

## Dive Bonaire, Bonaire, N.A.

### *There's a new kid on the block*

Harbor no doubt that Bonaire offers some of the best Caribbean diving. I reported that in the January, 1976 issue of Undercurrent and scores of readers continue to corroborate my report. Although fishermen and pollution have inflicted great damage to the reefs of neighboring Aruba and Curacao, Carl Roessler, author of Underwater Wilderness, reports that "Bonaire is still a startlingly beautiful experience. This is one of the richest reef communities in the entire Caribbean."

For years Bonaire diving has been the private domain of Cap'n Don Stewart, a wayward sailor from Sausalito who, as the legend goes, dropped overboard to check his anchor line, got stoned on the beauty below, and swam ashore to open a diving business. That was back in the early sixties and soothsayer Don has since kept the hands of locals and tourists alike off the shells and sea life. The dive shop management techniques he developed have in the past led the league in promptness, ample equipment, full air fills, unlimited diving, and affordable rates.

There's plenty of beachfront for more than one good operation in Bonaire, but past attempts to install diver services at the Flamingo Hotel -- the only beachfront hotel on the island other than the Hotel Bonaire (Cap'n Don's territory) -- have failed. The latest effort by Teach-Tour looked initially promising, but it soon sunk with the submersion of Teach-Tour everywhere. Experienced dive manager Peter Hughes -- Tobago and Roatan -- quickly bailed out the operation, and Undercurrent readers have since flooded us with praise for the new operation. Because the Hughes Corporation sounded so successful, it was time to review this operation, and as the travel editor of this tiny tabloid I would reserve the plum for myself. I could think of nothing more pleasurable than abandoning my sinking Sausalito houseboat for a swim through the luscious soft corals of Bonaire, or a saunter between the great racks of staghorn or elkhorn, or a stroll through schools of splendid tropicals. Then, while staring at the red ink in my check book, the phone rang. It was our mysterious East Coast correspondent, calling from a phone booth in the middle of Manhattan. I could hear the snow falling. "I'm going to Bonaire, Charlie, to dive with that new operation. Do you want a review?"

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"First, I'd like you to say hello. Then I'd like to say go to hell. Bonaire is mine. If you change your flight to Nassau to review the cattle boats I'll double your fee."

"Then you can go to hell. I'll not do that even for Undercurrent."

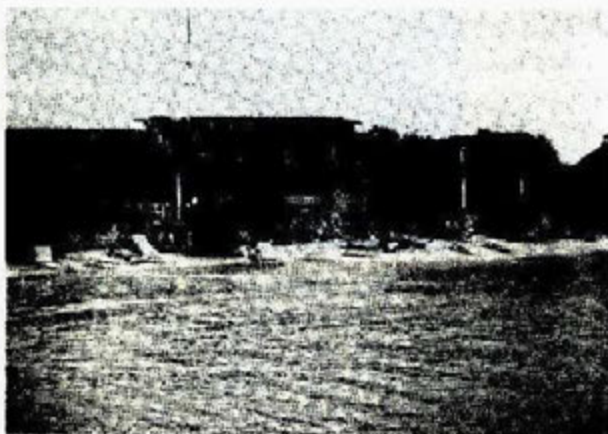
I was about to hang up when my secretary handed me a note "The bank's on the other line; you're overdrawn." "O.K., well, on second thought, I'll do Nassau next year. You do Peter Hughes now."

He did, and filed this report, the lucky bastard.

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Although I normally take my dive trips with only a friend or two, I could not refuse the offer of my local dive shop: eight days in Bonaire, round trip airfare from New York City, double occupancy accommodations, breakfasts and dinners, and six guided dives -- all for \$560. I added \$80 more, as did most of us, for unlimited diving, and on February 11th left winter for a quick flight to summer. At the Flamingo Airport we were greeted by dive managers Peter and Alice Hughes, and Robin and Sue Ricketts, hotel manager and social hostess. Neither Senator Moynihan, Norman Cousins, nor Cheryl Tiegs were in our group. We were only common folk trying to get wet for a week. But with this friendly meeting, efficient transportation to the hotel, and a few slugs of complimentary rum punch, we soon believed we were dignitaries.

Peter's shop is housed in the hotel complex; a new dive facility should be ready by the end-of-the-year. Hughes has borrowed management techniques from Cap'n Don and will improve upon them in his new operation. Now, each diver is assigned a numbered tank, pack, and weight belt which he uses throughout his stay. Until the new facility is ready, personal gear has to be stowed in the rooms. Each day at 8:00 A.M., the prospective dives are listed on a blackboard, and each diver indicates his preferences. Guides load all the gear into the dive boat or truck used for remote beach dives, and trips depart 9:30 A.M. and 2:30 P.M. The standard dive vessel is a 25-foot barge, but Hughes also operates a speedy 31-foot Pirogue, making several miles of remote sites accessible. C-cards are required, but completion of a \$50 resort course allows one to join certain dives.



DINING AREA, BAR & BEACH. NIGHT DIVE ENTRY AREA.

Bonaire has plenty of sites to keep a diver happy for weeks. There are no plunging walls which drop forever, but those that descend to the sand bottom at 130 or-so-feet abound with gorgonia, hard corals, magnificent black coral trees, tube and basket sponges, and swarms of tropical fish. The density of growth on Bonaire is unique; the reefs look like a forest primeval. Although it is a photographer's paradise, Bonaire is one island the non-photographer can enjoy day-after-day of delicious diving.

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Of course, the reef is laced with grunts and puffers and coney and hamlets and butterflies and snappers. I also viewed occasional groupers, eagle rays, flipper lobsters, moray eels and gold spotted eel snakes, which may at first sound scary, but it is only a nonvenomous, nonhostile relative of the eel. I saw a swimming turtle, the largest feather star I've ever spied, and nary a shark, a creature as rare on Bonaire as a mermaid. I won first place in a New York photo contest with my close-up of an eight-inch cluster of brilliant orange coral polyps, a rare breed. During my sojourn, visibility ranged between 60 and 120 feet, and that's the range just about year-round. There really aren't any bad diving seasons on Bonaire.

At both the Flamingo and the Hotel Bonaire, beach diving is about as good as boat diving. All but two nights I dived at dark. At first we tried before dinner, but the critters were just beginning their nightmoves about 9:00 P.M., so, we decided to eat first, then dive. The beach is well-lighted, the entry a snap, and the straight reef parallels the shore. There is no current, so navigation is simple for the beginner, and for the old timer the range of life makes every dive desirable.

During my stay, Peter Hughes inaugurated diving aboard a 50-year-old, 60 foot gaff, ketch-rigged wooden sailing ship built in Denmark. Eight of us, at \$20 each, boarded for the sail, made two dives, were served lunch and a half-bottle of wine, and had a ball. It's a grand old vessel and a fine way to fritter away a day.

