. companies today are not manufacturers, they are only assemblers and marketers.

The Bursting Of High And Low Pressure Hoses

-- Problems At Dacor And Tabata Raise Questions

Most accidents and fatalities in diving are not caused by equipment failures. They're due to diver error. But there is one equipment problem, caused both by manufacturing faults and inadequate maintenance, which is indeed troublesome. It's the bursting of high- and low-pressure hoses.

When we analyzed and then published the results of our reader survey on regulators in our January and February issues, we were struck with the seemingly high number of people who had experienced problems with either their high-pressure or low-pressure hoses. Among those who responded to the survey, 11% had hoses that bubbled and 6% had hoses that had burst.

Most hoses rupture on the surface, but when a hose ruptures underwater it does not mean that a diver is immediately without air. We reported tests in our May, 1982 issue in which it was found that a ruptured high-pressure hose would empty a 71.2 cu. ft. tank filled to 2500 psi in 20 minutes. Low-pressure hoses which move greater volumes of air, will empty the same tank faster -- in about six minutes. The rupture of a low-pressure hose to the second stage, might make breathing exceptionally difficult, and may cut off all the air. The rupture of either hose could obviously create panic, however the National Underwater Accident Data Center at the University of Rhode Island reports no fatalities in fifteen years that they can directly attribute to a burst hose.

Problems at Dacor and Tabata

In analyzing the survey, Dacor appeared to be having more problems than any other manufacturer. We called Dacor and talked with the president, Sam Davison, who told us, "We sell more regulators than anyone else and so we can expect to have more problems."

Perhaps, but somehow that didn't ring true. With nothing else to go on but responses from a handful of Dacor users and a gut feeling that the problems our readers encountered might very well be serious, we

Hiding behind an "American" name while fearing outside competition is a ruse that the sport diver ought not to buy into.

Prices are high enough. Too many sport divers fail to replace old gear because the replacement prices are sky high. If a foreign company can sell us assembled equipment which is just as good as a product assembled here, but at a lower price, who's to complain? It shouldn't be the sport diver.

probed deeper, calling manufacturers, dive shops, repair services and readers. We learned that although hose problems are not on the increase, they indeed exist and both the manufacturer -- in this case Dacor -- and the diver are at fault.

"One hose burst after 50 uses, and one burst the first time the tank valve was turned on."

Especially revealing was a response to our Equipment Problem questionnaire; an *Undercurrent* subscriber, R. Polley of Montague, Michigan, had two high-pressure hoses "rupture." One hose burst after 50 uses, and one burst the first time the tank valve was turned on. In July, Dacor issued a recall of hoses sold between December, 1985 and July, 1987. Subsequently, Dacor Production Manager, Vern Peterson told *Undercurrent* that they had been informed of six hose failures on the surface, but then learned of a seventh in shallow water. No accidents were reported, he said, but when they found the cause of the problem they issued the recall.

In the last year, Tabata also had a problem, this in the linkage between their high-pressure hose and the SCA console. In a few instances the linkage has failed, blowing off the console. At least one incident occurred during a dive. The parts in question were manufactured by Permacal, in Moravia, California, whose representative told us that they would "rather not talk about it."

Tabata never issued a recall. Tabata Vice-President, Mr. Yuki, told *Undercurrent* that "only a small number of units were involved." Tabata told their reps to inform all the dealers that if any came in to replace the faulty parts.

By failing to issue a formal recall, Tabata has not informed owners of the faulty hose/console coupling. Any number of these dangerous devices are being used by sport divers. Any diver with a Tabata hose/console ought to rush right into their local shop

to see if they are toting around a serious problem.

Tabata has since switched to Sierra Precision as a supplier, which has had its own problems. They produced the problematical Dacor hoses.

But problems may extend to many other hoses as well. Industry sources estimate that as many as 750,000 high- and low-pressure hoses are sold each year, the majority with new regulators. Two rubber companies, Gates and Goodyear, produce the bulk of these hoses, which are sold to firms such as Pelagic, Sierra Precision, Sherwood-Selpac, and ScubaPro, which attach the couplings.

