

good visibility. Normally, the visibility in the open ocean dives looks a little like the Caribbean down to about 30-40 feet. Then it starts to decrease, usually to as low as 10-15 feet before increasing again as the sandy bottom is approached. Occasionally currents appear, especially in twenty feet of water.

Given the conditions one faces here, especially crawling in and out of massive wrecked ships, a safe diver must be equipped with the right gear. My gear includes: a bright and dependable light; a strong knife for cutting away entangling fishing or ascent lines; a 100-foot line and reel; a dry suit with a hood, booties and gloves; a luminescent depth gauge, compass, watch and/or Bottom Timer; an auxiliary second stage regulator; and a pony bottle with its own regulator, which I use when I plan to penetrate a wreck. Some dive boat captains insist on this equipment, some only recommend it and a few just ignore the diver's equipment and permit them the freedom to kill themselves. A catch-bag is handy for artifacts, lobsters, clams and scallops.

Aside from the cold water and low visibility--and the equipment required--a fear of sharks keeps some people away from New York wreck diving. I think it's an ill-founded fear, rooted more in fable than in fact. In my 14 years of diving here--and my nearly 300 dives--I have seen sharks on only one dive. Tiger sharks swam around us as we descended on the anchor line. They seemed excited, so I and my buddies got excited too. We did what any wise diver would do. We went back to the boat and picked another site. Of course, "Jaws" let the world know that Great Whites live in these waters, and indeed they do--to record sizes. But I've never seen one and don't know anyone who has. In fact, one night we made a midnight dive on the U.S.S. San Diego fully cognizant that Great Whites were feasting on a 60-foot whale carcass less than a mile away. We felt safe because we knew they had a bounty to gorge themselves on.

I often see whales on the journey to and from the dive sites, but I've never been lucky enough to spot any underwater. Other critters abound. Around most wrecks one finds plenty of game fish--and spearfishers seldom leave disappointed. Striped bass in season--about 15-20 lb. average--are the big prize. Long cod and conger eel abound on the wreck. Perhaps the biggest surprise is that "tropical" fish may be seen. I've seen several banded butterfly fish, for example, which apparently travel up the Gulfstream, leave it, and become acclimated to the colder waters. Scorpion fish live throughout the wrecks; most are dark, similar to their Caribbean cousins, but others are bright yellow or mottled black and yellow. Flounder, crabs, clams and scallops are found on the bottom. Lobsters live in every wreck. A lobster license is required and the size regulations and limits are strictly enforced by dive boat captains. Twenty pounders have been taken by hand, but mostly 1½ to 4 pounders are the rule. One interesting creature I see frequently around the wrecks on sandy bottoms is the large flat Goosefish. When perturbed he opens his enormous mouth, filled with the vicious looking teeth. When looking at him head-on with his mouth open, only the huge mouth can be seen, and none of the body is visible behind it. White plumose anemones are so abundant on most wrecks that my hand can be in contact with as many as a half-dozen at a time. Some stalks are as large as my arm. They're especially beautiful at night when they spread themselves to feed. Long-leafed, short-stalked kelp and seaweed are plentiful in the sandy and rocky areas, mostly at depths less than 50 feet.

Yet, I don't come to the wrecks for the fish or the spearing. I come as an explorer. And the exploring begins with the locating of new wrecks for exploration. New wrecks are located each year, mostly by fishermen, who after losing their nets

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in the same place time after time, frequently pass on the locations of these underwater "obstacles" to dive boat captains. I've joined many obstacle dives to determine the nature of the "obstacles," only to find large boulders draped with nets. However, on one "obstacle" dive we discovered a large steel combination steam and sail ship. We found many artifacts and raised an 1100 pound, 150-year-old bower anchor, which now decorates the yard of the boat's captain. This ship was later identified as the Leyden, which sank in 1902.

Trips to the wrecks, depending upon the shop, the boat, and the destination, can take one to three hours. Once at the site, the captain drops anchor to hook the wreck. Captain Gary Dow of the Dolphin will hook the wrecks with a grappling hook secured to the stern of his boat, which makes descent from the diving transom quite convenient. For ascent, one can hand a camera and goody bag to those aboard without having to swim a stroke. Descent and ascent via the anchor line provides an opportunity to stop at 10 feet for a few minutes on a nondecompression dive, and to stop as required on a decompression dive. It assures the diver that he can find the wreck--and find the dive boat.

I've been on boats when the anchor broke free and dragged for some distance before hooking in to wreckage again or the bottom. For this reason I carry, and strongly recommend, a 100-foot reel of line. I hook it to the anchor line and let it play out behind me as I explore the wreck. This gives me great security and peace of mind as I no longer need to worry about how I will get back to the anchor line. Some captains require that divers without reels carry an ascent line which they are to fasten to the wreck and "climb" to the surface, so they can hold fast in any current. I'm not a fan of that practice because the lines are left tied to the wreck, waving like giant garden eels. I've gotten myself fouled up on such lines and expect them to become a greater hazard as they're more frequently used.

