

## Blackbeards Cruises, Miami

### --For Divers Or Party People?

In selecting a boat for liveboard diving, there is no end to the different ports from which they leave, to the ports 'o call, and to the dive sites. But there is one important distinction for divers who are serious about their sport, and that is whether the craft is only a dive boat, or a boat that offers diving but trucks along any number of passengers who are out for a good time. Indeed, there are differences. A boat for divers only will want to be in the water many nights, with dinner hours set to their liking. A boat of party people will like to be near a good port to go in for the action.

A boat of serious divers will want to get to bed early to be assured of morning dives in the calm; a boat of party people will boogie all night and wait for the calm to come to their heads the next afternoon.

A boat of divers will urge the more challenging sites to be selected, but non-divers will want to get plenty of good shallow water snorkeling.

A boat of divers will probably be a little older, a little more coupled off, a little more inclined to fade off into the sunset before the night gets too old; a boat of party people will tend to be a little younger, a little more playful and humorous. When they're having fun the divers aren't, and when the divers are having fun, the party people often are not.

I hadn't thought much about these distinctions until I joined up with Blackbeards Cruises, that well-advertised outfit out of Miami that runs two sister sailing vessels for one-week Bahamas cruises for divers and nondivers alike. I arrived on an August Saturday, well before departure time. All the crew seemed to be busy loading the two 65 foot craft, which were filling quickly with passengers. Since one boat seemed lumped with teenagers, I opted for the other, the Morning Star, where I wandered around trying to get in-

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formation as to where to stow my dive gear and where my berth was located, without a great deal of aid from the crew.

I entered a hatch near the bow and descended a ladder to a tight little cabin with an upper and lower berth on each side and a head behind the ladder. In front of the ladder was a door which led to another cabin containing four more berths. All eight berths had privacy curtains; other than that, there was little privacy. The only way to get dressed in privacy was either in your berth or in the head. But then this was a sailboat, not a cruise ship, and the craft was laid out impressively, with air conditioning to boot.

The "Main Salon" held six more double-berths, the galley, a large dining table, a shower and another head. This was where the action was. When the Bahamian sun got too hot, here a keg of beer was always on tap, as well as Coke, Sprite and club soda. A hammock of apples, oranges and limes hung over the table. Woe be the person assigned a berth here; you'd have a hard time catching a few winks anytime between 6 a.m. and midnight when people continued to party.

At 6 p.m., two hours after scheduled departure time, we were still at dockside, the ship in disrepair. Many passengers responded by slugging down rum punch and firing up joints. Others simply bitched. I went to bed at eleven, with the Morning Star still at berth. When I awoke on Sunday we were "under sail," with the motor going strong. Now, the literature talked of Bimini and the Berry Islands . . . but we were going to Grand Bahama because further repair was required.

En route we stopped at Indian Rocks Reef where "Toad" the robust divemaster gathered us together to explain the details of this dive (as he would others). We learned a few rules of the ship: no guides join the diving, so buddies are on their own; no-one dives drunk (he even had specific waiting periods depending upon how drunk you were); everyone must return to the boat at the given time with 500 pounds of air or they would not make the next dive. Toad chopped 10 minutes off the tables as well as requiring a 3-5 minute decompression stop at 10 feet on all dives. (I suppose this is a smart move when one has to keep track of 23 divers, many of whom had limited experience; but I didn't like it.) I suited up and made my way to the stern to hook up my own tanks, and we organized ourselves into staggered entry into the water.

Indian Rocks Reef was to be a 60 minute 35 foot dive. As I descended, I saw the typical Bahamian patch reefs rising 5-8 feet off the sandy 35-40 foot bottom, encrusted with star coral, tube and vase sponges, brain coral, sea fans and plenty of stag-horn coral. Bicolor damselfish and four-eye butterflys hung close to the reef and grunts, squirrel fish and parrots were plentiful. At 40 minutes, my buddy was down to 500 psi, so we headed back to the anchorline for a 3 minute stop at 10 feet before making our way to the ladder at the stern. A line was also attached to the stern so that we could wait our turn before removing our flippers and ascending the ladder, where Toad was waiting to record our bottom times. We were asked to walk, flippers in hand, mask and regulator in place to an area a few feet from the ladder, only then to remove mask and regulator while someone slipped the tank out of our backpacks, and we could move quickly toward the bow to remove the rest of our gear and avoid congestion in the stern. Obviously a little regimented, but organized.