The dive guides, three from Bonaire -- Tino, Herbie, and one we never met -- and two from the United States -- Jim and Mike -- are excellent. They follow all safety rules, provide fine pre-dive briefings, then let divers make their own diving decisions while they patrol the waters. The guides follow strict conservation rules, but Peter was exemplary. Two divers intentionally broke off a piece of black coral. Peter ordered them out of the water, then suspended their diving for the rest of the day. That's tough and that's the way it ought to be. Furthermore, the boats never drop anchor. They always tie up to floats anchored at the dive sites. Cap'n Don's strict conservation of Bonaire is well-observed by new arrivals.

I almost broke into applause for the Hughes' response to one common dive resort problem. Peter has two compressors, but one day the large one stopped running and nowhere on Bonaire were the required parts available. The next morning Alice flew to Florida, picked up the necessary parts, and returned the following day. In between, everyone worked overtime to fill the tanks from the small compressor. No dives were missed, not even night dives. That, friends, is the mark of a class operation. Regardless of how fine the dive sites are, a dive vacation can only be as good as the quality of the dive operation. It is safe to say that if Peter, Alice, and the Hughes company set up shop at Nassau they would still get raves.

You must wonder, by now, if the accommodations and the food are enough to make you stay away from Bonaire. Certainly not. The Flamingo is a decent hotel and even the loyalists of Cap'n Don (and there are thousands) will tell you that it has a leg up on the Hotel Bonaire. The Flamingo is not posh -- once served as a World War II stalag -- but the seventy-five rooms are air-conditioned, and some have private balconies overlooking the white sand beach. Not all rooms have hot water, but the cold water temperature is the same as the air temperature, which in the morning will awaken you, but not cause a coronary.

The thatched roof, open-air dining room, is beachside as is the cocktail lounge, where drinks run about \$1.50 and beer is 85¢ for a 10-oz. Heineken. Dinners are traditional Caribbean cuisine -- often fresh fish in native sauce -- but



the steaks served up a couple of nights would beat the meat served at many state-side steakhouses. Soups, salads, potatoes, and vegetables served were tasty, but not five-star. My only complaint was that the primary dessert disappeared so quickly that I ended up each evening with fruit cocktail for the finale. Breakfasts were of the staple bacon and eggs variety while lunches, paid for out-of-pocket, could include full meals, but I settled for a hefty cheeseburger, potatoes and beans, and a cold beer for \$3.50. The service in the hotel was friendly -- Bonaire is a very safe and friendly island -- but occasionally a little slow, especially at breakfast when an hour would be required from coffee to check.

Bonaire nightlife is best on the reef, but if you're not diving, then you can take a ride to Don's disco at the Aqua Habitat, or try the combo that holds forth at the Flamingo. The Hotel Bonaire Casino opens at 9:00 P.M., and if you're at the tables, drinks flow free. Dress code requires long trousers for men and no shorts or sandals. Dining out is nothing to salivate about, unless you're a Chinese food freak, for whom there are at least two decent establishments. In fact, the Flamingo has about the best food on the island, which is why the prepared package is acceptable.

One night, however, I and my reveling friends thought we would have to settle for Egg Fu Yung when we stumbled into the Flamingo dining room after closing hours. Sue Ricketts commiserated with our plight, sat us down at a table (we couldn't stand) and within a half-an-hour, full steak dinners graced our table. She's a fine hostess, able to handle any problems, from reconfirming our reservations or scheduling our flights, to making taxi arrangements or getting clean towels.

Getting there: ALM (a KLM subsidiary) is the only airline serving Bonaire, so getting there normally requires boarding an ALM flight in New York or Miami. The double occupancy, unlimited dive package, with breakfasts and dinners costs \$431 for eight days and seven nights. You can get a brochure by writing Dive Bonaire, P.O. Box 686, Ithaca, NY 14850, or calling (800) 847-7198 (NY residents call (800) 252-6323.) The double occupancy rate for nondivers is \$265.

Should nondivers travel to Bonaire? If they like water sports, tennis, or especially, bird watching (Bonaire has more pink flamingoes than people). The town is small and pleasant, with a bit of shopping and a few bargains. The water is fine, English is spoken everywhere, and the streets are safe. But, Bonaire's major attractions are sunny weather and pleasant people. Oh yes! And scuba diving too.

## Sixteen Lights for Divers

### — A Comparative Review

Certainly you need a hand light for night diving, cave diving, or wreck diving. But many divers, wishing to become more attuned to underwater aesthetics use light during normal daytime dives to bring out the colors otherwise lost to the absorption quality of water. Viewing the crimsons, golds, oranges and violets that otherwise seemed green or blue can add a new dimension to diving.

Each diver has a different light need. The daytime diver can get by with an inexpensive light to give him the color he wants from a distance of 3-5 feet. Divers

intending to do some occasional night diving will want more power; the murkier the water, the more power they'll need. Divers who visit caves and wrecks, and must depend upon a light for survival, will need even more power and might even carry a second light for backup. Dr. Richard Boyd, Director of the Petrie Scubalab, told *Undercurrent* that cave and wreck divers need a minimum of 75,000 candlepower for safe exploration. Other divers can get by nicely with lights of less power. Buying the right light the first time will save you money and hassles in the



future.

This study is a comparative analysis of sixteen different lights. The chart on each presents the technical data of the light; the charts are organized from the least expensive list price to the most expensive.

### The Prices

The price of the lights generally includes the price of a rechargeable battery, if that is how the light is powered; if the light operates with disposable batteries, those costs are usually separate. The prices are U.S. list prices, but some shops may discount them. Several of the lights will accept different combinations of lamps and batteries, which cause variations in the output intensity, beam angle, lamp and battery life. The permutations are too extensive to categorize and compare here. If you need more information, contact your dive shop or the manufacturer.

### Batteries

A rechargeable battery means you're free of replacement costs and the inconvenience of replacement. That's important if you're diving in a remote area where standard batteries may be unavailable. If you are too remote, you may not have the electricity to recharge them, although adaptors for the lights permit recharging off AC or DC lines. Rechargeable batteries lose power more rapidly than disposable batteries; the useful life for most units tested ran between an hour and an hour-and-a-half; a couple were more than three hours. Most lights using the nonrechargeable C, D, or lantern battery operated at well over 75% of their original power after four hours of constant usage. Disposable batteries, by the way, regain some of their power after sitting for several hours.

Size C alkaline batteries cost about 89¢. Size D costs \$1.19. Nonalkaline disposable batteries run about 45¢ for either. Some lights require the alkaline. The six-volt lantern battery costs \$2.49 from Sears. A rechargeable 6-volt lantern battery is also available from Sears for \$18.99, complete with AC/DC charger. Apparently, it is interchangeable with the nonrechargeable, but a U.S. Divers spokesman said they have found some fall-off in light intensity after a full recharging.