One must be cautious once on a wreck. It's important to follow the dive plan, to be wary of too-tight squeezes, to keep one's buddy in sight and to avoid situations where one is at all skeptical of the physical integrity of the wreck. With the right equipment and the right attitude, a wreck dive is among the most exciting adventures.

Once on a wreck, most people search for artifacts. Many wrecks are nearly as pristine as the day they went down. Others are being ravaged by over-eager souvenir hunters. Artifacts that are likely to be lost beneath the sand, and other small loose items such as china and utensils, are certainly fair game and should be collected. But ripping off the U-853 deck gun, or cutting away the entire name plate on the Montana, I label as downright vandalism. One serious case of deliberate vandalism occurred on the Ohio, recently located in Greenport Harbor and being studied by a group of scientists. A dive boat was prevented from diving the wreck. The captain left the area only to return at night to rape the Ohio of many historically valuable artifacts.

My favorite wreck is the U.S.S. San Diego, a 500-foot World War I heavy cruiser with 8-, 6-, and 4-inch guns. Torpedoed in 1918 by a German submarine, she lies inverted in 100 feet of water about 10 miles south of Long Island. Fifty men went with her. The San Diego has yielded many fine artifacts; brass star muzzle covers, a gold watch, knives, forks, china, portholes, and ammunition. The hull is beginning to collapse, and once it does it will give up even more artifacts. It can be penetrated now, but a penetration line should be used as the ship is upside down, and it is easy to become disoriented once inside. I found the small arms ammunition room filled with clips of 30.06 bullets and primers for the big shells. These can be safely cleaned and the powder removed. I also found a large room filled with the big shells, but I wisely decided to leave them. One diver was not that smart--he brought up a 5-inch shell that weighed 98 pounds and had 55 pounds of

black powder in it. The dive boat captain, who should have known better, let him bring it aboard. To compound his error, the captain threw it onto the dock when they returned that evening. The county bomb squad was called. By the time they found the diver with the shell, at the South Bay Diving Center in Copiague, he was preparing to sandblast it! The shell was taken to the bomb disposal area and exploded.

Another exciting wreck is the 510-foot Cunard Line luxury passenger liner Oregon, now resting in 110 feet of water. She was the victim of a night-time collision with an unknown schooner off Long Island on March 20, 1886. During World War II, German submarines would lay on the bottom next to her and wait to attack merchant ships steaming past. Once the Navy discovered the hideout, they broke up the ship with depth charges. The Oregon is loaded with lobsters and artifacts. Some of the artifacts taken include portholes, Cunard Line dishes of Davenport China, chamber pots, crystal decanters, solid silverware, bottles, brass drawer handles, and many other interesting items. Some of the china pieces have been appraised at \$500, the chamber pots at just over \$1000 and a ceramic vase with gold and silver inlay, signed and dated 1881, at \$8000!

The Lizzie D, a rumrunner during Prohibition, had her career end in 1922 after being chased by a Coast Guard cutter. As she tried to escape a fire broke out, and she sank in 80 feet of water 9 miles south of Jones Inlet. She went down with New York rye, Athertonville, Kentucky bourbon, and Canadian scotch in her hold. Many bottles have been recovered, mostly bourbon, and they continue to be found. Those still with sauce in them have sold for as much as \$100 each, while the empty bottles, some 100 years old, are valuable in themselves.

Sitting upright and relatively intact, the U-853, a German World War II submarine, can be found in 120 feet of water northeast of Block Island. The wooden deck planking has rotted away, and someone removed the deck gun. Other than that, she is all there. The two times I dived it last summer, it had visibility of 6 inches once and a good 50 feet the next time. Slack tide is the best time. Surface currents can be tricky. Currents can be bad on the surface around the area of the U-853.

There is an endless array of other wrecks: the Montana, a wooden schooner in 90 feet of water; the Essex, a steel freighter in 20-30 feet of water; the Lightburne, a steel tanker scattered in 20-30 feet of water off Block Island; the Putza, in 5-20 feet of water; the Grecian, a steel freighter that went down May 27, 1932, in 90 feet of water; the Bass, a U.S. submarine sitting upright in 140-150 feet of water; the Black Warrior, a steam-powered sidewheeler that went down in 1858; the Black Point, a steam-powered ship that was torpedoed by the German submarine U-853 on May 5, 1945; the Hilton Castle, a freight steamer that went down in 1886 off Fire Island; the Gate City, a steamer that sank on February 20, 1900, with a load of cotton; the Larchmont, a Joy Line steamer sidewheeler, that sank in 1907 off Block Island with a loss of 131 lives; the James Lawrence, a schooner with a cargo of resin that sank off the Rockaways in 1877; the Iberia, a schooner which sank in 1888, the schooner Cornelia Soule, called the Granite Wreck, that sank in 1902; the "Steel Wreck," a wooden vessel with a square mast which sank in about 1895 with a load of bedsprings and other wire products; the Coimbra, a British tanker listed as a war loss on January 15, 1942; and the Stolt Dagli, a Norwegian tanker that sank following a collision and the loss of 13 lives, on November 22, 1962.