The Making of the Hoses

Goodyear, which makes only high-pressure hoses, and Gates, which makes both, manufacture their hoses to meet U.S. Navy strength and nontoxicity specifications for the delivery of breathable air. To manufacture a hose, a plastic or rubber tube is formed around a mandible and then wrapped with a fabric to provide support for the tubing. It is covered with a rubber outer surface which is perforated with tiny pinholes so that any air that is emitted from the gas-permeable inner tubing can escape. These perforations minimize the likelihood that a blister (some call it a "black olive") will form, if air is trapped between the hose and the covering. A nontoxic lubricant is used on the mandible to allow the tubing to be removed easily.

Goodyear and Gates also make the same tubing size with identical pressure capabilities for nonscuba uses. This tubing may be wire-wrapped instead of fabric-wrapped. It doesn't meet the specifications for breathable air and apparently it is a little less expensive. These hoses, manufactured for industrial uses such as filling tires normally do not have perforations since a blister is not considered threatening. In normal use industrial hoses are not subjected to salt water or sunlight, so there is little degradation of the inner material. Internal wire wrapping is also not a problem because in most industrial uses the hose is seldom subjected to a great deal of flexing. If flexing causes it to leak or snap, then it is repaired or replaced.

Sam Davison

The founder and president of Dacor, Sam Davison, died last month, after a bout with cancer.

Davison, who founded Dacor 34 years ago, developed his company into a major force in the dive industry. Although he will be greatly missed by his family, friends, and business associates, Davison's expert skill in building his company assures that Dacor will remain a leader in the industry for years to come.

Years ago hydraulic hose was freely substituted for scuba hose. Although there is no hard evidence that the practice exists today, some people think hydraulic hose may be occasionally substituted for scuba hose. One such person, Gary Porter, technical representative at Gates, told *Undercurrent* that "occasionally I get callers who ask questions that make me feel that some hydraulic hose is being used for diving."

Older regulators which have never had their hoses changed may be sporting hoses which were never intended for scuba use. It would be prudent for anyone with hoses more than five years old to check that out. These hoses could be slightly toxic, could corrode internally, and could be more susceptible to blistering.

Goodyear and Gates sell their scuba hose, in bulk, to firms such as Pelagic, Sherwood Selpac, Sierra Precision, Scubapro, Global and Permacal. They cut the tubing to length and fasten fittings to each end. At least a sample of these hoses are subjected to various tests: visual inspection; submersion with air in the hose; pull tests (to see if the fitting is actually on tight enough), overpressure tests and so on. Most manufacturers we spoke with claim to test every hose they sell, but in considering the high costs of individual tests on a product that sells to retailers for \$12 to \$20, we have a difficult time believing that every hose from every scuba manufacturer gets the full megillah of tests. Hopefully, we're wrong.

"Nearly 4000 hoses may be imperfect, despite quality assurance sampling and other testing."

With some 750,000 new hoses sold per year, a failure rate of .05% -- a figure suggested to us by one industry person -- would mean nearly 4000 hoses may be imperfect, despite quality assurance sampling and other testing. If the hose end was not cut squarely it may still pass a pull test, but not withstand continued flexing; after a period of time the fitting and the hose part company. If the hose were not pushed into the fitting far enough for a solid fit, it may not withstand continued flexing or the pressure created if divers use it to pull a tank from the water.

Gary Porter from Gates says that "we have studied problems with our hose and conclude that 65% of the problems are due to some sort of user abuse." That means 35% of the failures are the fault of the manufacturing process.

Staff at National Scuba Repair and Professional Scuba Repair told us that "the proportion of hose replacements is not any greater now than it has been." The greater number of problems we have heard about could be just due to a greater number of regulators in use and a greater number of hoses being sold.

Nonetheless, the numbers are still cause for concern -- anything that threatens one's air supply ought

America Is Afraid Of This?