### Casing Material

Lexan and Cycloc (ABS) are both used. Cycloc tends to have better stress resistance, but it cannot be manufactured fully transparent, so Lexan is used around the lens.

Ike Brigham (the "Ike" in Ikelite) told us of one advantage he found with his transparent cases. He noted that in cold water diving, condensation easily builds up inside the housing. It can be detected through the transparent case so the light can be disassembled immediately to be dried and prevent

corrosion. Of course, a transparent case also makes leaks easy to spot.

### Test Design

The sixteen hand lights were tested for beam intensity and the degree of fade from the beam center outwards. Illumination duration and the rate of fall-off were also tested. In the beam intensity test, the fully charged lamps were bench-set to face a target ten feet away. Effective light of all units tested cast an outline on the target of less than 24 inches in diameter. Lightmeter readings calibrated in candlepower were taken across the target to determine the intensity range and angle of beam within the target area.

In the light duration fall-off test, the light-meter was used to read the rechargeable lights' respective beam brightness at fifteen minute intervals until no reading was shown on the meter. Light output of hand lights using disposable batteries was monitored and plotted every fifteen minutes over a four hour period, a period long enough to identify a unit's light fall-off curve.

The lights tested were provided either by the manufacturers or local dive shops in "over-the-counter" condition. While the lights were put through both tests twice, their individual performances may be less than their eventual capability, because many of the units will improve somewhat after several charges and discharges.

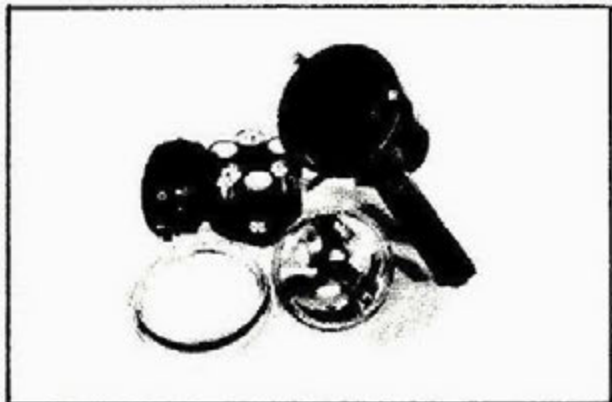
### Ikelite

Ikelite manufactures two rechargeable hand lights and four disposable battery models. The Ikelite, featuring a clear plastic housing with threaded lens bezel and pistol grip, is powered by a 6-volt lantern battery. It's the least expensive of the line.

The two C-lite models are shaped like a flashlight. The C-lite I uses only disposable alkaline batteries, which provide from 5-10 hours of service. Ordinary flashlight batteries will power the bulb (GE 4346) for only 30 minutes or so. The 4346 is the only sealed beam lamp that can be used; other lamps have the wrong voltage or current requirements. The C-lite II is rechargeable and provides constant intensity and brightness. Instead of using the standard GE 4547 lamp (5-10 hours life), we used a GE 4645 which provides the same constant intensity and brightness but offers longer bulb life. The trade-off is that the 4645 drains the charge within an hour. Bulbs 4309 and 4329 offer longer bulb life and up to one and one-half hours service on a charge, but provide slightly less intensity than number 4645. Bulbs 4346 and 4348 can also be used when up to four hours of service between battery charges is required. Intensity of these lamps is comparatively very low. Disassembling and assembling the C-lites to replace or charge the batteries may seem awkward. If the directions are followed, the procedure can be achieved with relative ease.



Ikelite has three modular lights on the market: The Modular I, Modular X and the Modular Superlite. All three feature pistol grip handle and O-ring sealed lens affixed with stainless steel clips. The Superlite is Ikelite's "top-of-the-line" rechargeable light, designed for use as a hand or movie light. The other two modular models may also be converted to the super/movie model by using the nickel-cadmium battery pack, appropriate charger and lamp.



PLENTY OF POWER AT A GOOD PRICE  
IKELITE 1081/1091

The Modular I and Modular X are identical except for the bulb. They both use six D-size flashlight batteries. The former will accept GE sealed beam number 4346 or 4348, either of which can be powered by standard carbon-zinc batteries. The Modular X uses a GE 4309 or 4329 sealed beam lamp producing much greater intensity, but requiring much higher amperage. Only alkaline batteries can be used with these bulbs.

The Ikelite 1010/1020, tested here, has been replaced with the 1011/1021. According to Ikelite, the only change is in the switch mechanism. The new switch actually moves the battery forward about one-fourth of an inch to contact the base of the bulb. This eliminates wiring and minimizes some problems.

#### U.S. Divers

The U.S. Divers' Brite Lite and Brite Lite II appear identical, but the former is rechargeable and the latter uses disposable batteries. These lights feature the largest sealed beam (5 3/4") of any hand light. The lens is recessed by the screw-on bezel. The switch is protected by the over-size handle.

The rechargeable Brite Lite is equipped with a 110-volt AC charger which can be plugged into a car cigarette lighter socket with an optional cable. When the batteries have a complete charge, the light emitting diode (LED) signals the end of the charge. The battery pack is contained in a plastic sheath and is easily removed and replaced once the lens bezel is unscrewed.

The Brite Lite II's battery pack is completely en-

cased in a neoprene container to provide insulation and protection against shock.

The USD lights are bright yellow and highly visible. There is a hole in the handle to accommodate a lanyard.

#### Tekna

The Tekna-Light is compact, lightweight, and simple. It can be carried in a B.C. or wet suit pocket and can fasten around the wrist or to other equipment with the attached lanyard.

The lens bezel screws apart from the body; the bulb/reflector assembly snaps onto the battery pack. To recharge the batteries, the reflector comes off, the charger snaps onto the same terminals, and the entire unit is plugged into a wall socket.

The light is activated by the final quarter turn of the lens bezel. During an open water test, the light was inadvertently flooded because the bezel was turned too far and the O-ring was exposed. A quick soaking in fresh water saved the entire unit, although the batteries lost some of their energy retention capability.