In the next issue, I'll list a number of boats, select my favorites (and tell you a couple to stay away from), provide tips to "tourists" about how to deal with the locals, and describe a specific dive. But, if you're anxious to hit the water, I can for now at least point you toward my favorite boat, the Dolphin--owned by

Dowling College. The Skipper is Gary Dow, 49 Mount Pleasant Road, Smithtown, N.Y., 11787, telephone (516) 979-0322. The Dolphin is a 47-foot craft which carries 6 or 7 divers at \$45 for the day. You bring all gear, including two filled tanks. A well-equipped boat, she has two large winches and carries lift bags; she has three LORANS, three depth recorders, a 40 nautical mile radar, two VHF and one CB radio, and an autopilot.

Grand Turk Update

In my piece on Grand Turk, I forgot to include information on the first-class dive guide we found there in our first review in 1978: Phil Pruss. Though still on the island, Phil is no longer leading dive trips. He's been bent three times and has had to hang up his snorkel. It's unfortunate for Phil, of course, and it's unfortunate for hundreds of traveling divers as well. Under Phil's charge, a diver would discover the incredible underwater wilderness of Grand Turk in a personalized way that's just impossible today.

Phil, we wish you well.

C.C.

Preventative Medicine for Divers

How to Stay Wet by Staying Well

Each year, more money is spent on dive vacations than for lessons and equipment. Most traveling divers have a grand time, some only a fair time, and a few find that whatever could go wrong did. Some of these divers get struck by an illness, others have a dive accident. Some get poor local medical care, and for others the medical care, good or bad, makes little difference.

In most instances a little time and effort prior to a trip can minimize the effects of accidents that may occur when away from home -- and away from known medical facilities. These are our suggestions:

Health Insurance

Before you even plan your trip, check your health insurance policy. You'll need to answer two basic questions.

- 1) Does your insurance cover medical services outside the U.S.?
- 2) Does your insurance cover medical air evacuation?

This second question may seem a small problem, but consider that air evacuation from, say, Cozumel to Durham, North Carolina will cost \$7,000 and up, depending upon the type of aircraft needed. Some air evacuation companies use Lear jets with the capability of maintaining cabin pressure at sea level -- an important feature if you have a bends hit. None of these companies will take off from their home field without assurance that they'll be paid -- and usually up front.

If your basic policy doesn't cover medical air evacuation, see if a short-term rider is available which will provide coverage for just the period of time that you will be away. You should also check your policy for coverage while SCUBA diving. A few carriers specifically exempt divers. If you have ques-

tions, direct them directly to your insurance agent and get an answer in writing. (We'll have more about insurance for divers in a forthcoming issue).

Advance Disease Warning And Prevention

Since it is easier and cheaper to prevent or minimize a problem than it is to treat it, if you think you may be exposed to disease, take preventative measures. Lest you think there's nothing left to worry about in this wide wide world, there are plenty of diseases available in the tropics just for the asking: Jamaica had a polio problem early in 1982; (see side bar). Cholera is a problem in Truk, Sri Lanka, and the Philippines; malaria can be a problem in isolated areas in Central America. Hepatitis can occur anywhere, but a gamma globulin shot prior to exposure can prevent or minimize the effects. All of these major communicable diseases can have long-range effects, but with a little effort on your part they can be prevented or minimized.

After you have selected your dive destination check with your County Health Department for current health information about the area. Specifically, you should seek information about communicable diseases: polio, malaria, cholera and about sewage treatment.

In the past such information was available from the Public Health Service, but with Federal government budget cuts this information is now given out by the County Health Departments. You may also contact the U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Atlanta, Georgia, 30333.

Traveling

If you are taking any medication, find out if it is all right to dive while taking it (see sidebar). Have your

prescription filled before leaving, and carry a back-up supply should your plane be delayed. Always carry your prescriptions in your pocket, purse, or carry-on luggage. Too often checked luggage arrives days late. If your medication needs refrigeration, avoid tiny little isolated spots where a single generator runs the refrigerator.

If you are allergic to insect bites -- e.g., bee stings or no-see-ums (first time tropical visitors may find themselves severely swollen and itchy from bites from these invisible little bugs) -- consult your doctor for any medication he suggests you carry. Bring room sprays and insect repellants for your bared parts. And don't sit on the beach at night without checking your bites. It may be a few hours before you experience the full effect.

Diarrhea seems to be nearly a universal problem in Mexico and some Central American countries, but less a problem elsewhere. Get an advance prescription of Lomotil (it's available over the counter in Mexico). Don't overlook the power of Pepto-Bismol; a number of medical sources have discovered that for most people it's the superior curative on the market, Lomotil notwithstanding.

A first-rate first aid kit is offered for divers in a tough, plastic, water-tight box by Pelican Products. It's just as good for diving as for home. It's available in most dive shops or from Pelican Products.

Another consideration is what to do if you lose a filling, get a toothache, or chip a tooth. The Yak Works, 2030 Westlake Ave., Seattle, Washington, 98121 (toll free number 800-426-9935), offers a dental first-aid kit for \$16.95.

