

Prospect of Whitby, North Caicos

So virgin that you name the reefs

The water was clear and quiet. I lay on a small patch of sand, my eyes on a large lobster, whose eyes were on me. Slowly he crept from his hole, picked his way across the coral, and began to size me up with his antennae, sweeping them across my head, over my ears, down to my shoulders. It was unlikely he had seen a human before, and when he had had enough he backed away, returning to his cavern unmolested. I had never seen lobster explore people before, but he was not the only creature curious about my presence; it seemed as if most of the inhabitants of these rarely-dived reefs were out to introduce themselves to the newcomers. Giant manta rays, ten to twelve feet across, dipped their wings to check us out. Turtles up to 150 lbs. or so approached for close viewing. A jewfish, weighing about 100 pounds, watched me swim by, plainly unconcerned, just as were his smaller cousins, nassau and black grouper, which were often as common as damsel fish. Even the sharks were curious, and although I enjoyed the blacktips which appeared on nearly every dive, I admit to a quickened heartbeat when I realized that a few mako sharks were about. There was never a sign of aggression from these 4-6-foot animals however, just as there was never an aggressive motion from the enormous barracuda which hovered attentively on many dives.

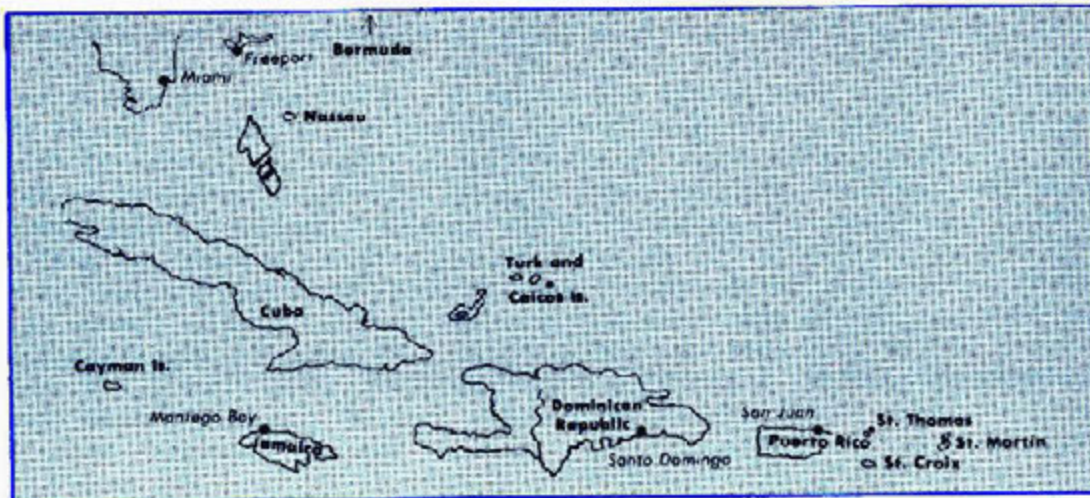
I am writing, as you can see, about virgin diving, the kind which I had presumed nonexistent within a short flight from the United States; but it indeed exists here on the reefs of North Caicos, a mere 550 miles southeast of Miami. I visited Sequatic Divers and the Prospect of Whitby Hotel (named after an English pub which was named after the square-rigged vessel Prospect built in Whitby) during the first part of June and learned that fewer than forty others had arrived before me to inaugurate this new operation. Although locals sometimes spear fish (I saw none during my stay) this is the first dive tourist operation and, believe me, the quality of the diving shows it. The common reef fish--damsels, parrots, snapper--were abundant, as were the black durgons, jacks, chubs, arrow crabs, stone crabs, cowfish, along with a fair representation of queen, gray and french angels and yellow, brown and even purple trumpet fish. Anemones were plentiful, my favorite being small red ones with white tips, nearly always home for a scampering shrimp. In my twenty or so years of Caribbean diving, (300 tanks in the last four years) I saw my first nudibranch in these waters--in fact two on my first dive--and, would see one or more of these brown or blue ruffled creatures on each of the twenty-five dives I made.

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The underwater terrain ranged from flat areas with lush growth of hard and soft corals, sponges and gorgonia (at least as lush as Bonaire) to deeply cut canyons whose walls were alive with growth. The dives ranged from 40-110 feet (deeper dives are available if one shows his skills) and each proved beautiful and interesting. I found some evidence of dead coral, apparently due to storms, however, not to the carelessness of man. During my 12-day stay, visibility never dropped below 80 feet, and usually exceeded 100 feet. With the exception of one dive, we were never in a current. Water temperature varied from 79° to 82°. Most divers wore wet suit tops. Off Pine Caya fresh water spring seeps from the bottom at 40 feet, reducing visibility to 10-15 feet, and increasing the water temperature to 85°. The coral is clouded by the unique shimmering effect as the fresh and saline water mix.

Of course I presumed that in the company of such virgin diving would be virgin accommodations--i.e., no one to make the bed, creatures in the coldwater shower, dirty and stuffy rooms--but that is not the case at the Prospect of Whitby Hotel, where expert management rules. Upon arrival on the island, I was met



by a waiting taxi, which brought me to the hotel within 15 minutes, where Tom Whitting, one of the owners filling in for the vacationing managers, quickly registered me, then served up a rum punch for openers. Tom proved to be a superlative host, as did his able and courteous assistant manager, Earl Higgs.