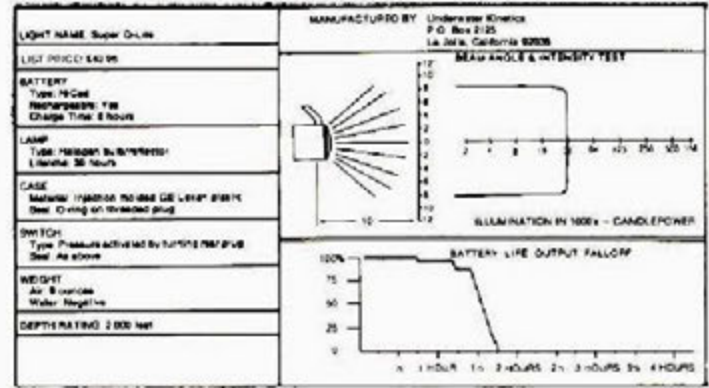
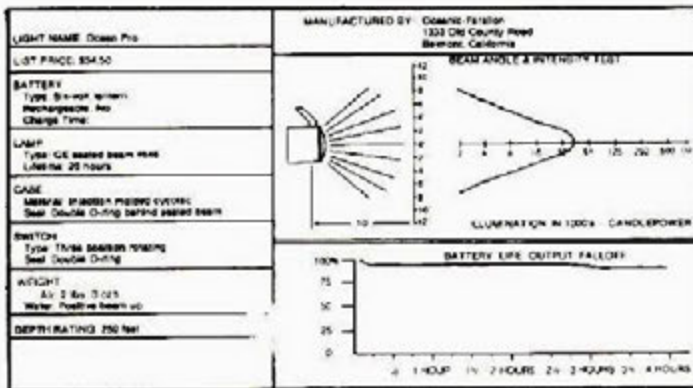
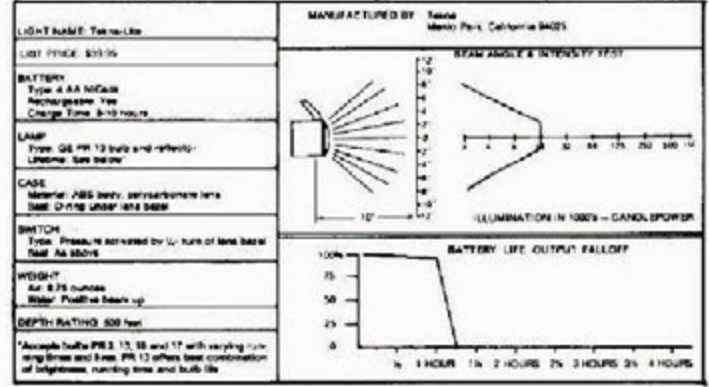
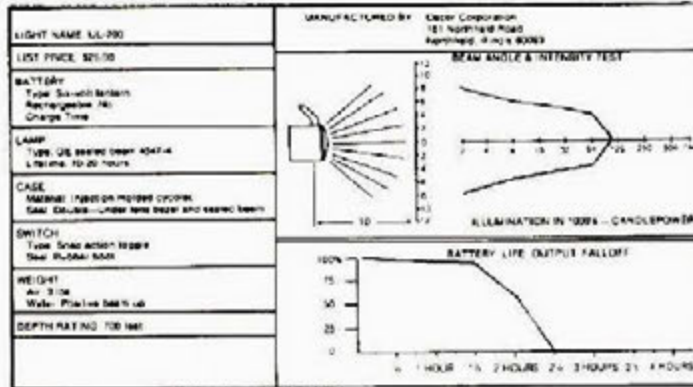
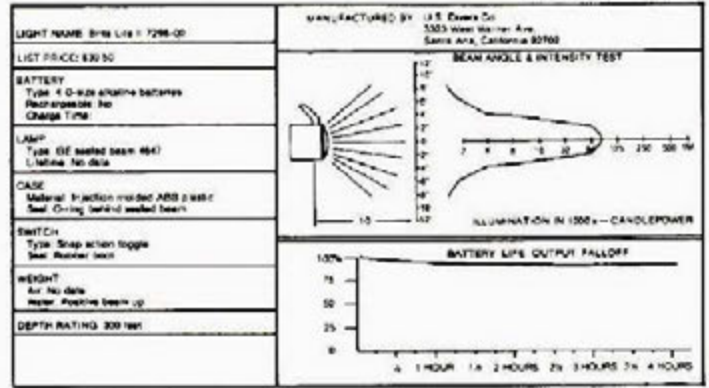
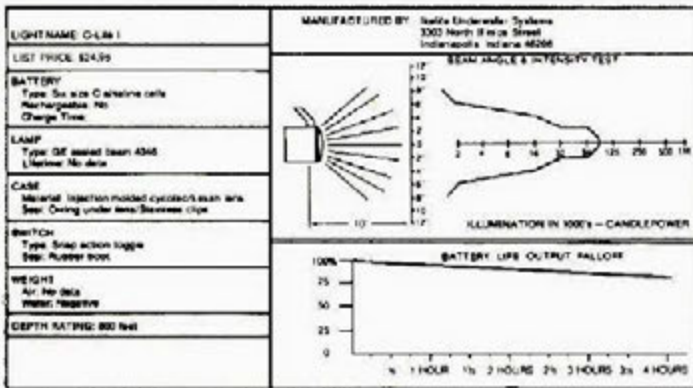
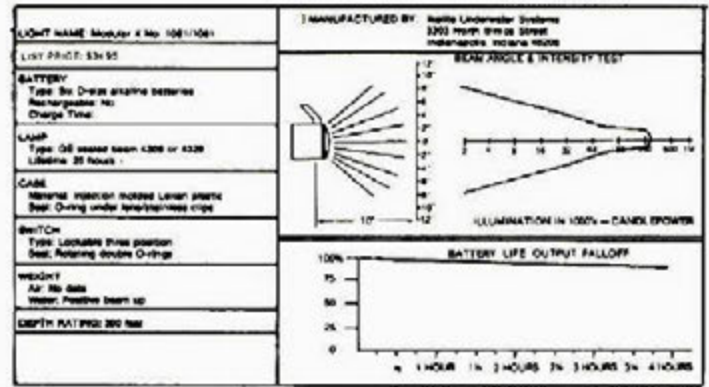
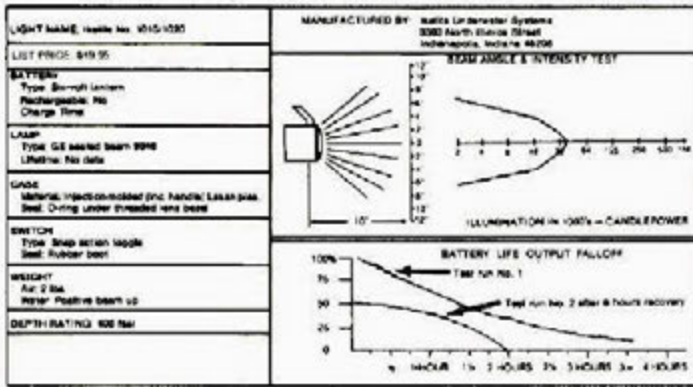
The standard Tekna-Light is equipped with a 115-volt AC charger. Accessories include a 12-volt DC charger which plugs into an automobile cigarette lighter socket.