One of our associates recently bought a Tabata mask, accompanied by a small pamphlet entitled "Snorkeling is Fun." Here are some excerpts:

"...a mask, a snorkel and a fin, three gears you need to go underwater sea (sic). You don't have to own all of these all at once. Having just any one of them would give you a greater joy of sea life..."

"Choosing your fins: you wear them like a pair of shoes. This [boot type] of fins cover your feet from ankles and under, and keeps your feet unhurt on ruggy rocks..."

"A snorkel is a gear for swimming but not for diving. It works only when its top stays above water level. . . .one who cannot swim should not use a snorkel. . . . you must have company in swimming wearing a snorkel. . . .a snorkel must be used fixed on the mask. . . .it is very dangerous to try to change any part of a snorkel for yourself..."

"The sea is for everybody, but catching sea lives is the right belonging to fisherman under the law. They not only catch sea lives, but also try to help their proliferation. When we play and enjoy marine sports, let us remember that not only fishermen's rights but also nature should be protected. . . ."

After reading Tabata's flyer, we don't think that Scubapro or Tekna or others ought to worry much about Tabata's scintillating ability to write good copy about their products. But maybe NAUI should. With all this effort to combine manufacturers and training agencies, can you imagine what kind of training NAUI/TAB might produce? God help us if the guy who wrote this Tabata flyer gets on NAUI's board. Since it's "very dangerous to try to change any part of a snorkel for yourself," NAUI/TAB might require visual inspections and new mouthpieces annually. Would NASDS, Mr. Gaffney, be far behind?

to be a cause for concern. If there were that sort of failure rate in hoses for emphysema patients, we'd have a national scandal worthy of 20 minutes of Diane Sawyer's or Morley Safir's time.

The problem with the Dacor hose was rooted in design changes, says Larry Murphy, president of Sierra Precision. Somewhere the decision was made to increase the internal diameter of the hose to increase the air flow, thereby making breathing easier. The larger internal diameter hose required a fitting with a larger interior diameter which, it turned out, could be more easily damaged. If a tank were to be

knocked over, for example, the metal fitting could break or crack. Sierra Precision has since redesigned the fitting to increase the strength and reduce the chances of shearing.

Hoses do burst. In the past this was frequently caused because a low-pressure hose was inadvertently attached to a high-pressure port. When the air was turned on, the hose would burst immediately. About five years ago, the DEMA standards committee realized this, and those regulator companies which subscribe to their standards modified their regulators with different sized ports for high-pressure and low-pressure hoses. On older regulators, it is possible to put a low-pressure hose into a high-pressure port and blow the low-pressure hose.

User related problems

Hose problems nearly always occur at the coupling, where crimping of the hose cuts into the rubber or loosens the hose from the fitting. A hose can be damaged to the bursting point, if the tank is lifted by the hose rather than the tank valve or backpack or if a tank falls over and lands on the hose/fitting joint. Hoses can also be damaged, if they're rolled up tightly and stuffed in a dive bag or if they're hung improperly for storage. They're also strained when the valve is turned on. The more often the valve is turned on the greater the strain on the hose.

Most crimping problems will be obviated by using a sleeve to support the hose on the end attached to the first stage. But our regulator study found problems even with fully sleeved hoses which, if not looked under regularly, can hide an oncoming problem. The design of some sleeve protectors don't help. Tight-fitting, they keep the water in and help corrosion build up around the fittings. Newer protectors have ribbing which allows the water to drain out. They're also easier to pull back to inspect the fitting.

Some divers reported hose problems soon after having a regulator serviced. The serviceperson simply made an inadequate inspection of the hose. Reader Linda Frumkes of Malibu, California, had a high-pressure hose fray on her US Divers Conshelf regulator right after servicing. "Obviously," she writes, "no one looked under the high-pressure sleeve when the regulator was serviced." Curiously, she reported, the new hose she put on for a replacement, "blew up like a balloon."