The 25-room hotel sits on a clean, white-sand beach, dotted with palms and protected by a fringing reef about 400 yards from shore. Each air-conditioned room has two double beds, a large 9-drawer dresser to hold what doesn't fit in the walk-in closet, a shower and bathtub--and plenty of hot water--and tiled floors. Linen and towels are changed during each day's cleaning. Large sliding glass doors lead to the hotel grounds. Amenities for guests include a salt water swimming pool, a tennis court (soon to be resurfaced, so I was told), a comfortable lounge with books and games, and a sailboat and catamaran. Water skiing can be arranged. On both sides of the hotel miles of deserted beach provide romantic opportunities for solitude or skinny dipping. Beachcombers find plenty of shells. Snorkelers, too, can find plenty of shells (but not much in the way of colorful coral or fish)--and occasionally discover glass fishing floats which have drifted from Portugal. Apparently winter is the best season for float finding, but during

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my stay a half-dozen were discovered. There's not much else to do here, aside from taking a tour of the island by taxi or, when in the four tiny towns, chatting with the locals who are a lot more friendly than the people who live on my block back home.

Ah, but one pastime remains, that of gorging oneself on the repast, which rates among the best of any dive resort I've visited, including those which hope their quality comestibles will help touring divers forget their ravaged reefs. Perhaps the major sin committed by the owners was their failure to have a sufficient quantity of Red Stripe or St. Pauli Girl Beer, forcing me to begin the evening with a boorish bottle of Schlitz or Pabst (\$1.25) while others opted for the \$1 highballs. Nevertheless, I would stuff myself with the complimentary conch fritters or conch salad and forget the low quality of the hops. After a round or two in the pleasant lounge, dinner would be announced (between 7:30 and 8:00, too late I think for a hungry diver). It would begin, perhaps with a crepe or a fresh fruit salad, followed by homemade fish or vegetable soup and freshly baked bread from the kitchen. One could choose from a meat (ribs or veal, for example) or fish entree (snapper or grouper) or order half of each. The conch steak was especially delectable. There would be fresh vegetables if the boat came, but occasionally canned would have to suffice. A bottle of wine (\$9) could be corked and kept until the next meal, if unfinished. Dessert would be ice cream, chocolate cake or perhaps even strawberry shortcake. Now and then a brandy (\$2.50) and coffee would conclude my meal. It is a 6'3", more than two-hundred-pound person named Planker (his father made planks for the ships) who is responsible for the 3-star cuisine here, and the quality of his kitchen matches the conviviality of his heart. For lunch, one could select a sandwich or venture into something hot (e.g., grouper and a vegetable). Breakfasts were quite American, offering eggs, pancakes, french toast, bacon or sausage. The waitresses were always pleasant and prompt.

But even with the fine diving and excellent food, and accommodations, surly divemasters could spoil the fun. However, I am pleased to report that the partners in this operation provide tender loving care not only for their guests but also for the reefs. The owners of the dive shop, Mike Hogg and Al Gardner (also the proprietors of Seaquatic Divers in Middletown, New York) began this venture last fall--and not without obstacles. They signed a \$1,200 contract to ship their goods, only to have a local flim-flam man demand an additional \$2,800 before delivery. They refused to pay, and their goods stayed in storage. Needing their equipment, they put up a check, stopping payment as soon as the goods were delivered. Soon, they reported that local thugs threatened everything from arson to mayhem, so they bit their lips and ponied up the money. Lesser men would have gone home crying, but determination prevailed and the result is an excellent dive shop, 100 yards from the hotel, well equipped with forty 3,000-psi tanks, rental gear, some sales gear, and a reasonable capacity for repair. Their primary dive boat is a 34-foot covered flattop, capable of hauling 16 divers. They also sport two runabouts, each with a capacity to hold six divers, and an Avon inflatable for four divers. Dive gear, after a fresh water rinse on the dock, is returned to the boat for overnight storage. The dive trips normally last 2 1/2 hours, with a one tank departure at 9 a.m. and a one tank departure at 2:30 p.m. Depending upon diver interest, a three tank dive with a beach picnic and snorkeling is easily arranged.

I did most of my diving with Mike Hogg (pronounced Hoag) and Linda Weiss, although Al Gardner led a couple of trips. Being fresh on the job, they are so enthusiastic they even went diving on their days off. The three were equally open, friendly and obliging giving special care to new divers (who must show C-cards). The divemasters patrol the site, keeping careful check on their charges, and while they don't dictate the nature of the dive, the Navy Tables must be observed.

From the boat hang three regulators and a set of plastic dive tables. On the first dive a 3-minute decompression stop is required, and a 5-minute stop is required on the second dive, not a bad idea when one realizes that the island has no recompression chamber. A weighted line hangs from the bow to assist divers during the stops.

In 25 feet of water lies a 74-foot steel hulled freighter, abandoned five years ago by marijuana smugglers. Though a good dive now, Gardner and Hogg plan to refloat it and resink it in 50 feet of water, outside the fringing reef. Paul Tzimoulis will probably shoot the effort for a feature in Skin Diver.

To preserve the reef, divers are not allowed to remove anything, and that includes even dead shells. They would like to clear a channel to make trips to the reef less harrowing over the shallow coral heads, and have asked the government to study the impact of a channel to determine if an opening would alter the ecological balance. In the meantime, they cannot conduct night dives because the reef is too treacherous to traverse in the dark.

The rates at the Prospect of Whitby, which include all meals, two dives per day with tanks and weights, airport transfers and all gratuities and taxes, are \$464 per person, double occupancy for seven nights, and \$270 for four nights. On December 15 they will increase prices by 15-20%. Getting to North Caicos may be troublesome during late July and early August because Southeast Airlines has announced discontinuation of their flights. An application for a route from Air Florida is pending as we go to press. Although any travel agent can organize a trip, the Caribbean Information Office specializes in the area (and arranged our trip), and would be the best source of information, reservations, and tickets (777 West Talcott Street, Chicago, Ill., 60631; (312)763-2007. A passport or birth certificate, but no immunization, is required to enter North Caicos. Because it is remote, you should carry everything you might need during your stay--film, toiletries, etc.--and bring plenty of insect repellent. By using the air conditioning in our room and keeping the doors shut we had no problems indoors, but once outside, mosquitoes were our constant companions unless we had plastered ourselves with repellent.