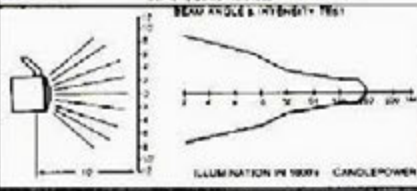
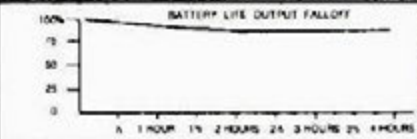
TWO COMPACT LIGHTS FOR BACKUP OR DAYTIME DIVING  
TEKNA AND SUPER Q

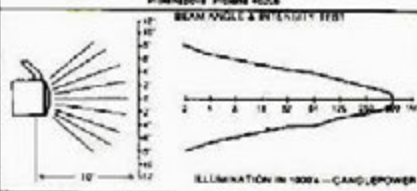
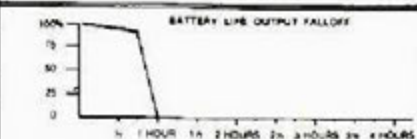
#### Underwater Kinetics

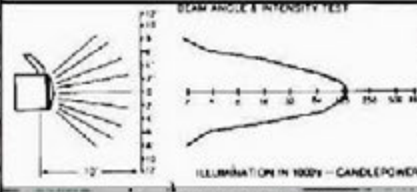
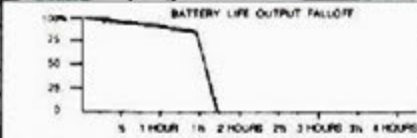
The Super Q-Lite is seven and a quarter inches long, one and a quarter inches in diameter. It weighs nine ounces. The clear tubular plastic body is sealed by a

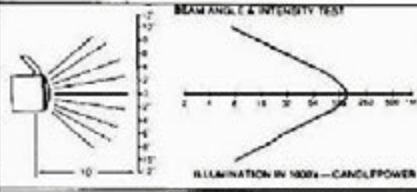
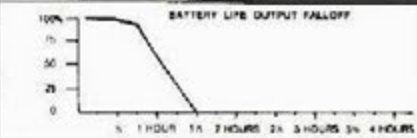


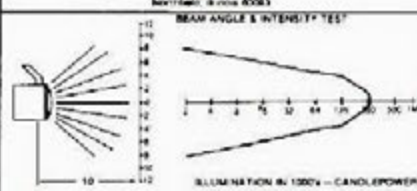
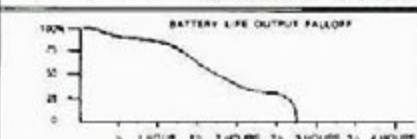


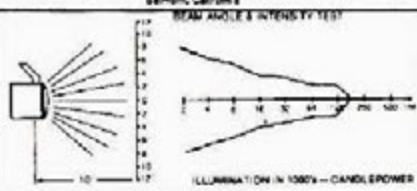
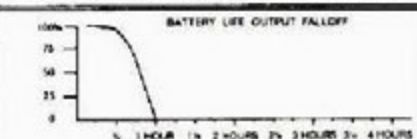
<b>LIGHT NAME</b> Sea One Light	<b>MANUFACTURED BY</b> Sea Underwater Systems 112 Glenview Rd. Belmont, California 94002
<b>LIST PRICE</b> \$17.95	<b>BEAM ANGLE &amp; INTENSITY TEST</b> 
<b>BATTERY</b> Type: 18 size D battery Rechargeable: No Charge Time: 18 hours	<b>BATTERY LIFE OUTPUT FALLOFF</b> 
<b>LAMP</b> Type: GE 440 or 500 bulb with reflector Lifetime: Extensive*	
<b>CASE</b> Material: Injection molded ABS plastic Seal: O-ring behind optic grade clear glass lens	
<b>SWITCH</b> Type: Mag. reset activated by sliding magnet Seal: Not required	
<b>WEIGHT</b> Air: No data Water: Positive beam up	
<b>DEPTH RATING</b> 300 feet	
*Bulbs are sold singly in combination with ordinary carbon-zinc batteries rather than specialty cells.	

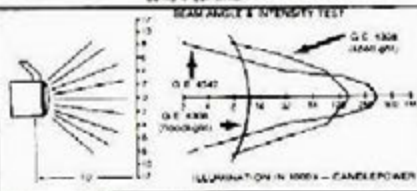
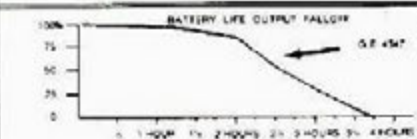
<b>LIGHT NAME</b> C-100 II	<b>MANUFACTURED BY</b> Sea Underwater Systems 112 Glenview Rd. Belmont, California 94002
<b>LIST PRICE</b> \$24.95	<b>BEAM ANGLE &amp; INTENSITY TEST</b> 
<b>BATTERY</b> Type: NiCd Rechargeable: Yes Charge Time: 18 hours	<b>BATTERY LIFE OUTPUT FALLOFF</b> 
<b>LAMP</b> Type: GE sealed beam 4847 Lifetime: 3-10 hours	
<b>CASE</b> Material: Injection molded cycloacrylate lens Seal: O-ring under lens assembly	
<b>SWITCH</b> Type: Snap action toggle Seal: Rubber boot	
<b>WEIGHT</b> Air: No data Water: Negative	
<b>DEPTH RATING</b> 800 feet	
*Three alternative bulbs available	

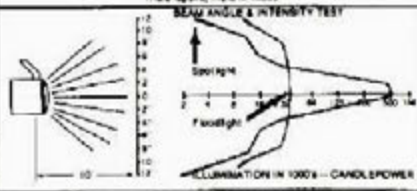
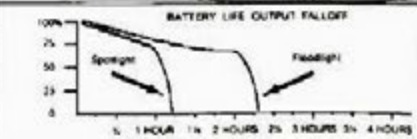
<b>LIGHT NAME</b> Oceanic Sealtight	<b>MANUFACTURED BY</b> Oceanic Products 1232 Old County Road Belmont, California 94003
<b>LIST PRICE</b> \$47.50	<b>BEAM ANGLE &amp; INTENSITY TEST</b> 
<b>BATTERY</b> Type: NiCd Rechargeable: Yes Charge Time: 18 hours	<b>BATTERY LIFE OUTPUT FALLOFF</b> 
<b>LAMP</b> Type: GE sealed beam 4847 Lifetime: 20 hours	
<b>CASE</b> Material: Injection molded cycloacrylate Seal: O-ring behind sealed beam and lens	
<b>SWITCH</b> Type: Snap action rotating shaft Seal: Double O-ring on shaft	
<b>WEIGHT</b> Air: No data Water: Positive beam up	
<b>DEPTH RATING</b> 250 feet	
*Optional lead ballast available - makes light negative	