These steps will help you ensure that you are prepared for most minor medical contingencies. If you receive the appropriate immunizations, carry a first aid kit and needed prescriptions, your out-of-pocket costs will be cheap insurance for an enjoyable dive trip.

Medical Care While Travelling

How can you maximize your chances of getting quality medical care in case of an accident or serious illness? Let's consider the program from four aspects: diving-related illnesses and accidents, inside and outside the U.S.

Diving-related problems might be the bends and related pressure problems or contact with toxic marine animals. For problems other than pressure related problems, check first with the Undersea Medical Society, Inc., 9650 Rockville Pike, Bethesda, Maryland 20014, or call during regular business hours at 301-530-9225. This organization can provide you with a list of the doctors who are members of the organization, and whether any practice in the area you plan to visit or are in at the time.

If the problem is the bends or other pressure related accident, or if the Undersea Medical Society

PREPARING FOR POLIO

Less than a week before my air charter to Jamaica was to depart last September, I learned from an associate that a polio outbreak had occurred there. I broke into a cold sweat when I heard the dreaded word, "polio." Visions of iron lungs and wheelchairs popped into my mind. Sure, polio had been all but eradicated in this country, and immunizations should have made me immune. But travel into a country with an "outbreak"? What to do?

I called my travel agent, but he could not confirm the story. The Public Health Service could. I learned that in one small locale, more than 50 Jamaicans had contracted polio. No tourist had. The outbreak began in May, and by July it had been declared under control after a community immunization program. Said the Public Health Service person, "Jamaica, no problem. If you've been immunized, don't worry."

But had I been immunized? I recall taking serum in sugar cubes twenty years ago but had I taken all three? I had an injection before that. Was that any good? Are there new kinds of polio? A call to the Centers for Disease Control in Atlanta brought the information that the Public Health Service might be acting too swiftly. I'd be wise to get a booster, I was told, if I were to be traveling to Jamaica.

So I called my Doctor. "Not to worry," he said. If I wanted a booster he would order it. \$8. No problem. I picked it up at the corner drugstore, and inside found a wordy insert. But I read it: 24 million doses had been distributed, resulting in 18 vaccine-associated and 47 contact vaccine-associated paralytic cases. What to do? Was a trip to Hedonism II in Jamaica that important? I paced the floor, finally popped the vaccine in my mouth, and waited for my legs to go numb.

I'm still walking. No doubt I would still be walking had I not taken the vaccine. But why take a chance? Before my next trip you can bet I'll call ahead to learn how to prepare myself.

— C.C., travel editor

is closed for the day, call the Diving Accident Network (DAN) at 919-684-8111 and announce that this is an emergency call. This number operates 24 hours a day, seven days a week and is located at Duke University in Durham, North Carolina. They will direct you to the nearest chamber, alert the chamber, assist in consulting on treatment, and, if needed, secure medical air evacuation, provided you can pay for it or are covered by insurance. These folks have an up-to-date list of all the available chambers in the

world and can also assist in securing additional medical help, other than chambers, in most areas of the world. But there may be no help in some areas.

For illnesses and accidents outside the U.S., either of these numbers might be of help, but the first one to call for non-diving related problems would be the Undersea Medical Society, which may be able to help you identify a doctor specializing in aquatic medicine at your location. You can assume, however, that the more isolated your destination, the less likely you will be to find decent medical care. It's common when traveling to have the hotel manager locate a physician for you, but these are not always good bets. Dr. Ken Kizer of the Underwater Medical Society points out that "most of these doctors are retired and just looking for a small income. If your problem is serious, you had better get a second opinion."

Undercurrent spoke with several diving doctors to get their opinions on how to get medical care. Most were skeptical of the quality of care available at many diving destinations -- or in many of the so-called developed countries. One said: "If you get sick in Italy, your best bet is to get the hell out of the country." Or contact the American consulate, since you can presume that American foreign service personnel have discovered for themselves where to get good medical treatment. Otherwise, follow this advice:

★ Go to the nearest teaching hospital. A teaching hospital is associated with a medical school and will be able to provide state-of-the-art care. But you may have to sit around and be shunted from one department to another until you find someone who has an interest in your particular problem.

★ Go to the Emergency Room of a hospital. Emergency medicine has grown rapidly in the past few years and is now a specialty of its own. These physicians see a wide variety of problems and are for the most part current in their knowledge and experience.

★ Go to the biggest clinic in the area. Clinics can usually pay higher salaries and so demand the best graduates. The clinic also sees a wide range of illnesses and usually will have specialists on staff.

★ Contact the American College of Emergency Medicine or the American Academy of Family Physicians and request a name or names of members who have been certified in the past five years. The American College of Emergency Physicians can be contacted at: 420 Decker Drive, Suite 3200, Irvine, Texas (214-255-3553) and the American Academy of Family Physicians at: 1740 West 92nd, Kansas City, Missouri 64114 (816-333-9700).

All of the procedures and steps to be taken should

be fully discussed with your dive buddy. It won't help a lot if you know all the steps but are the one who's ill or hurt, and can't tell others what to do.