I might add that the operation is so new, none of the dive sites had been named. I'm proud to have had one named after me, as were other tourists during this trip. If you get to North Caicos quickly enough, you too may have your name forever etched in the logs of divers who follow.

Part II: 1970-1976 Sport Diver Deaths

For the first time, a seven-year-old boy

Following is the second section of the report by the University of Rhode Island National Underwater Accident Data Center (NUADC) on the causes of sport diver deaths in the United States. Part I was presented in the June issue of *Undercurrent*.

Divers Age

The highest percentage of deaths (22%) occur in the age category of 20-25 years old; 16% of the deaths are of divers 26-30. Divers between 31 and 40 account for 12%, while divers between 41 and 50 ac-

count for 11%, 5% are of divers over 50. Younger divers, however, don't seem to fare well: in 19% of the deaths the divers were between 16 and 20 and in 3% of the cases the divers were between 10 and 15 years old.

In 1976, for the first time, a diver younger than 10 was killed, a 7-year-old boy who had received some instruction from his stepfather who had been scuba diving for a number of years, but who did not have a C-card. The accident occurred in an inland freshwater lake in mid-summer. The boy was wearing a 1/4" wet suit and 3 lbs. of weight on his belt. After

Lost At Sea!

Not long ago, *Undercurrent* subscriber Joe Marshall called to inquire about diving at Isla de Mujeres, where he would be vacationing. In the course of the conversation, he asked if we had read about him in *Reader's Digest* and we admitted we had not but asked Joe to send us the article. It turned out to be a chilling account of how Marshall and his buddies, while on a diving trip off the Texas coast, survived the harrowing experience of being lost at sea—without their boat. We secured permission from *Reader's Digest* (March, 1979, issue) and *D Magazine* to reprint the article and offer it as a service to our readers.

Marshall is still diving, although he admits to observing a few standards he wishes he had observed during his frightening and near-fatal dive in the Gulf of Mexico.

* * * *

Hal Sauls checked his compass heading—bearing at 140, almost due southeast from Matagorda Bay, Texas. Their 22-foot craft, the *Linda Lou*, would reach the sunken Liberty ship 30 miles out in the Gulf of Mexico in a couple of hours. The three of them would suit up, check out their gear and be in the water no later than three o'clock. After 15 minutes of exploring the sunken ship, 100 feet down, and ogling the marine life, they'd retire to the *Linda Lou* and fish—or just sit around in the glorious Gulf sun. For the three men from Dallas, this Friday, May 19, 1978, was a vacation.

None of them had dived the Gulf before, but they'd planned thoroughly for any contingency. The three—Norman Gin, 29, a shy Chinese-American stockbroker; Joe Marshall, 36, a gregarious broker; Sauls, an architectural designer approaching 40—had taken a scuba-diving course together three years before. Each had completed more than 30 descents. They had already dived to this depth in the Caribbean. They knew they could stay at 100 feet for only about 17 minutes. The water would probably be murkier and rougher than the Caribbean. But the same basic rules applied—keep your buddies in sight, take things slow and easy, keep an eye on your watch. The weather was good: moderate winds, clear skies.

The marker buoy appeared suddenly. It was attached by chain to the hull of the Liberty ship—scuttled to make an artificial reef—100 feet below. Tying

off the *Linda Lou* to the buoy, they got ready to dive. Methodically, they pulled on quarter-inch double-nylon-lined neoprene wet suits; next, bright-colored life vests (called buoyancy compensators or BCs) and weight belts; then the heavy air tanks and the 18-inch fins. Finally, they cleaned their masks with their own spittle and cleared their snorkels.

Alien Planet. Norman was first to go down the descent line; Hal followed, while Joe entered simultaneously a few feet away. When Hal reached Norman, the latter spelled out "Joe," shrugging as if to ask "Where is he?" Hal shook his head and pointed toward the surface. The two waited; then Norman made the descent signal. They needed all their air to stay at depth for 17 minutes, and they'd already been in the water for three; if they didn't hurry, they'd have little time to explore the ship. Joe was probably back on the boat.

Hal and Norman let go of the line and began to sink into the gray-green void. It was like parachuting out of an airplane in pitch darkness. On the ocean floor, the water was a swirl of sand and bits of seaweed. But after locating the steel hull, and pulling themselves up ten feet to the deck level, the two men found the water hauntingly tranquil, pristine. Visibility was incredible. Sauls saw tiny skittering minnows, lumbering groupers and grunts—some six, eight feet long. He suddenly confronted a gargantuan Warsaw grouper, its slack jaws easily large enough to accommodate a man's head.

This is what diving is about, Sauls thought, glancing about for Norman. This made it all worthwhile—the seven-hour drive from Dallas, the hassles getting ready. Non-divers could never understand what it was like down here—the feel of visiting an alien planet with its own language and laws.

At a little after 3:20, Sauls and Gin searched for the weighted descent line. It was nowhere in sight. They decided to ascend without its aid; if they surfaced away from the boat, Joe could pick them up.

Joe Marshall, meanwhile, could not believe what was happening to him. For ten minutes he'd been swimming for his life—and was now farther away from the *Linda Lou* than before. How could this be? He'd entered the water a few feet from the descent line. He'd dropped just fine to the 50-foot mark, then realized that Hal and Norman were nowhere in sight. Instinctively, he surfaced to try to locate them.

On the surface, Marshall soon realized he was in trouble. The *Linda Lou* was about 200 feet away

and, swimming at full strength, he could barely maintain that distance. He slackened his pace to allow aching muscles to unwind. Maybe he should swim *under* the current. He stuffed in his air-tank mouthpiece, deflated his BC, sank to 25 feet and swam for five minutes. When he surfaced, he was still farther from the boat.