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After lunch we relaxed for awhile, giving me a two hour and 20 minute surface interval, and dove again in the same spot. I was ready for something different. My buddy chose a 50 pound tank and hit the 500 pound mark in 10 minutes. Having to follow the rules, I came out when she did. The dive was hardly worth suiting up for.

We headed for West End and docked at the Grand Bahama (Jack Tar) Hotel Marina for a "tour" of the grounds. After dinner of beef stew, rice and salad, we left the marina and headed for a third time to Indian Rocks Reef. Toad called us together for the usual pre-dive meeting and sold cylaumne sticks (\$2) to those of us who hadn't brought any. The iridescent liquid in the plastic tubes mark a night dive well when attached to a snorkel strap. I sat on the bottom with my light out, experiencing the underwater shapes and forms in the glow of the cylaumne. A beautiful Ocean surgeon, whose iridescent blue markings glowed vividly, was illuminated by my light. I picked up a medium-sized conch to find a large red hermit-crab while tiny red microcritters swam around my light, like moths attracted to a flame. A yellow stingray rippled across the bottom just before it was time to leave the bottom. It was easy to find the boat in the dark. A large spotlight shone down from the bow and a strobe was submerged on a line from the stern.

The next morning, after a breakfast of cold cereal and milk -- that was their offering, not my choice -- we departed for our morning dive. Theo's Wreck was a 230 foot cement freighter which was sunk two years ago by the Bahamian government as an attraction for divers. The ship, lying on its port side at 100 feet, rose to 30 feet off the bottom. We were told to make a 100 foot, 25 minute dive (including a five minute stop at 10 feet) and we should leave the bottom with 1000 pounds of air. A gaping hole allowed easy entry into its gutted interior. Schools of grunts and blue tangs inhabit the ship, while a few other species -- hogfish, beaugregories -- darted in and out. New coral is just beginning to encrust parts of the ship and I have no doubt this will be quite a dive in another few years. Our second dive of the day was on a typical patch reef, not unlike those of the Middle Keys. Not much.

Back on board by 1:30, we were all hungry, but the generator was still not working properly, so our captain steered us on to our next port, the Lucayan Marina near Freeport. It was crackers, peanut butter and pretzels for two more hours before lunch.

On the way we stopped at Treasure Reef, of extremely low relief 2-5 feet maximum rising off a 20 foot bottom. It was best for snorkelers. I found myself frequently bobbing to the surface during our 65 minute dive. But there were plenty of tropicals, including trumpetfish, harlequin bass, flamefish, cardinals, tobacco-fish and stands of beautiful elkhorn coral, inhabited by yellowtails, grunts, tangs, butterflies, a rock beauty, lots of wrasses and many varieties of parrotfish.

At the Lucayan Mauna, most of the passengers busied themselves getting ready for an evening at the casino in Freeport. A not-so-satisfying dinner of prepackaged lasagna, zucchini au-gratin with tossed salad wasn't over until 9 p.m. I hit the sack early in order to be ready for the morning dive. Many of the passengers partied until 2 a.m., even with a 9 a.m. dive planned for the following morning.

Up at 7 a.m. and the place was a morgue. I felt like I had a hang-over I didn't deserve. By 8 a.m. coffee was finally made and I started to feel a little better. We arrived at our dive site, The Caves, at about 10 a.m. This was definitely the