Drugs Under Pressure: Six To Avoid

There are limited data on the use of drugs under pressure. Last year, the Diving Medical Advisory Committee of the United Kingdom sponsored research by R.A.F. Cox, M.D., who gathered data from fifteen physicians. They reported on a number of drugs for which they had *no* evidence of any side effects while used under pressure. Common drugs included: Lomotil, Gelusil, aspirin, penicillin, ampicillin, tetracycline, and Sudafed.

However, problems were reported with a number of drugs. We quote:

Distalgesic (an analgesic): "I personally have witnessed hallucinations in a diver on Distalgesic at about 100 ft. on air. Perhaps one should express a little caution in the use of this drug under pressure."

Trimonic (cough medicine): This "has a sedative effect and divers should not enter the water for 18 hours after taking it."

Eskornade (ear, nose, and throat preparation): Used to relieve upper respiratory tract congestion, it "tends to be very sedating, and divers who have taken it should not enter the water for 18 hours."

Nezeril (nasal spray): "One observer reported severe vertigo and unconsciousness in a diver who had administered to himself a Nezeril spray before the dive."

Buscopan (anti-spasmodic): "Buscopan was used inadvertently on one occasion by a diver who died. He was taking it for unknown reasons and developed dizziness and vomiting."

Butazolidin (anti-inflammatory). This "has been used by two observers on about six occasions and every time the treatment has had to be abandoned because of side effects. On one occasion the patient developed purple scintillae in his peripheral visual fields and on other occasions the patients developed gastritis, sometimes with vomiting, and from the observations recorded on these occasions it would seem that the drug was less efficient than when used on the surface."

A copy of the report -- Interaction of Drugs in the Hyperbaric Environment -- may be ordered for \$4 from the Undersea Medical Society, Inc., 9650 Rockville Pike, Bethesda, MD., 20814.

The Art of Underwater Photography

A New Approach to Learning

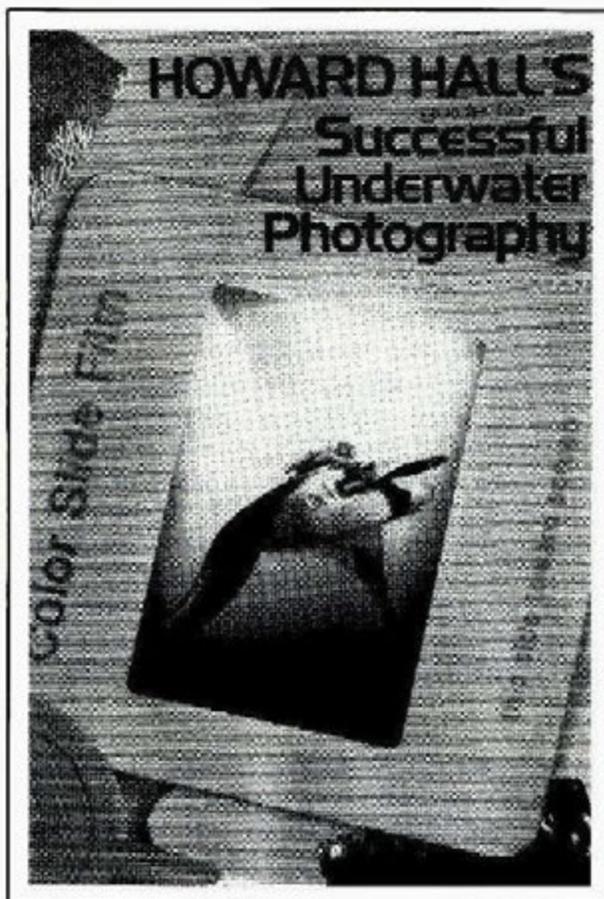
One doesn't learn an art by reading about it. One learns an art by doing it. Nevertheless, most novices in underwater photography can profit greatly by reading -- i.e. studying -- valuable "how-to" books by Jim and Cathy Church, Flip Schulke, and others who have produced texts for both basic and intermediate students of underwater photography.

Perhaps the best way to learn underwater photography is to be taught by a pro (see *Undercurrent*, January, 1983). Personal instruction may include the analysis and review of actual photographs, both good and bad, so the photographer is able to see the effect of strobe distance, shutter opening, or the employment of a slave strobe -- and learn from his mistakes and successes.

It is that kind of learning that the accomplished underwater photographer Howard Hall had in mind when he prepared his new book, *Howard Hall's Guide to Successful Underwater Photography: A New Approach*. The essential feature of this book -- the feature which differentiates it from other underwater photography books and allows Hall to call it "a new approach" -- is the inclusion of thirty-three full color plates, each with a substantial description of how Hall accomplished each shot.

For example, Hall displays a photo of the common spiral gill worm, or Christmas tree worm, which anyone with an extension tube can photograph now and forever. Yet, after contemplating it for a moment, one realizes that this is a special shot. Here's Hall's description.