Where were Hal and Norman? They should be up by now. *But I can't just wait for them*, he thought. *I have to keep swimming.*

Joe Marshall glanced around him; in every direction lay flat, empty horizon. He thought, *God help me. God please help me.*

Hal Sauls and Norman Gin surfaced simultaneously and headed for the boat, 50 to 75 yards off, rocking gently in the rolling five-foot swells. The two swam for ten minutes, then checked: they hadn't moved. "What's going on?" Sauls muttered. He dug deeper in the water and thrashed at it angrily. Still no progress. "Hey, Joe," he shouted into the wind, "come and get us! We're over here!" Joe must be on the boat. He'd be along soon.

Resting a cramp, Sauls looked back and saw Norman bobbing in the swells to his right. And—well beyond—he made out a second mask and snorkel. It was Joe.

Shark Bait. Sauls saw Norman and Joe drop off the horizon at 4:30. At 5:10, he lost sight of the *Linda Lou*. He was alone now. His BC held his head and shoulders out of the water; there was little danger of drowning. His compass might be his ticket back to the boat. He'd get a bearing in the morning and try to swim for it. Maybe the current would let up.

Better cut the compass out of its plastic console and get it inside my wet suit, he thought. He pulled out his diving knife and began hacking. It seemed to happen in slow motion: Sauls saw the knife slicing into the tip of his left middle finger. Now he was seared. It didn't take much blood to bring a shark. He pressed his left thumb to the center of the wound, pushing until the pain was almost unbearable. Slowly, the bleeding subsided. He would have to hold his fingers in this position as long as he was in the water.

And how long would that be? He had to face it: It was dusk on a Friday. No one knew where they were. Rushed that morning, they hadn't filed a "float plan" with the Coast Guard. Their families didn't expect them until late Sunday night.

The call to the Port O'Connor Coast Guard station came about 1:30 p.m. Saturday. The fishing boat *Trophy I*, trolling near the sunken Liberty ship, had found the *Linda Lou* moored to the marker buoy. It had a diver's flag raised—but no sign of life on board for hours.

Chief Martin Dobrin sighed. Would people never learn? The Gulf cannot be trusted. Its currents can shift as quickly as a summer breeze. Odds were the divers had neglected to leave someone topside and, on surfacing, had run up against a rough current.

Which meant they were now bobbing around somewhere in the open Gulf. Dobrin began devising a search scheme.

Hal Sauls lay back in the water and watched the sun peek through the clouds. Being adrift in the open sea for 20 hours is a lot of things: grueling, frightening, awe-inspiring. But mainly it is boring.

During the night it had been tormenting. By night, shadows play tricks on a man's senses: whitecaps become huge dorsal fins; the rushing of swells can sound like approaching danger. And it is cold. Hal's thumb was cramped and numb from pressing against his wounded finger. His tongue was swollen and parched, his lips chapped from the acid-like erosion of saltwater. He wanted to urinate but could not.

And there were the remoras. Throughout the night, the disgusting little scavenger fish had been constantly circling, bumping, poking at his ribs and legs. Apparently they thought he was a shark and were trying to attach themselves.

Sunrise lifted his depression. Thirst had not yet become an obsession. His finger still bled but was showing signs of clotting. He cut both pockets off his BC. When the scorching Gulf sun reached its zenith, he would stuff the fabric into his mask to protect his eyes.

At some point in the early afternoon, Sauls flipped onto his back to relax. Idly he began slapping his flippers in the water, watching drops fly into the air and plop back. Suddenly he realized; sharks! They will generally pass by anything that is still. But a disturbance in the water means fish, and that means food.

He pulled himself upright in the water again. There came a firm bump on the inside of his right calf. Sauls looked around for dorsal fins. Nothing. He lowered his mask into the water below and peered down the front of his wet suit. Then further, between his legs.

Two eyes stared back at him. Large, black, oval eyes, at least two feet apart—the eyes of a hammerhead shark. Saul's mind raced, but he kept his body still. Then a plan emerged. He thought—erroneously—that sharks fear even a single porpoise. So, against what experts would advise, he slowly rolled onto his back and began the subtle, rhythmic undulating motion of a porpoise—each instant expecting huge jaws to snap a leg or an arm.

Minutes passed. Finally he summoned the courage to check the water again. Nothing. He had been lucky, the shark had left. Sauls decided then to lie quietly on his back. It was the only way to survive.

Pack Mule. Since watching their boat drop out of sight, Joe Marshall had been swimming almost constantly—for 20 hours now. It had been a rough night and his entire body ached murderously. He had seriously considered suicide, but reasoned himself out of it. *If I'm going to go down*, he thought, *I'll go down trying.* Swimming toward land instead of against the current, he could cover a half mile every

two hours. It would at least put him closer to more boats.

He had been thinking. They had made the simplest, dumbest error an ocean diver could make: not leaving a man topside. How many times had their diving instructors drilled that into their heads? Praying as he had prayed all night, he thought, *If I make it through this, I owe someone an awful lot.*

Once that afternoon he saw a huge derrick-like structure in the distance. With the steadiness of a pack mule, he plodded through the water toward it. Thirty minutes passed. He was almost there. A few more minutes and he could at last grasp something solid. As he came up to the immense steel structure, he reached for it—and the derrick disappeared. He was seeing things.

Cool and Slick. Norman Gin was fast asleep. During the night he'd caught frequent snatches of sleep, as long as 20 minutes. Still the night had been uncomfortable; the passing ships he'd seen were a frustration. But there had been a kind of beauty, too. At one point, in the moonlight, the water around him exploded—missile-like shapes, shiny gray, ripping through the water.

Sharks? No, porpoises. He was in the path of a school of porpoises. He reached out and felt something cool and slick brush his hand. *I'm lost—take me to shore,* he thought. Then as suddenly as they had appeared, the porpoises were gone.

Instinct told Norman Gin to lie still, conserve energy. His training in karate and judo had taught him patience. He would become a part of the sea and move with the currents, not buck them.