#### BLACKBEARD'S CRUISES:

For experienced divers	★	★	★	
For beginning divers	★	★	★	★
(with experienced buddy)				
Snorkeling	★	★	★	
Boat accommodations	★	★	★	★
Food	★			
Moneysworth	★	★	★	★
★poor. ★★fair. ★★★average. ★★★★good. ★★★★★excellent				

best dive so far. This was a spur and groove reef, with sandy paths forming deep grooves, like a maze through the reef which rose 10-15 feet off a 70 foot bottom. Upon descent, I was greeted by 3 large French angelfish and saw numerous varieties of parrotfish, a queen trigger, Nassau Grouper and a Red Hind. I had a great time swimming up to the top of the reef, exhaling all of my air and diving down, inhaling just in time to level off before reaching the sandy bottom. While examining the nooks and crannies in the reef, I discovered the antlers of a lobster protruding and tried to coax him out to no avail. Soon afterward, I found two more, side-by-side under a ledge. I called my buddy over and stationed him in front of the ledge while I reached in behind and pushed the two bugs out, grasping one of them behind the carapace. I proudly held my trophy high for other divers to see before releasing him. (It's illegal in the Bahamas to take lobsters with scuba equipment.)

Tuesday afternoon was set aside for shopping in Freeport. Sitting in an outdoor bar in the bazaar, about half the ship's passengers were complaining loudly as they chugged down their margaritas. They were the "party people" who wanted to make merry day and night . . . diving was incidental. They wanted better food, more sailing (the sails had only been up when we crossed the Gulf Stream in the middle of the night, and that just for show . . . the motor did the work), more and better booze, more entertainment and interaction with the crew, plus they wanted the crew to keep the decks washed down, which were always muddy with a mixture of cigarette ashes and seawater. The diving, thus far, had not been particularly good for the serious diver, nor the entertainment that good for the serious drinker.

The next day, after diving Lighthouse Reef, the crew, sensing discontent from the two breeds of people aboard, made a valiant effort to please us. Some wanted to night dive, some wanted a beach party - - we all wanted to get away from Grand Bahama Island and on to Bimini (Captain Ray had planned to dock for another night at Lucaya and leave for Bimini in the morning - - but loud protests quickly changed his mind). A lovely moonlight "sail" (the sails never went up) was conducted complete with a deck party. Lanterns were strung up around the deck and the canope removed revealing a full moon on the rise. Banana Daiquiris and rum smoothies were served - - it really was a delightful evening.

Someone lifted the hatch at 7 a.m. and the sun streamed into our cabins. I crawled out of my bunk and down to the main salon for coffee - - and scrambled eggs, bacon and bagels. We were anchored near Great Isaac Rock, housing an old lighthouse and the deserted shells of buildings. Jimmy Buffet crooned his mellow tunes over the tape deck as we moved on to another dive, the Bimidi wreck. At 10:30 I descended into 20 feet of water in which lay the wreck - - in two pieces; the bow section lying on her side complete with mast structure and the stern and mid-section on its keel, deck up. The deck was caved in, exposing its contents of broken china dishes, bicycle tires and leather belts with little metal horses on them - - and lots of lobsters! (I saw at least 5) Grunts and red snappers lived in abundance. When I tried to coax a lobster out of his hiding place by scratching the surface in front of him with my knife, another diver playfully pulled his own knife and threatened . . . motioning, "this one's mine!" He later came back from his free-dive empty handed, explaining that he tried to get the rubber loop around the lobster and pull it out of the hole but just couldn't get the hang of it. He looked sheepish when I explained he had used the wrong end of the pole spear. I seem to recall Captain Ray telling us that this was a special Bahamian lobster day, and it was legal to shoot them with the pole-spears. I'm not quite convinced of that fact, but I do know it's the only way this motley group would be able to score enough lobsters to feed 23 passengers and 8 crew members.

Later that afternoon, we came upon a rock protruding from the water with a bicycle perched on top, the site of our next dives. Several divers donned

their snorkeling attire and jumped in the water with maniacal gleams in their eyes, akin to the cavalry preparing to attack a peaceful Indian village. I snorkeled along, spying one diver holding three freshly speared lobster. I watched another spear his catch at about 25 feet, only for the spear to bounce off the animal. I swam down toward the critter, while the other diver, short on air, hauled ass for the surface. A peanut gallery of snorkelers hollered "Get him, get him!" I calmly reached down, picked up the squirming creature from behind, surfaced beside the diver who had lost it and said, "I believe this is yours?" It was the only point I scored all week.