"This photograph was taken by [my wife] Michele . . . She used a 1:1 extension tube and a single small strobe. Since she used a 1:1 tube, the size of the im-



age on the 35mm transparency is the actual size of the subject itself. Spiral gill worms are one of the most common macro subjects found in coral reefs. . . . but the composition of Michele's spiral gill worm photograph makes this one rather unique. It's not the

U.S. Divers' Regulator Recall

Those new U.S. Divers regulators touted in their ads as "Performance Perfect" have already been recalled by the manufacturer after no more than a handful have reached consumers.

Anyone with a Royal Aqualung Regulator #1014 or the Royal Octopus #1091 should return the regulator immediately to any authorized U.S. Divers dealer or to the U.S. Divers Corporation itself. U.S. Divers will pay for all shipping and repair costs.

The regulators were recalled because a *small plastic clamp in the second stage can become dislodged and suddenly shut off the air supply*. U.S. Divers attorney Lesley Wolf told *Undercurrent* that only 252 of the regulators had reached consumers. So far, 149 have been contacted by either telephone, telegram or letter. The remaining owners apparently cannot be identified.

The defective regulators should be shipped to U.S. Divers, 33233 West Warner Blvd., Santa Ana, CA 92702. For further information, consumers may call U.S. Divers collect at 714/540-8010.

subject itself that gives this photograph its impact, but rather the way in which she photographed the negative space.

"She chose to shoot the photograph vertically and managed to position the sun at the top of the frame, creating a blue water background. This is not an easy thing to do since the lens must be carefully pointed toward the sun to get this effect. . . ."

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

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

Lest the photographer who's pumped out a few rolls thinks that extension tube photography is a snap and no one can teach him a thing, let us only suggest that Halls deals with much tougher subjects -- including sharks and people and sea snakes. But his gift is to produce uncommon beauty out of commonplace creatures, such as sea urchins and feather stars. That's the value of this book. And Hall has the credentials to teach us; he has published in *National Geographic*, *GEO*, and *Smithsonian*, and has performed a number of cinematography assignments for

television productions.

Hall bunches his photographs according to specific chapter heads: available light, silhouettes, extension tube, reflex macro, marine wildlife, photographing people, and close focus, wide angle photography. Through each of these chapters, Hall emphasizes photographing "negative space," that is everything in the photo that is not the subject. It is Hall's contention (and he's not alone) that negative space is often equal to or even more important than the subject. For each of his photographs he describes how he treated and enhanced the negative space to maximize the impact of the subject.

For the truly inexperienced, there are a few pages on the basics of underwater photography. Hall concludes with a chapter on how to prepare your work for sale. But it's the analysis of the photos which advances the art of "how-to" books and makes them a worthy contribution to the library of any amateur underwater photographer. In fact, it deserves more than a place in a library. Take it along on your next dive trip and study it between photographic forays. It would be the next best thing to having Howard Hall himself along.

The 189-page book retails for \$14.95 (We like the book, but it's a bit pricey!) You may order it by sending \$14.95 plus postage and handling (California residents please add 6% sales tax) to Marcor Publishing, POB 1072, Port Hueneme, CA 93041.

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Long Island and Block Island, New York, Part I

The Thrills of Cold Water Wreck Diving

As a reader of Undercurrent, you're no doubt aware that our lead travel story nearly always covers a destination out of the country. Our intent is to save the traveling diver from having a lousy and expensive diving vacation. Too often one finds that the ads and the stories he has read in other publications didn't provide him a complete picture. So, our reviewers anonymously pay their own freight and report their experiences. We cover U.S. and Canadian destinations if they are sufficiently popular with traveling divers or if they are near large population centers so that they would interest the traveling business person, who might wish to stick around on a weekend to pick up a couple of dives. In this issue and the next, we cover the exciting wreck diving that is easily accessible from New York City. Our writer, who has reviewed resorts for Undercurrent from our inception, has made nearly 300 dives on these wrecks and has dived with nearly every shop and charter in New York. Here is his report.

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Offhand, I can't think of many popular places around this wee world that I haven't dived. Yet, I must admit that some of the most adventurous and exciting diving I've undertaken are right off New York's Long Island and Block Island. They can be reached by boats whose moorings are as close as a 40 minute drive from Manhattan. More than 500 wrecks are at rest in these waters off Long Island and Block Island. Scores are exciting targets for weekend or weekday sport divers who can easily reach the wrecks aboard the host of charter boats available.

Let me begin by affirming that this is not Caribbean diving. Diving around Long and Block Islands is normally seasonal. Some diehards--myself included--dive year round. In the summer wet suits are sufficient, as long as the neoprene is at least $\frac{1}{4}$ inch. Hoods are essential. Dry suits are really the way to go, especially if you intend to do any winter diving. Surface water temperature ranges from the high 70's in the summer to 43-44 degrees in the winter. At 100 feet the temperature is normally in the 40's, regardless of the season. Visibility can be as little as 10 feet or as much as 70 feet, but I have had days when a diver with a white tank at 100 feet could be observed from the deck of the dive boat! The western part of Long Island never has very good visibility, while the eastern half and Block Island practically always have fair to

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The Free-Lance Diving Instructor

How 83 Students Nearly Got Stiffed

Most divers get certified at some sort of facility tied in with a training agency—a dive shop, or a resort. Should a problem occur with the course work or with the instructor, there is recourse with the certifying agency—and the institution offering the training.