Now on Saturday afternoon he closed his eyes and thought of juicy, succulent peaches and pears. He pictured himself in a Mexican cantina, drinking cool pineapple juice. Yet before he dozed off again, he imagined his friend Joe, floating face up, mouth agape—dead.

"Mayday! Mayday!" Hal Sauls rolled over on his back and checked his watch. It was 4:30 p.m. The sun had become excruciating; his lips felt like raw hamburger. *Better check the horizon again for boats,* he thought. He pulled off his mask and removed the orange-nylon stuffing protecting his eyes.

The boat was big and ornate. *It's an illusion,* thought Sauls. But moments later he heard the dull roar of engines. The ship was a tanker, coming his way. Hal Sauls swam as he never had before. Then as the massive hull came nearer, tearing around its bow came Coast Guard cutter 41401, sirens wailing.

"Mayday," Sauls kept screaming. "Mayday! Two more, two more!" Then he grabbed the cutter's extended boat hook. He was saved, it was over.

All he felt was guilt.

Chief Dobrin surveyed the report from 41401. Sauls had been found about six miles west of the *Linda Lou*. He had been in the water for about 25 hours.

A systematic Coast Guard search had been under

way for hours, but now the sun was low and clouds were moving in. For the two men still lost, another night would make it 36 hours in the sea. They had to be reaching the breaking point. The dehydration of such prolonged exposure raises the salt concentration of a man's body; this, in turn, affects his brain. His judgment becomes worthless.

They had to get to those other two. They might kill themselves.

It was a little after 7 a.m. Sunday as Dr. Ed Boyer savored the cool morning air. Sailing his 37-foot sloop was his weekend relief from the rigors of his medical practice. The only sounds were the lapping of the water, the rustle of wind, the muted drone of one of his companions snoring below.

But now came another sound—faint, distant, like an infant moaning in its sleep. Boyer scanned the water for the source. At the top of a swell, something appeared. A log? No. It was a human arm, waving wildly. The arm belonged to a man in a black wet suit who was crying. "Help me! Help!"

Boyer quickly tacked about and soon had his boat alongside. Carefully, he and his friends helped the sea-ravaged, exhausted man aboard, set him down in the stern, and offered him food and water. In minutes, a Coast Guard chopper arrived. Hauled up in a rescue seat, Norman Gin flopped into a seat, cinched his seat belt—and only then did he break down.

A Gleeful Squeal. On the bridge of the Coast Guard cutter *Point Baker*, Chief Kenneth Byrd scanned the gray horizon. The second diver, Norman Gin, had been picked up after 40 hours in the water. His position stunned the searchers: only two miles from shore. He had drifted 27 miles!

That made locating the third man a tricky proposition. There was a good 20 miles between the first two rescue sites. Copters and cutters were methodically eating away at it, but time was running short.

Joe Marshall did not know where he was. His second night at sea had been a nightmare—hallucinations, illusions, and mirages. All night he kept hearing ships engines or loudspeakers and seeing bright lights. Generally, the sounds or lights would quickly disappear. Sometimes they would change shape. He was bedeviled by imaginary signs of salvation.

He barely noticed the dawn of his second day adrift. His neck and ankles were raw and bloody from the rubbing of the wet suit; his mouth was too tender to touch. Marshall had fought the Gulf, lick for lick, for nearly two days, and it appeared to be winning. He removed his BC, spread it on the water before him and lay his head down. For the first time, he escaped into a painless sleep.

It didn't take Chief Byrd more than a second to understand the gleeful squeal from the young lookout at the bow. As they pulled in Marshall, savaged by the sea, and settled him into a comfortable position, the diver spoke in a faint voice: "My girlfriend is right over there. Go tell her I'm here."

Chief Byrd has been with the Coast Guard for 21 years. But he will never forget the look in Marshall's eyes. Never.

A man cannot turn his back on the Gulf of Mexico.

Norman Gin and Joe Marshall were admitted to a hospital for treatment for exposure and exhaustion. But none of the three men had suffered serious physical harm. By Wednesday all were ready to return to Dallas. Three months later, in mid-August, the three traveled to Grand Cayman Island in the British West Indies. The first afternoon, they pulled on their wet suits, fins and masks, and dived—but this time in still waters, at lesser depths, and very close to shore.

* * * *

After reading the story, we spoke with Marshall and asked if there were any special lessons he had learned from the ordeal other than those reported in the article. Yes, he said, and reported that while floating he had fallen asleep and dreamed that he had been

rescued and taken to a beach where he pulled off his tank, in a hurry to get to food and water, and although he tried to pull off his BC too he could not get the straps loosened, so he left it on while he went for nourishment. He then woke up and found that he had indeed taken off his tank and no longer had it. Marshall speculated that had he been wearing a back flotation device or vest-type buoyancy compensator attached to the tank pack he might have dropped the entire combination in the course of his dream and drowned. He says now he will never wear anything but the horseshollar BC.

Marshall also said that "I got a little religion out there" and made a few promises which he has since kept. "My life has really changed for the better now," he reports, "and the experience has has its positive side."

Marshall, who lives in Dallas, is Vice-President of Blyth Eastman Dillon & Co., a stock brokerage firm. We asked if his luck transferred over to his business and though he could make no promises, he said he'd be happy to retell the tale while placing orders for the readers of *Undercurrent*. You can reach Joe at (214) 742-1511.

Invite a buddy along. . . .

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10 minutes of swimming the man was about to teach the boy to remove his gear in 3-5 feet of water, but the boy said he was tired and started for shore, about 25 ft. away. The man continued to dive for about five minutes. Upon surfacing, he did not see the boy on shore and checked to see if he had gone to the house a short distance away. Not finding him he became worried, had the police called, and re-entered the water to search for the boy who was found 15 minutes later.