Our tank dive on a Haitian wreck -- a crude vessel heading back from the U.S. with a load of items to sell -- was full of surprises. Articles of clothing, shoes and purses were strewn over the ocean floor, and the wreck was stuffed with more of the same. I felt like a vandal, looting an underwater department store after a riot. In addition to fabrics and clothing, there was a large suitcase full of cheap sandals, a couple of bicycles, scores of unopened soda and beer bottles, a circular saw and a large toy truck. Sifting through the debris, I found a bag of coins, about \$4 in U.S. pennies and other small change.

That night it was a traditional roasted turkey dinner (no fresh lobster yet; we'd have to wait another night just as one does in a restaurant), then a moonlight "motor sail."

On Thursday we dived Bimini's "The Nodules", a 100 foot wall dive. After stepping off the side, we worked our way through a strong current, down a side rope to the anchor line. From the anchor, we swam down canyons, running from the flats to the wall which started at 80 feet -- teeming with all kinds of reef fish -- and dropped into oblivion. On the edge of the wall, a school of 25-30 large spadefish drifted by. Since we were all on the wall at the same time and had to keep our depth at 100 feet, I found myself in a bit of a traffic jam. That, together with the current, caused me to be pushed against the coral wall, sustaining a few burns, either from fire-coral or red fire-sponges. As I looked out into the deep-blue beyond the wall, three huge eagle rays (at least 6 feet across) swam gracefully by in formation. . . what a sight! 15 minutes of bottom time went by quickly, and we had to return to 10 feet for five minutes. I arrived there just in time, but my two buddies overshot the anchorline and had to swim back against the current, adding at least five minutes to their bottom-time (good thing Toad played it safe).

After the dive, we went to a secluded Bimini beach for a little beachcombing and snorkeling. Most of the passengers were hot and bored and returned quickly to the boat. Back on board we lunched on a tasty taco salad.

Around 3:30 we made our first dive on Victory Reef which seemed like a very ordinary dive until the bottom sloped down and opened up into a huge hole (there were many such holes). Then caves, caverns and tunnels opened into the coral bottom from the hole like swiss cheese. Most of the caves and tunnels were actually open at the top, so there was plenty of light inside, as well as plenty of spadefish, angels and triggers and the usual small tropicals.

We returned to the same spot (by popular demand) around 8:30 for our last night dive. On the daytime dive at Victory Reef it was so easy to tell a dead-end cave from a tunnel with an opening at the other end, but there was no way to make that deduction at night. The full moon helped to illuminate the open areas, but within the caves, my only illumination came from my C-lite.

One tunnel seemed too narrow to navigate. I started to motion my buddy to back out, but the spirit of adventure began to well up. I shined my light through to the other side and saw that it opened up into a large room. I went for it! Ever

so carefully, I slipped through the opening without even touching the sides. I was home free.

All things considered, I had a good time. A lot of Bahamas diving is so-so patch reef diving, and having to keep the ship in repair kept us away, I presume, from better spots.

The craft is in otherwise excellent shape, the crew reasonably helpful and three dives were available every day. The food is an embarrassment. Much of it is pre-packaged, seafood was served only the night we brought aboard lobsters and what food was prepared was done so according to menus from the Good Housekeeping cookbook, which the cook proudly displayed.

But in considering these comments, one must consider the price. The seven day trip is \$485, and that includes tanks, packs and weights, air, of course, and for those who imbibe -- free beer, wine and rum punch.

The four day trip, which leaves Friday evening is \$305. I could get quite snooty if I were to compare this dive trip with, say, a week on the Lammer Law. But Blackbeard offers an easily accessible (right out of Miami) party cruise with diving for somebody with a relatively thin bankbook. This is no dive cruise for the 50 year old couple loaded down with cameras, but if you still picture yourself as a disciple of Jimmy Buffet and want to live the life he claims to live -- then go join Blackbeard for a week.

Blackbeard's Cruises: PO Box 66-1091, Miami Springs, FL 33266; 800/327-9600; in Florida call 305/888-1226.