<b>LIGHT NAME</b> Rechargeable Six Line 787-00	<b>MANUFACTURED BY</b> L. S. Owen Co. 3323 West Warner Ave. Merced, California 95365
<b>LIST PRICE</b> \$89.95	<b>BEAM ANGLE &amp; INTENSITY TEST</b> 
<b>BATTERY</b> Type: 4 rechargeable cells Rechargeable: Yes Charge Time: 12 hours	<b>BATTERY LIFE OUTPUT FALLOFF</b> 
<b>LAMP</b> Type: GE sealed beam 4878 Lifetime: 20 hrs	
<b>CASE</b> Material: Injection molded ABS plastic Seal: O-ring behind sealed beam	
<b>SWITCH</b> Type: Snap action toggle Seal: Rubber boot	
<b>WEIGHT</b> Air: No data Water: Positive beam up	
<b>DEPTH RATING</b> 300 feet	

<b>LIGHT NAME</b> UL-300	<b>MANUFACTURED BY</b> Oceanic Products 181 Northgate Road Belmont, California 94003
<b>LIST PRICE</b> \$69.95	<b>BEAM ANGLE &amp; INTENSITY TEST</b> 
<b>BATTERY</b> Type: Rechargeable Rechargeable: Yes Charge Time: 10-15 hours	<b>BATTERY LIFE OUTPUT FALLOFF</b> 
<b>LAMP</b> Type: GE sealed beam 4847-4 Lifetime: 10-20 hours	
<b>CASE</b> Material: Injection molded cycloacrylate Seal: Double O-ring under lens and behind beam	
<b>SWITCH</b> Type: Snap action toggle Seal: Rubber boot	
<b>WEIGHT</b> Air: 2 lbs 6 oz Water: Positive beam up	
<b>DEPTH RATING</b> 100 feet	

<b>LIGHT NAME</b> Five Line	<b>MANUFACTURED BY</b> Oceanic Products 1232 Old County Road Belmont, California 94003
<b>LIST PRICE</b> \$99.95	<b>BEAM ANGLE &amp; INTENSITY TEST</b> 
<b>BATTERY</b> Type: NiCd Rechargeable: Yes Charge Time: 12-14 hours	<b>BATTERY LIFE OUTPUT FALLOFF</b> 
<b>LAMP</b> Type: GE 300 high intensity bulb & reflector Lifetime: 20 hours	
<b>CASE</b> Material: Injection molded cycloacrylate Seal: O-ring under lens base	
<b>SWITCH</b> Type: Magnetic shoe Seal: Not required	
<b>WEIGHT</b> Air: 2 lbs Water: Negative	
<b>DEPTH RATING</b> 400 feet	
*Accommodates GE 300 low intensity bulb & offering half light intensity but before running time of GE 300 **Positive beam up if attached lead ballast removed	

<b>LIGHT NAME</b> Ocean Pro	<b>MANUFACTURED BY</b> Oceanic Products 1232 Old County Road Belmont, California 94003
<b>LIST PRICE</b> \$79.50	<b>BEAM ANGLE &amp; INTENSITY TEST</b> 
<b>BATTERY</b> Type: Rechargeable Rechargeable: Yes Charge Time: 18 hours	<b>BATTERY LIFE OUTPUT FALLOFF</b> 
<b>LAMP</b> Type: GE sealed beam 4547** Lifetime: 20 hours	
<b>CASE</b> Material: Injection molded cycloacrylate Seal: Double O-ring behind sealed beam	
<b>SWITCH</b> Type: Three position rotating Seal: Double O-ring	
<b>WEIGHT</b> Air: 5 lbs. Water: Negative	
<b>DEPTH RATING</b> 250 feet	
*Ocean Pro is a modular light - accepts rechargeable and disposable batteries **Also different sealed beams	

<b>LIGHT NAME</b> Module Super Light 1000/1000	<b>MANUFACTURED BY</b> Sea Underwater Systems 112 Glenview Rd. Belmont, California 94002
<b>LIST PRICE</b> \$149.95	<b>BEAM ANGLE &amp; INTENSITY TEST</b> 
<b>BATTERY</b> Type: NiCd Rechargeable: Yes Charge Time: 15 hours	<b>BATTERY LIFE OUTPUT FALLOFF</b> 
<b>LAMP</b> Type: GE dual filament sealed beam 4300** Lifetime: 18 hours	
<b>CASE</b> Material: Injection molded Lexan plastic Seal: O-ring under lens assembly & o-ring	
<b>SWITCH</b> Type: Location three position Seal: Rotating source O-ring	
<b>WEIGHT</b> Air: 4 lbs. Water: Negative	
<b>DEPTH RATING</b> 400 feet	
**Dual filament 4300s spot and wide angle flood lights	



threaded. O-ring-equipped plug at the back which also activates the light when turned down. The plug, the lens hood and the battery jacket all glow in the dark.

The Super Q-Lite is available with a 110-volt charger, a 12-volt DC automobile charger (optional), a light diffuser, a spare O-Ring and a small container of O-ring grease. Either charger simply plugs into the end of the battery and then into a wall socket or a car cigarette lighter socket. The universal holder can be strapped to the diver's arm or leg and the belt holder will fit on a weight, buoyancy, or tank harness strap. The light diffuser is most effectively used in the closer ranges. Super Q-Lite with diffuser casts a fairly uniform but not intense light within an eight inch radius of the target's center. Light dropped off outside this nucleus, but an outer ring of light eight inches in width, and of comparable intensity to the center spot, was recorded just under two feet from the target center.

### Dacor

Dacor offers the UL-700, a disposable battery hand light and the UL-800, a rechargeable model, which appear identical. These lights are lantern style with the switch easily accessible directly in front of the handle.

Access to the inside is gained by unscrewing the threaded lens bezel which is sealed by double rubber gaskets.

The batteries of both units are held in place by battery retainer plates, fixed by hand tightened brass screws on either side. The UL-700 takes a 6-volt lantern battery. The rechargeable is equipped with an electrogel battery that can be recharged with the standard 120-volt AC charger or optional 220-volt AC or 12-volt DC car charger. The battery can be charged in or out of the casing. It is simply disconnected from the lamp and connected to the charger with the same terminal.