The problems in this case are evident. We should note that all of the national training agencies require students to be much older than 7 years of age before entering scuba training.

Experience And Training

During the six year study period, 13% of the deaths happened during the very first dive or the first open-water dive. In another 25% of the cases, the victim had seven or fewer dives.

The sport diving community, by concentrating on these early dives, that are usually well-defined or under the control of instructors or other experienced people, could reduce the number of fatal accidents. The task of reducing these early dive deaths is the responsibility of instructors. Each student should clearly understand that having completed a few open-water dives with instructors leads them now to the most dangerous time of diving. That period of "open-water seasoning" in which sea conditions, equipment and buddy problems not encountered in class may arise and overwhelm a new diver not ready for a serious emergency and no longer under the eye of experienced divers. The following account will show some of the problems that can arise during the open-water phase of instruction.

The instructor and 18 students embarked for a day of instruction at sea, but on the first entry into the water the soon-to-be victim was acting jittery so the instructor sent him back to the boat. Later that after-

noon the instructor took both the victim and another student into the water, but the second student appeared nervous and was sent back to the boat. The victim and the instructor proceeded to a depth of 45 feet in crystal clear water for about 5 minutes. They started to ascend side-by-side; at 25 ft. The victim ripped off his mask and pulled the regulator from his mouth. The instructor tried to replace the mouth-piece, but could not. The student panicked and rushed upward, becoming unconscious before he reached the surface. On the surface, the instructor inflated the victim's vest, dropped his weight belt and tank, and rushed him to the boat. Despite resuscitation efforts, the victim never regained consciousness and was pronounced dead at a nearby hospital to which he had been flown by helicopter. The instructor owned the equipment used. The deceased was said to have had a small sinus problem and smoked about a pack of cigarettes per day. He was also reported to have completed four to five dives prior to the fatal accident.

As an aside, we would like to note that if the lending, rental or sale of scuba gear to uncertified persons was stopped, 12-14 deaths might be prevented each year.

Activity Of The Victim During Fatal Dive

Spearfishing deaths have declined from 39 during the first four years of the study to 14 during the next three years, most likely reflecting the general decline in the sport. Deaths attributed to wreck divers, however, appear to be increasing, perhaps due to increased participation. 14% of the deaths occurred while the victim was receiving instruction. In 1976, one death occurred during exhaling ascent training, a controversial element of training courses.

The accident took place on the second open-water training dive in a tropical area. Eleven students were supervised by the major instructor and an additional fully certified instructor, and assisted by three ad-

A Surprise For A Single Diver With Doubles

Last year, on a hot summer day, a Navy diver loaded his car for a recreational dive with twin 72's, each pumped to 2,250 psi. Several hours later he parked his car at the site, an old pier with a shallow, 20-foot bottom, suited up and entered the water. After spending about an hour, he noticed that his air supply was running low.

He pulled his reserve, but did not get reserve air. He tried to surface, but could not leave the bottom. Irritated but unflustered, he released his weight belt, but he still remained stuck on the bottom. Keeping a cool head, he pulled himself up a nearby piling and reached the surface where he orally inflated his vest, expecting it would float him ashore. Instead he began sinking again, although he did have just enough buoyancy to keep near the surface. He kicked and bobbed his way back to the shore.

Upon later examination, he found that one of the tanks was filled with seawater. The bottle had lain in the heat in the diver's car, and the air inside the tank had expanded. The blowout plug on the reserve side of the manifold leaked air from the tank and reduced the pressure, thus permitting it to fill with water once the dive began.

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vanced open-water safety divers. Following deep snorkel diving, the major instructor gave an extensive briefing, and a tank dive was made to 65 ft. This was followed by ascending to a flat ledge at a depth of 25 ft. from which an exhaling ascent was to be conducted. The instructor successfully took the first student through the ascent and returned for the second, who was waiting at 25 feet. After he responded with the "okay" signal, the instructor gave the "go up" signal. The student removed his mouthpiece, and with the instructor holding the student's harness with one hand they proceeded to the surface at an apparently proper rate of ascent. On the surface, the student was asked "Are you okay?," and he replied "I'm fine." A couple of seconds later the student threw his head back, made a strange gurgling noise, and began to sink. He was grabbed by the instructor who immediately inflated his own vest. The other instructor had just surfaced nearby and came to their assistance. The victim stopped breathing and although they were tossed about repeatedly by wave action, the instructor gave mouth-to-mouth resuscitation intermittently. When they reached shore, CPR was given and continued through a helicopter flight to the hospital. The autopsy showed "multiple areas of pulmonary rupture" and "air embolism of the left ventricle of the heart."

Diving Partners And Their Activities

About 12% of the diving fatalities occur among divers diving alone. In the remaining 88%, the divers had one or more buddies. In 23% of these cases, the buddy apparently stayed with the victim, but the victim expired. In an additional 10% of the cases, buddy breathing was attempted, though unsuccessfully. In 27% of the cases the buddies became separated underwater, while in 9% of the cases the buddy lost the victim on the surface. In 5% of the deaths, the buddy left the water ahead of the victim.

Controversy still exists over which method is to be used to reach the surface when out of air. For years many instructors have taught buddy breathing, but that may not work in an emergency if the two buddies have not practiced together recently. The oc-

topus or spare second stage regulator system and/or a pony bottle system have been advocated, but NUADC has recorded only two cases in which either was available. The exhaling-swimming ascent has also been advocated but this method resulted in two deaths during 1976 while under instruction. In addition, NUADC has been unable to establish how many of the lung overpressure cases have been the result of this type of ascent.

Divers need a small and inexpensive emergency life support system, completely separate from the primary tank and regulator system. More than 10 years ago, such a device was fictionalized in a James Bond movie. Perhaps the engineering ability now exists to make such a device factual.