## **Great White Kills California Abalone Diver**

### ***--And The Population Of Whites Is Increasing***

A diver's most horrible nightmare -- death in the jaws of a great white shark -- came true September 15, when free diver Omar Conger was attacked forty miles south of San Francisco. Conger's buddy, Chris Rehm, said the two were swimming on the surface when the shark swam up behind Conger and grasped him by the legs and buttocks. The animal, estimated at 12-15 feet in length, dragged Conger to the 15 foot bottom then released him. Rehm, who was using an air mattress typical of California abalone divers, dragged his mauled buddy onto the mattress and furiously paddled him ashore, but Conger was dead by the time medical help arrived.

There is no doubt that the population of great whites has increased during the past decade. In mid-August, a fisherman landed a 14-foot great white shark just a couple miles off the California Coast --30 miles north of San Francisco. Throughout the summer people have sighted great whites ap-

proaching the coast line. In 1982, Stinson Beach, just a 45 minute drive north from San Francisco, was closed when three Whites cruised the surf line.

This death conforms to the pattern of other great white attacks in northern California waters. The victim (usually a surfer) is on the surface and the shark, within a few seconds after the attack, releases him. At least two theories have been espoused. The first is that the shark, because of his poor eye sight, mistakes the human for a seal and once he realizes the error lets go of the unwanted prey. A second theory is that the great white is a territorial animal and uses the attack to maintain control over its own hunting grounds. Either way, a human is no match.

One man who has been studying the great white shark for over ten years is the Director of the Steinhart Aquarium at San Francisco, Dr. John McCosker.

He believes the reason for the increase in sightings

around San Francisco is directly related to the growing seal and sea lion population in the area. Hunters killed so many in the late 19th century that by 1900 the seals were in danger of extinction. They managed to cling on until, in the 1960s, conservation measures were enforced. The result was sensational. The seals are back in great numbers. It is a spectacular piece of conservation.

"But what no one realized at the time," says Dr. McCosker, "was that the only creature which fed on those seals was the great white shark. More seals meant more sharks." And more seals for food meant bigger sharks, too!

Valerie Taylor, an Australian expert believes that great whites are territorial and hold to their own territory. She was sure of this despite the fact that they are often described as ocean roamers. "When we want to film great whites we know where to find them. They are almost always around the same places."

The great white male shark grows to about 15 ft in length. The largest are females weighing over 2,500 lbs and stretching up to 36 ft in length.

"The trouble with great whites," says Valerie, "is that they don't bump like other sharks before they bite. They just bite. And even a gentle nip is disastrous!"

Valerie and her husband Ron, who are the foremost experts on the great whites, believe that some of the attacks on humans may be because of the sharks' interest in seals as food. Those human attacks may, in fact, be mistakes.

"Whites have interesting habits," she says, "and to me the most fascinating thing is that they raise their heads from the water to investigate the unusual. It is rather nerve-wracking seeing a 13-footer carefully watching one's every move, with its head above water!"

"This unsharklike mannerism could have come from hunting seals," she said. "South Australian fishermen tell us of whites lifting half their bodies clear of the water to grab a sleeping seal from a rock. I see no reason to doubt them."

What about meeting great whites *underwater*? "The few I have met accidentally have shown a certain curiosity, but no inclination to attack. They have simply flashed past, looked us over, returned for a second look, then disappeared. Had we been spearing fish, it might have been different.

Northern California scuba divers, who stick to tanking it in kelp beds, normally give no thought to the likelihood of whites being present because the animal is unlikely to be cruising through thick kelp beds. Yet with visibility often as low as 10-20 feet, the presence of a white would not be known unless he attacked. Furthermore, many of the kelp beds are a ways off shore and some divers, to conserve air, make a surface swim. The death of Omar Conger demonstrates the potential threat of that technique.

It's too early to tell what effect the great white attack will have on northern California diving in the long run, but one can expect the desire of divers to hit the surf will be quelled for many months to come.

## Wet Suit Survey: Part I

### --Our Readers Speak

Ask any diver who has scrapped his wet suit for a dry suit and he'll tell you that he'd never go back to clammy, cold, neoprene two side. Dry suits are all the rage, and those of us who have used them know, they are certainly worth the expense and the trouble.