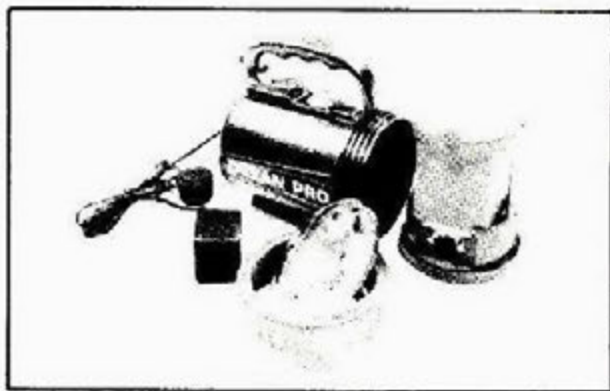
### Oceanic-Farallon

The compact Sealight, featuring a pistol-grip handle, is one of four underwater hand lights manufactured by Oceanic-Farallon. Unlike many rechargeable lights, it is sold with a 12-volt DC cigarette lighter charger; a 110-volt AC charger is optional. The rear mounted switch can be easily reached and turned by thumb and cannot be left accidentally in the "on" position while recharging.

The Sealight, like the two larger Ocean Pro hand lights from Oceanic, will accept more than one GE sealed beam. This model, first marketed by Giddings/Felgen Industries and later by AMF Swimaster and U.S. Divers, is now sold only by Oceanic Farallon.

The Ocean Pro is a lantern type with positive grip

handle that protects the switch. It is a modular lighting system that uses either a non-rechargeable or rechargeable lantern battery pack. The packs consist of a front section and a rear plate which hold either battery in place by a long screw on either side.



**BOTH A SPOTLIGHT AND A FLOODLIGHT AT A DECENT PRICE  
OCEAN PRO**

The Ocean Pro housing features an O-ring-sealed plug on the back which may be removed to insert the charger cord for the rechargeable power pack. The pack may also be charged out of the housing so the light may be used while a spare battery is charging.

The Ocean Pro comes equipped with a GE number 4547 bulb. It will drain a charge in 3 1/2 hours according to the manufacturer, but our tests found it lasted somewhat longer. The Ocean Pro will also accept GE bulbs 4515, a high intensity 30-watt spot lamp that burns 45 minutes on a charge, or the GE 4308, a dual filament lamp that provides a low intensity floodlight and a high intensity spotlight. Burning time varies with the power usage. We tested these lamps for beam brightness and degree of fade from target center outwards, but did not run duration tests. The rechargeable Ocean Pro, equipped with the dual filament bulb and turned to the flood mode, cast an effective light of four feet in diameter from the 10-foot test distance.

The Fara-Lite's shape and variable brightness capabilities distinguish it from other hand lights. This rechargeable light is also equipped with a light-emitting diode (LED) charge indicator. The magnetic slide switch can be put to one of four positions, each providing different light intensity and running time. The first and last position produces the lowest light beam intensity and can also be used to determine, with the charger connected, whether the battery is taking a charge or, with the charger disconnected, the relative degree of battery charge.

The Fara-Lite comes equipped with a lanyard and a 115-volt AC charger. Also available are 220-volt AC (foreign) and 12-volt DC cigarette lighter chargers. To charge the light, the chargeport plug at the end is unscrewed and the charger cord inserted. An optional rubber lens protector is also available.



The Serl Dive Light is characterized by its screw down lens. Unlike most lantern type underwater hand lights which employ threaded bezel access to the inside, the Serl light features a three-eighths inch, optic grade, plexiglass lens screwed down to the housing, with direct compression on the O-ring. The six nylon screws have large heads and can be removed with a standard screwdriver or coin if need be.

This light also features a unique switch mechanism. A magnetic reed on the inside of the housing is activated by sliding a permanent magnet on the outside. If held in the left hand, the switch knob can be pushed forward with the thumb and fastened in place with a slight turn. This one-handed maneuver is more tricky to accomplish if the light is held in the right hand.

The Serl light accepts 10 D-size batteries, more than any other nonrechargeable underwater hand light on the market. This power pack promises long life. The light is yellow in color and features an open-ended carrying handle in which a hole has been drilled for a lanyard.

This study was performed by Peter Golding, Associate Editor of *Diver and Undercurrent Adventure*, a Canadian magazine. The data appeared in their February/March issue. Because of its importance, we believed it required further circulation and received permission from Publisher Peter Vassipoulos to reprint it. We have made several additions to the text for which we take full responsibility.

*Diver and Underwater Adventure*, previously *Pacific Diver*, is particularly useful for any person who dives the colder North American waters. It is frankly written and nicely illustrated and belongs in the library of every serious diver. An eight issue subscription is \$9 U.S. or \$8 Canadian. Seagraphic Publications, Ltd., Boater's Village, 1601 Granville St., Vancouver, B.C. V6Z 2B3.

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## The Pelican First Aid Kit

### *You'll never do it yourself*

Most divers' first reaction to a \$33.95 first aid kit — which is to say it was our first reaction — is, "I'll put it together myself for half the price." After all, why pay the premium for someone else to fill the kit when you can do it at a discount drugstore for a substantial savings?

Well if you think you're going to replicate Pelican's new diver's first aid kit, let's face it — you won't get around to it and then when you do, you

won't do as careful a job as did the folks at Pelican.

Is it your nature to sit down on a sunny Sunday to make a list of what you need in your diver's kit, head to the drug store for the purchases, find out you've got to travel to two or three drug stores to finish the job, and then pack it all away in a waterproof case? If you can find one? No, you won't do it, probably because you don't think you'll ever need it.

Because most divers won't do it, Pelican has



marketed a first aid kit to handle minor or emergency needs. The kit contains anti-bacterial ointment, alcohol swabs, sterile dressings, 1" bandages, ammonia inhalators, sting-killing swabs, a single-edge razor blade, empirin, sudafed, marezene, ear drops, an instant ice pack, fine-point forceps, and an emergency cyalume light.



We priced the individual items offered by Pelican against identical items in our neighborhood discount drug store. Many were priced similarly (e.g., Marezine from Pelican at \$1.25 while \$1.19 at the drug store), but if one purchased them in larger quantities than Pelican offered, there would be substantial savings. For example, they provide twenty tabs of Sudafed for \$1.50 when we could buy 100 for \$4.50. On the other hand, the Sudafed — and the Empirin — are individually wrapped to prohibit damage from moisture. If economy is your only consideration, you might save a few bucks by putting together your own kit. But most divers will be better off by letting Pelican do their shopping because the kit offers more than just supplies.

The container itself is tough plastic and sealed with an O-ring to keep the supplies dry. That's important since salt water-soaked compresses can lead to more serious problems than the original cut you're covering. A small, unbreakable mirror inside the cover will permit you to check if your lipstick is on straight, while you're waiting for the rescue plane to which you've just flashed a signal. The kit also contains repetitive dive tables on plastic cards.