There were ten double deaths in 1976; seven occurred in caves. Although most cave deaths occur in Florida, one double death happened in the "Blue Hole," a small spring-fed lake in New Mexico where a cavern begins at 87 feet. Once inside, the opening cannot be located because two overhanging rocks block out light from above, so ropes must be used. Two young men disregarded an instructor's warning to stay out of the cavern and entered without ropes and without full tanks of air. Since the double death, local authorities have sealed the entrance with a huge steel grate and posted a warning.

Four of the double fatality cases in Florida involved inexperienced divers who entered the caves without adequate equipment, safety lines, proper lights, proper buoyancy devices, and sometimes without wet suits for protection against cold water. Invariably, the silt from the cave floor was stirred up, and the divers lost their way. In one instance one of a pair of divers pulled the carbon dioxide cartridge of the other diver's vest, and he was forcibly trapped against the ceiling of the cave.

The most incredible of any of these cases included most of the above-mentioned problems, but in addition the two victims entered the cave with *only one tank between them!* Needless to say, neither survived.

In one double death in Hawaii, a vacationing father and his daughter apparently became exhausted because of strong currents and succumbed.

Next issue: Part III.

Timing your Dives

In the last few years we have made it a point to observe divers' equipment. We're amazed at how many people dive without a watch. Surely divers are schooled in the relationship between time and depth and the bends. Nevertheless, many either allow another diver to keep time for them or presume that

—Critical options for safety

they will run out of air before their time is up. It's also a bit curious, we should note, that nearly all charter operations require divers to use a submersible pressure gauge, and most require their divers to follow the U.S. Navy Tables, but far fewer require that the divers wear watches. The responsibility for

observing the tables, then, falls not on the diver, who can't monitor his time underwater without a watch, but rather becomes the province of the guides.

Many people we have spoken to cite financial reasons for not buying a dive watch. After they have paid out a couple-of-weeks wages for a regulator, a submersible pressure gauge, a wet suit, a depth gauge and a BC, they find it difficult to spend a couple hundred dollars for a watch. However, if one considers what a watch does for a diver, then he may realize that the least expensive watches (and at least one sells for less than \$30) can meet his basic needs. He need not purchase a \$2,200 solid gold watch, or, for that matter, even the \$250 Seiko Deluxe Quartz.

A dive watch has three purposes: to permit one to determine how long he has been on the bottom, to permit accurate timing of a decompression stop, and to permit the diver to keep track of surface time between dives so he can plan his repetitive dives. Any other functions a watch performs—displaying the date, for example—are unnecessary for safe diving. Furthermore, a dive watch does not have to be so accurate that it loses only two seconds a year. Even if it were to lose two seconds an hour it would be accurate enough for a diver.

A dive watch should have a moveable bezel so that the start of a dive can be indicated on the watch, taking the burden of remembering off the diver. It should also have a second hand to help gauge time during decompression stops. The dial should be luminous or lighted so it can be read easily in dark or

murky water. And of course it should be shockproof and tested to at least 200 feet.

If the watch is to be worn on the wrist (some divers strap their watch to their console) an expandable (and therefore retractable) band is useful; as the body and wet suit are squeezed by depth, the watch face remains positioned.

If one intends to use a watch only for diving, then those selling for \$30 or so (sans expandable band) can meet the basic criteria. However, if a diver wants his watch to double as a walk around watch, then the crystal becomes an important consideration. The least expensive watches are normally fitted with a plastic crystal (generally called armored crystal) which scratches easily. Underwater crystal scratches are not noticeable, but on the surface they are unattractive and obscure the watch face. A much better crystal is mineral crystal, which some manufacturers claim is so hard that surgical steel or diamonds are the only thing that can scratch it. That's a little far-fetched because mineral crystal comes in various grades and it can get scratched in an underwater environment, but it is clearly superior to plastic. The best crystal—the most scratch resistant—is sapphire crystal.

Although one can assume that the better crystals can be found in the more expensive watches, crystal prices don't contribute that much to price differences. For example, Chronosport, the distributor of a line of popular dive watches, replaces their plastic crystals for \$5, their mineral crystals for \$10, and their sapphire crystals for \$17.50.

Although an inexpensive watch can work for most sport divers, one should not expect a cheap watch to stand up well to bumps against coral heads and other abuse. Of course, no watch should be abused, but people who seek dependability are advised to spend more money for their timepiece. It seems, however, that there is hardly a diver who hasn't had some trouble with his watch no matter what the price, and for those who do we offer one caution. Do not take a dive watch needing repair to a jeweler. Send it to the manufacturer or have it repaired through your dive shop. Few jewelers have the capacity to return a watch, once opened, to its ability to withstand depth, and fewer yet have a pressure chamber in which to test it.

The Bottom Timer: A variation of the dive watch is the Bottom Timer, an inexpensive pocket watch housed in a lexan case. The watch is activated by pressure; once a diver submerges it begins running, stopping when he returns to the surface. Setting the Bottom Timer requires a positive action, as does setting a bezel, but the action can be taken anytime, not just at the moment of descent. Because the watch stops automatically, the accurate duration of the dive remains fixed on the Bottom Timer until the diver resets it.

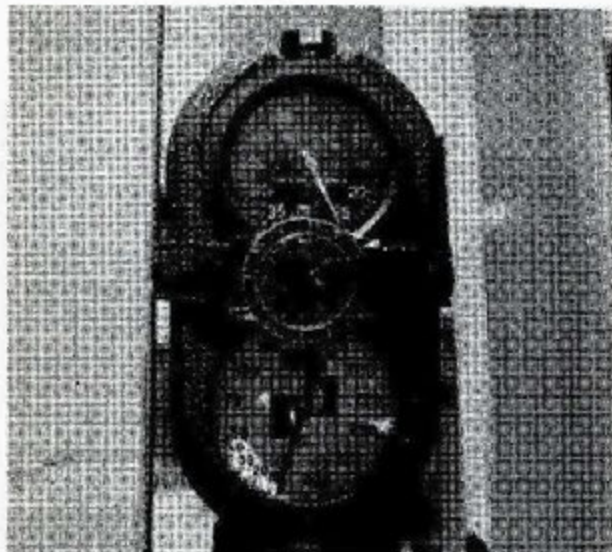
Since the Bottom Timer does not run on the sur-

Making Time In The Dive Industry

Many divers dream of making a living at diving, developing all kinds of wild and crazy schemes to build an income or at least to write off their equipment and a few trips to the Caribbean. Most wonder if there are any opportunities left in the business. For the more creative, there are indeed.