But, for a diver who decides to get certified by a freelance instructor offering a course at a nondiving institution, there can be surprises.

In May, 1982, Martyn Perry taught scuba at San Francisco State University. The course was offered for credit and, once completed, students expected to get both NAUI and PADI certification. The 40 students in the course got their grades in June, but they did not get their certification.

Over the Summer and into the Fall the students mumbled and grumbled, but it was not until the story hit the *Phoenix*, the school newspaper, in an article entitled "Would-be divers bilked—an SF Watergate," did the issue get official attention. That was in December, nearly seven months after the course was over. In fact, not only were these 40 students without cards, but another 43 students from

previous courses had never been certified by either NAUI or PADI—although that's what they had paid for.

After the report by the *Phoenix* in December, the problem became that of NAUI Branch Manager Nancy Guarascio. She told *Undercurrent* that she had worked out an agreement with Perry to forward the required paperwork and fees, but nothing happened. After further unsuccessful attempts to contact Perry, she called for an April 6 meeting of students; but prior to the meeting, Perry got off the dime and forwarded the required material. The students now have their cards.

Had that meeting been held, Guarascio told *Undercurrent*, Perry would have been fined \$25 for each of the 83 students: \$2075.

The issue has been referred to the NAUI Ethics Committee, but because Perry has failed to pay his 1983 dues he is not considered a member. Therefore, NAUI claims to have no jurisdiction over him. Unless he reinstates his membership, the Ethics Committee will take no action.

At least the students now have NAUI cards.

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Taking the Sting Out of Jellyfish

Meat Tenderizer, Vinegar, Urine or Booze?

Australians have been searching for the best way to eliminate the sting of jellyfish, whose stinging cells (nematocysts) inject pain and discomfort into unsuspecting humans. When a diver gets touched by a tentacle, the nematocysts become lodged in the skin and continuously release their toxins until spent.

Researchers recently collected a horde of jellyfish (*Physalia*) and trucked them from the Australian coast to their laboratory tanks. By systematically treating the stinging cells with a variety of substances --Stingose (a commercially available preparation), Xylocaine spray, alcohol, and vinegar -- they hoped to determine which would halt the painful discharge of nematocysts.

The conclusion of the report, prepared by Carl Edmonds of Australia's Diving Medical Center, and author of *Dangerous Marine Animals*, is: "Probably vinegar and Xylocaine will prevent further nematocyst discharge. The commercial stinging lotion (Stingose) will not, and the alcohol will actually make it worse. As regards reduction of pain, probably the xylocaine works to some degree, but nothing is very effective, except for time.

Substances which were not tested by us simply because I had used them so often and found them clinically ineffective, included a commercial Propain preparation referred to as *Stop Itch* and also the other enzymatic product *Adolf's Meat Tenderizer*. In my opinion both of these can be added to the vast variety of treatments of the past, which include urine, washing blue, and waiting for the turn of the tide.

Edmonds's findings replicated Australian research on the sea wasp (cubomedusa) in 1981. Methylated spirits produced the most dramatic instantaneous discharge of the nematocysts. The same response occurred with alcohol. It was a 3-10% mixture of acetic acid -- or vinegar -- that was the most effective in stopping the continuous discharge of poison.

Although they expected PADI cards as well, Gloria Stewart of PADI told *Undercurrent* that it appears that Perry was not a paid up instructor at the time he taught the course. And he turned in no paper work. Students claiming PADI certification would receive a letter explaining the failure of the instructor to be current with the association, and then be referred to another PADI instructor where they would have to demonstrate their skills. For people seeking the certification, this no doubt would mean additional fees for check out, further examinations, and perhaps a requirement for a full course fee.

No one is sure why Perry didn't file certification information. Perry's assistant instructor, Tony Vallerio, has one notion. Perry required each of his students to complete a basic first aid course, teaching artificial respiration, basic lifesaving, and CPR. Many students didn't complete the lifesaving--but they still got their school grades--or didn't turn in their cards to Perry. But Perry apparently demanded that *all* cards be turned in before he would submit materials for certification. Vallerio guesses the reason Perry wanted to wait for the class to turn in their CPR cards was because he wanted to send in all the required forms at one time in order to get a discount. "With NAUI," Vallerio told the *Phoenix*, "the more forms you send in at once, the better the discount." The students paid Perry \$60 each for the certification course and their cards. Perhaps there are reasons other than avoiding the paperwork or securing the discount.

The case raises interesting questions about agency

control over individual instructors. An instructor who works for an institution with a stake in the diving business--a shop, a resort, e.g.,--has two bosses and, therefore, two levels of control, the agency and the shop. No shop would permit 83 students to suffer through training and not receive cards. The missed economic opportunity is enormous! The instructor would have been disciplined--and probably not paid--and the student would have gotten quick resolution.

Where the instructor has no shop between him and the training agency, management control is severely weakened. NAUI took seven months to learn of the problem--and then only because of a newspaper article. We can't imagine a shop taking seven months to uncover the same problem.