Although most of us rely on servicepeople to give our gear careful treatment, that's not enough. Prior to having a regulator serviced, a diver should make his own careful visual inspection of a hose and deliver the regulator to the serviceperson with the sleeves pulled back. The serviceperson can't help but make the check then.

Hoses should last, depending on who you talk to, from two years to a lifetime. It depends on how often you dive, how the hose is cared for -- and the quality of the hose in the first place.

How you take care of and handle the hoses may well be the major determining factor. Never lift a tank by the hose. Store the regulator flat with the hoses in a loose curve. Use ribbed hose protectors and slide them back and inspect the hoses prior to any dive trip. If you notice any corrosion buildup, you can soak the fitting in a vinegar-and-water solution, clean off the residue, dunk it into a baking soda-and-water solution and dry it off. Look for dryness, cracking or wrinkling at the juncture of the hose and fitting.

"Make sure the hose you purchase has minute perforations in the outer coating, indicating that the hose was made for scuba diving."

Wiping down hoses with a substance such as Armorall may help prevent the weathering and cracking of the external rubber coating. Armorall penetrates the top layer and should not cause any problems with sealing the perforations, nor should any vapors get into the air-carrying tube.

Scuba hoses have tiny perforations in the outer cover. Look closely at yours; if there are no perforations, keep a sharp eye out for blister development. If any of your hoses are not perforated, ask your dive shop to determine whether they ought to be replaced.

Buying replacement hoses

New hoses run between \$20 and \$40, and the prices vary markedly from dealer to dealer. Most divers are not offered options when they buy a replacement hose; they take what the shop gives them and they don't ask questions. If your dealer is reputable, you come out fine. If not, you might conceivably get a hose manufactured for filling tires.

It's not easy to determine what sort of hose you get. Some manufacturers print or emboss their logo on the hose. Some print the specifications on the hose. Some say "tested." Some say "made in USA." And many have no apparent markings at all. So when you buy a hose, ask your dealer who manufactured it. If you have any doubts, ask more questions.

Make sure the hose you purchase has minute perforations in the outer coating, indicating that the

Dacor Low-Pressure Hose Recall

Under severe stress situations, certain Dacor low-pressure hoses may become detached at the first stage fittings. These hoses were supplied to Dacor by Sierra Precision of California and were used on Dacor regulators sold to retailers between December 1, 1985 and July 9, 1987.

Any Dacor regulator purchased between December 1, 1985 and August 1, 1987 should be immediately returned to a Dacor dealer for hose replacement.

Do not use a suspected regulator until the hose has been changed.

The suspected hoses have data codes engraved on the crimped portion of the metal fitting on the hose closest to the first stage. A "letter" is engraved on one side of the fitting and a "number" is on the other side.

The suspected data codes are -- D5, A6, B6, C6, D6, A7, B7.

If a Dacor regulator owner is unable to identify the suspected hose, the entire regulator should be brought to the nearest Dacor dealer for prompt examination and possible exchange.

In the event that a Dacor dealer is not available, the *entire* regulator should be sent back to Dacor Corp., 161 Northfield Rd., Northfield, Illinois 60093. Dacor will then replace the hose and ship the regulator back promptly.

hose was made for scuba diving; check the fitting areas to see that the fitting is on square and doesn't have any wrinkling at the juncture of the hose and the fitting. Note any discoloration of the metal of the fitting which would indicate uneven plating. Then buy hose protectors with ribbing. And if you have an old regulator, make sure the high-pressure port only gets a high-pressure hose -- not all hoses are adequately marked to facilitate easy differentiation.

High- and low-pressure hoses are vital pieces of equipment. They do fail, more frequently than they should. Thankfully, most fail on the surface, when the air is turned on. Keep yours well-inspected and, for insurance, pack extras when ever you go diving. That way, if you have the slightest doubt about a hose, you can replace it on the spot. That's what smart and safe diving is all about.

1-800/521-7004

*Want Back Issues? Gift Subscriptions? Have Subscription Problems?
Want to Renew. Call the above TOLL-FREE number.*