Perhaps the best feature — a product you can't buy in drug stores — are four plastic cards describing emergency first aid techniques — cardio-pulmonary

resuscitation, artificial respiration, and ways to stop rapid bleeding. Unfortunately the only treatment recommended for bends or embolism is to seek professional help. Even Flipper knows that. For the future, the cards ought to add instruction. For example, the injured diver ought to first lie down. If he has pulmonary or central nervous system symptoms he should be placed with his buttocks about 30° higher than his head and he should be turned slightly on his left side. Not many divers remember those treatments from their certification days.

We showed the kit to San Francisco physician Dr. John Fletcher, a member of the International Society of Aquatic Medicine, to evaluate the contents. Fletcher believed the product was well-designed for divers' needs and was particularly pleased with the simplified instructions for meeting emergency medical problems. Fletcher suggested that divers might wish to add a few items to the kit: Afrin, for immediate action on nasal blocks; meat tenderizer, to neutralize protein stings, and a small candle, from which wax can be dripped on spines for easy removal if the forceps don't work.

Because the waterproof case and the medical cards aren't available separately, we don't believe the few bucks you can save by shopping around are worth the hassle. If you're a college student on a tight budget you can put together your own kit and keep it, and a first aid book dry in a waterproof bag. But if you're a forty year old insurance salesman who knows damn good and well that you'll never get around to stocking your own kit, then Pelican's product ought to be as much a member of your dive bag as your regulator.

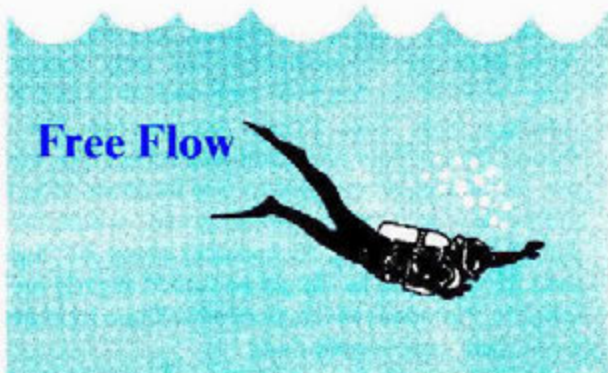
**Note:** Some items have expiration dates which need to be observed. Pelican sells replacements for each of the products, but once you have the kit you'll find the corner drug store suitable for most replacements.

The kit is available in most dive shops, but you may order it direct by sending \$33.95 to Pelican Products, P.O. Box 1511, Torrance, CA 90505. California divers add 6% sales tax.

### U.S. and Canadian Dive Sites HELP!

Does your club or dive shop have a guide book on local dive sites? We'd like to get a copy of it, whether it sells for \$10 or is free, whether it covers only wrecks or only places to find lobster, whether it's for beginners or experienced divers. In a forthcoming issue we will review the guide books published for U.S. and Canadian diving, but we need your help to find them. If you know of a book, let us know how to order it and the price. If you're the first to tell us about it, we'll extend your subscription for six months.





For those of you who once-upon-a-time subscribed to *The Buddy*, a newsletter modeled after *Undercurrent*, ex-publisher Ernie Krumbein is in the charter business in Key Largo, Florida. You can find him at Diver's World, P.O. Box 1663, Key Largo, FL 33307, phone (305) 852-5498.

Although the Pelican Medical Kit provides tweezers to yank out urchin spines, a letter to the editor of *Triton*, the English dive magazine, by P.K. Stockel of Hong Kong suggested this solution: "I found that about 10 of the urchin spines had penetrated my hand by at least half an inch and some had even gone right through the edge of the base of my thumb and were coming out the other side ... I showed the local boat boy. He did not seem very impressed ... He got a bottle out and started to hit my hand where the spines had gone in. This was rather painful to start with, but after about five minutes the hand became quite numb. He continued the treatment for about 15 minutes while I looked on with apprehension ... About one hour later there was very little sign of any spine left. The pounding had obviously reduced the spines to powder and they had been removed by the bloodstream and disposed of as body waste. Next morning there was no evidence that I had ever had any spines in the hand and there was no infection." Stockel does not say whether he now sports a hook.

Also in *Triton*, Dr. Paul Cragg noted that the basking shark, which reaches about 40 feet in length and feeds on plankton, is harvested in British waters. The fishing industry boils its huge liver for what probably gets marketed as "cod liver oil," and the rest of the animal is discarded as useless. Divers who have had the opportunity to dive with this magnificent creature ought to be pleased to know that it has commercial value.

In January, 1977 we reported on exposure suits — emergency dry suits for boat crews and passengers operating in cold water. The U.S. Coast Guard has now approved suits manufactured by Imperial and by Bayley. These suits, similar to dry suits for diving,

keep the wearer afloat, warm, and dry. Coast Guard tests carried out for 24 hours in freezing water demonstrated the suits' effectiveness.

Golden State Warrior basketball forward Clifford Ray was out of action with a bad leg when he received a call from a staffer at Marine World Africa USA. One of their porpoises, Mr. Spock, had swallowed a pointed three-inch bolt a worker had accidentally dropped into his tank. Ray hustled down to the hospital where the porpoise was taken, lubricated his arm, and was told to "go with the flow," — that was a 45 inch flow down the porpoise's mouth and he only had three minutes to hang in there otherwise Mr. Spock would have suffocated. With thirty seconds left on the clock, plenty of time for any good shooter, Ray found the spike and withdrew it. Kind of makes you gag, doesn't it.

We told you photographers how to peddle your pictures to the Sea Library in our January 1976 issue. The Sea Library is now called Photoquest and Jill Fairchild still wants photographs. For information, write Fairchild at 408 Sycamore Rd., Santa Monica, CA 90402. Photoquest, in fact, can use just about any ocean-oriented shots, but don't bother them unless your work is indeed high quality. They sell to the best so don't embarrass yourself.

Shark attack expert Dr. John E. Hutton of the Letterman Army Medical Center recently told *San Francisco Magazine* that just a few years ago, half of all shark attack victims died, but now 80 percent live to swim again. "Shark bites aren't as bad as many combat wounds ... at least when you're wounded in battle you can lie down. When a shark bites, you're thrashing about, terrified he'll be back for more — though most sharks bite only once. Your heart is pumping blood as fast as it can, you're hemorrhaging faster because you're in the water." The crucial step, says Hutton, is to get the victim out of the water and apply pressure to stop the bleeding. "After that, you've got to clean out the wound — especially if there are any shark teeth in it."

For those of you fortunate enough to dive the small isle of Molokini, Hawaii, with one of the boats out of Maui, you'll be proud of our U.S. Navy's latest venture. They discovered an undetonated bomb inside the crater of this underwater conservation district and in mid-February detonated it. Yes, fish everywhere were knocked wacko and of course no dive shops were told. Apparently, the state government was forgotten too. Most of the fish have returned and the family of white tip sharks which reside in 120 feet of water stuck around, but the Navy is now on the ship list of local divers.