But dry suits aren't for everyone. For some people they are too expensive, for others they are too cumbersome, and for others who dive in warmer water, wet suit tops are all that's required. And some downright prefer their wet suits, especially if they're relatively new. They just aren't willing to set it aside for the next advance in staying warm.

Several months ago we issued a questionnaire to our readers to gather responses about wet suits and more than 600 responded. The information we gleaned from those reports, along with our own research, produced some interesting results.

Not so many years ago, when a diver went into his local dive shop to buy a wet suit, he was confronted with only a few possibilities: black or maybe blue,

skin one or two sides, nylon inside or nylon outside, or maybe nylon two sided. Thickness was 1/8, 3/16, or 1/4 inch. Nearly all of the suits used neoprene made in the US by either Rubatex or Kirkhill, and there was some debate whether or not gas-blown neoprene was "better" than chemically-blown neoprene.

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*"Once upon a time it took the better part of a can of talcum powder to get into a plain old rubber suit."*

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Today there are enough choices to drive one to the nearest watering hole for consolation. Most divers focus on thickness, color, and the bonded materials of lycra/spandex, nylon and nylon plush. Indeed, these materials can make it easier to pull a suit on and off. Once upon a time it took the better part of a can of talcum powder to get into a plain old rubber suit.

Nylon and now lycra have put an end to that ritual. But there is even more to it than that.

Divers seldom think much about the neoprene between the material, but that's fundamental to the suit's purpose. Today the choices are many: Rubatex with G231, R1400, R5000, and R6000; Kirkhill with LM300, and a new product called S400; Yamamoto with Type 45, 38, and 39, and there's neoprene St. Albans, Turbo, and Daiwa as well.

Neoprene varies in density. Rubatex G231 and Yamamoto Type 45 are two high density neoprenes. The greater the density the more neoprene is in the suit material. This gives it greater tear resistance and greater resistance to "compression set," i.e., the gradual breakdown of the neoprene caused by the compression and expansion of the material which occurs when diving. As a suit gets older, it is less able to hold the warmth. It's unlikely that any suit after 300 dives has the insulating properties left to keep its occupant anywhere near as warm as when the suit was new.

Less dense neoprene has less tear resistance but it also is more flexible, or softer, which may also make it feel more comfortable. That's one reason Blue Water and Fathom, for example, receive high marks for comfort from our readers. But the ratings can be confusing. For example: Bluewater was rated at 3.64 for comfort, while Skin Diver rates 3.13 and Sea Suits 3.11. All three use Rubatex G231. (G231 is the most dense material that Rubatex makes for wet suits.)

But the density of neoprene is not the only variable which affects comfort. The lining, the fit of the suit itself, and the skill of the manufacturer may be equally important.

Some people feel the lining is critical not only to comfort, but to warmth as well. Carl Witt of Rubatex told us, "A lot of our customers feel that the Terry (or plush) lining is warmer. It may be that this material holds water longer inside the suit thus keeping them warmer." Witt's notion reflects the basic concept of a wet suit: to insulate the diver from the colder environment by allowing water to enter the suit and then using the diver's body heat to warm the water and warm the diver.

Thus, if the suit fits correctly the warmed water is held longer inside the suit and the diver stays warmer. So what is the better suit? Everyone has his own idea.

Mr. Manning of Atlantis 2 Dive shop in New York City, told us, "Fathom is warmer than the others because the stretchier material allows for a closer fit." But Paul Benton, of DIVERS 2, in New Jersey, told us, "Ocean Apparel is the warmest suit. It is well made and uses G231 which is a heavy material."

In Oregon, at the Valley Scuba Center, the folks believe that Imperial is the warmest so they use Imperial for their rental suits.

Harry Truitt, owner of Lighthouse Dive 'N Ski, in Seattle, Washington told us, "If I were going to buy

a wetsuit for myself, I would get a 1/4" farmer John, with 3/8" jacket, skin in and nylon outside. I would get it of the stretchiest fabric that I know of, G231." Why skin inside? "If you take a towel and dip it into water the towel will soak up the water. Nylon or any other material will also soak up water and this water is right next to your skin. The whole idea is to keep as much water off the skin and use the suit to protect you from the surrounding water temperature. If there is no material next to you other than the neoprene there will be less water moving through the suit and you will be warmer longer."