Another issue relates to cross certification. We've always thought that the only real value of cross certification is to salve the diver's ego. It's just one more diploma for a credential collector. And one more fee for an agency. We've never seen any *practical* advantage to a diver. Nonetheless, in this case where the instructor allegedly represented two agencies, one agency was unable to certify, the other was.

Overall, the lesson for the consumer seeking certification is to stick to dive shops or resorts for certification--unless one needs college credit. When trained in a commercial organization, one knows that the profit incentive will ensure a level of control not found in college pools. Shop owners will solve problems that distant training agencies may not even discover.

Bent Diver Wins \$2.3 Million Suit

—Depth Gauge Inaccuracy an Issue

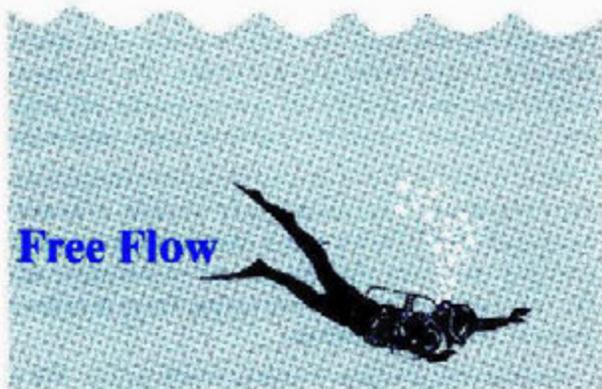
In our three part series elaborating on the U.S. Navy depth gauge tests, we indicated the relative accuracy of the 28 gauges tested--and listed those gauges which performed best. As the Navy found, gauges can vary wildly at a variety of depths, although manufacturers attempt to set quality control standards for gauges from ± 1 to ± 3 feet. The manufacturers seldom indicate the tolerance in the literature provided for the diver and, of course, the Navy found that many gauges vary far beyond these limits. What this might mean legally should a diver get hurt was an issue in a recently decided case in Los Angeles.

In 1976, Mathew Hamilton, a Los Angeles County lifeguard, was permanently disabled after suffering the bends on a 120-foot dive near Santa Catalina. He was on County business at the time, studying a possible site as an underwater preserve. Suffering still from "constant pain in his lower back, numbness, tingling in both hands and feet and a stumbling gait and headaches," he sued the County. In February, he was awarded \$2.3 million in damages.

The County considered taking action against U.S. Divers, which marketed the depth gauge Hamilton used. The gauge--a so-called "Navy gauge" which U.S. Divers had stopped marketing in 1972--had been manufactured to a $\pm 5\%$ tolerance. The gauge was tested and found to register within that tolerance. The County decided not to sue. The question we must ask, however, is what about the diver's assumptions about the gauge? If the manufacturer provides no information about the range of error to the consumer, would he not presume that 120 feet means 120 feet?

At the 5% tolerance levels assumed ten years ago, the U.S. Navy study of currently marketed gauges showed that nine out of 28 failed to meet that standard. Many more in the test failed to meet the ± 3 feet manufacturers standards.

Producing a highly accurate, shock resistant depth gauge for a price sport divers are willing to pay is apparently no small task. Nevertheless, the manufacturers and distributors of the gauges do relatively little to tip us off to the potential--or real--error of their products. We wonder who will be the first to come out of the closet and treat the consumer as an adult by providing him with facts on the likelihood of error.



Underwater photographers in warm water often take a beating; its not uncommon to emerge after a dive with blood oozing from scores of coral cuts and scrapes. Panty hose, leotards, blue jeans and standard wet suits have all been used to some degree of success, but Alan Goldston, an underwater photographer/attorney/*Undercurrent* subscriber, told us about his discovery. In the L.L. Bean catalogue he stumbled across neoprene Farmer John bottoms --1/8 inch, nylon two-side, with ankle zippers -- offered for canoers, kayakers, and sailors. What interested Goldstone was that the neoprene behind the

knee had been cut out and replaced with a stretch fabric. Figuring it would make it easier to kneel while shooting photos, take some of the work out of kicking, and give good coral protection, Goldston ordered a pair for his forthcoming trip to Cozumel. When he returned, he said "it may have been the best \$74 I ever spent for diving gear. It was well made, comfortable, and worked just fine." For a summer, 1983 catalogue, write L.L. Bean, Freeport, Maine, 04033. The suit is right there on page 66.

The bizarre weather of 1983 has been attributed to everything from sunspots to volcanic ash. But now many scientists have embraced the notion that the culprit is a massive and unusually warm current in the equatorial waters of the Pacific. Called El Nino, this current usually appears off South America around Christmas, but the present El Nino, which is still flowing, first appeared last June. Ocean surface temperatures have risen as much as 11 °F. The warm water is blocking nutrients which normally rise from the sea floor, virtually eliminating the 10-million ton annual anchovy catch off Peru. As far north as Monterey and even San Francisco, barracuda, marlin, red crabs and sea horses have been spotted. On the mid-Pacific Christmas Island, 17 million sea birds have fled. And the current is still running. How much longer and to what ultimate effect is any body's guess.