In 1976, Mike Donovan, while reading an in-flight magazine, became interested in an advertisement offering a solar-powered watch at a reasonable price. Supposedly, the watch was pressure tested to 750 feet. Donovan ordered one for himself, wore it for several months—and several dives—but wondered why he never saw it in dive shops. He contacted the manufacturer, Rich Time Corporation, learned the watch was only being sold by mail, and suggested that they might want to consider different distribution arrangements for divers. Not long after, Donovan, and his newly created Dive Time Industries, became the sole distributors of the watch to the dive industry. His new business was launched at the DEMA show last winter in New Orleans.

face, time between dives cannot be measured or recorded and therefore a diver undertaking repetitive dives must refer to a regular watch to monitor his surface interval. Nevertheless, we like the concept of the Bottom Timer and recommend it for most divers. For a complete review, see *Undercurrent*, August, 1976. The Bottom Timer retails for \$54.95 and can be found in most dive shops.



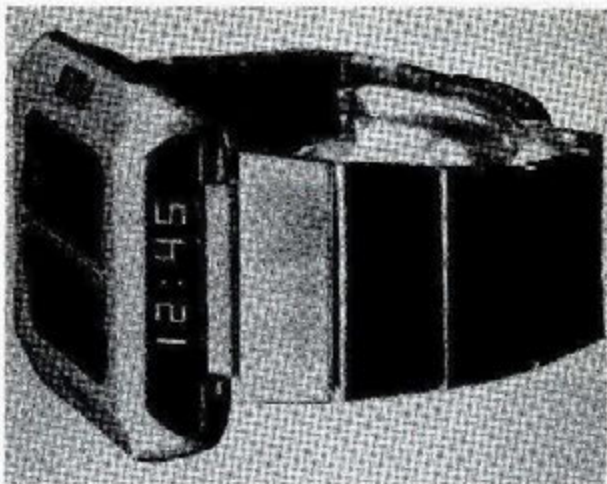
ONE WAY TO MOUNT A BOTTOM TIMER AND AN INEXPENSIVE WATCH.

The Divemaster: Although it is impossible to review all of the watches for divers, one unique watch merits attention. The Divemaster, manufactured by Reihl Time Corporation (who sell it as the Synchronor 2100) and distributed by Dive Time Industries, is powered by batteries charged by sunlight or light bulbs. When the charge is low the watch will continue to run, although the display will fade, indicating to the wearer that it needs to see the light of day. Several hours back in the light will charge it for another year.

The unit is an electric module filled with non-

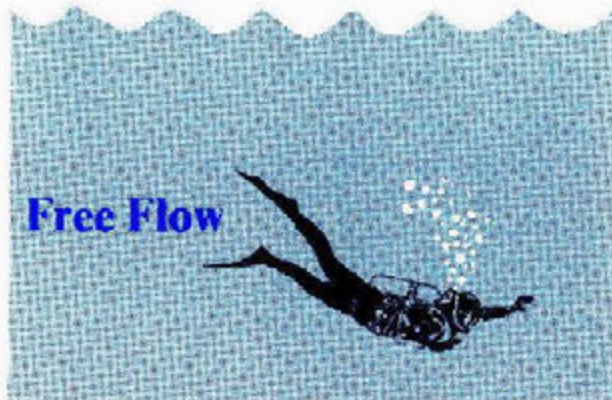
hardening jell and sealed in a Lexan case able to withstand depths to 750 feet and the direct impact of a Ron Guidry fastball—95 miles/hour. The watch cannot flood, the manufacturer says, because all switches are magnetic and there are no holes in the case. It is guaranteed for two years and if one pays \$10 more than the list price (\$129.95) the guarantee will be extended eight more years.

The solar screen for recharging is located on the face of the typical watch. The L.E.D. readout is on the side, over the band. Since one hand is required to operate and display the time, some divers will find it inconvenient. The watch has the additional liability of not providing elapsed time (there is no bezel, of course). The manufacturer expects to provide an elapsed time readout on new models and has told *Undercurrent* that when that capacity is ready current watch models will be updated for a small additional charge to the owners.



THE SOLAR POWER DIVEMASTER.

To find out where you can see or buy a Divemaster you may contact Dive Time Industries at 337 W. John St., Hicksville, New York, 11801.



Even in death, Phillippe Cousteau, the youngest son of Jacques Cousteau, calls attention to the political inattention given to our polluted oceans. A staff member of the Cousteau Society was shocked at

the extraordinary red tape required to receive approval for a burial at sea. "It is far easier," she told an *Undercurrent* correspondent, "to bury nuclear waste at sea, than it is to bury a man at sea who devoted his life to preserving the ocean." Cousteau drowned in late June after a small seaplane he was piloting in Portugal flipped over upon landing. A fitting tribute for each *Undercurrent* reader would be a \$15 membership in the Cousteau Society, 777 Third Avenue, New York, N.Y. 10017.

Douglas Campbell, a Navy officer and diver, has gathered the precise locations of a number of Navy vessels sunk in World War II. They include five aircraft carriers and six escort carriers. He is interested in putting together a project to photograph the wreck and invites participants. You may write him at 6203 Yellowstone Drive, Alexandria, VA, 22312.