So, we asked our readers what they think.

We asked them to rate their suits on a scale of 1 (poor) to 4 (excellent) in each of four categories: warmth, durability, workmanship, and comfort. We realize that these are highly subjective ratings and will be affected not only by how well the suit is fitted by the shop, but by the temperature of the water in which one dives, one's tolerance for minor problems and any number of variables. Nonetheless, the results provide an interesting if not statistically significant ranking of suits. (We are reporting only on 1/4"suits).

The ratings indicate Fathom leads for: Warmth, Durability, and Workmanship. Fathom is second for Comfort. Blue Water leads for Comfort, but is 7th for Warmth, 4th for Durability, and 3rd for Workmanship.

#### AVERAGE AGES AND NUMBER OF DIVES

BRAND	AGE	DIVES
Parkway	30 mos.	75
Imperial	30 mos.	75
U.S.D.	42 mos.	75
Harvey	30 mos.	75
Fathom	12 mos.	25
Henderson	30 mos.	75
Blue Water	12 mos.	25
Skin Diver	18 mos.	25
SAS	18 mos.	25
Sea Suits	18 mos.	75

Fathom, Blue Water, SAS, and Skin Diver suits have all been used for about 25 dives over a period of 18 months, while U.S.D., has been used up to 42 mos. for 75 to 100 dives. Age and use certainly affect how owners rate and relate to their suits. Each dive breaks down some of the "bubbles" in a suit and the best that can be expected is 300 dives. In a less expensive suit much of the insulating quality is lost sooner. Also ozone and sunlight and other "things in the air" can cause a suit to deteriorate.

Next Issue: Individual comments and what suit is recommended by most divers.



## READER RATINGS OF WET SUITS

WARMTH:		DURABILITY:		WORKMANSHIP:		COMFORT:	
Fathom	3.68	Fathom	3.81	Fathom	3.76	Blue Water	3.64
Henderson	3.59	Sea Suits	3.50	Blue Water	3.60	Fathom	3.62
SAS	3.58	Blue Water	3.48	SAS	3.53	SAS	3.58
Sea Suits	3.56	Henderson	3.48	Henderson	3.48	Henderson	3.45
Imperial	3.36	SAS	3.42	Sea Suits	3.39	Imperial	3.23
Blue Water	3.36	Imperial	3.39	Imperial	3.35	Parkway	3.22
Harvey	3.31	Harvey	3.31	Harvey	3.33	Skin Diver	3.13
Parkway	3.30	Parkway	3.21	Parkway	3.23	Sea Suits	3.11
Skin Diver	3.09	U.S.D.	3.17	U.S.D.	3.20	Harvey	3.09
U.S.D.	2.98	Skin Diver	2.83	Skin Diver	3.00	U.S.D.	2.88

### The Hemosponge

We reported (February, 1984) on the development of the hemosponge for extracting air from water and the technical application of this device by the company Aquanautics. Since our report there has been some good news and bad news emanating from the Makai Ocean Engineering Co., the company working on the development of the device. The bad news relates to the least commercially-valued aspect of the project, yet that which may be of most interest to divers.

They most recently explored the oxygen requirements of 150 people in a sea floor habitat. Since sea water contains only 6 to 9 parts per million of dissolved oxygen, huge volumes of water, up to 5000 gallons per minute, would have to be processed.

A submarine with an extraction system, as it moved forward, would scoop up water, extract its oxygen, and discharge the water spent from its stern. Applying that to the individual diver and using present technology, a system to extract oxygen and propel a diver at one knot would weigh about 140 pounds on land, too much to make the current device feasible.

They have found more promising a robot vehicle that would be propelled at seven knots by a fuel cell whose oxygen was extracted from the sea. The extraction system would weigh 2400 pounds, but a comparable battery system would weigh nearly 9000 pounds.

A number of other side benefits of the project are being analyzed, and Joseph and Celia Boneventura, developers of the hemosponge, continue to make further progress.

## Touching The Sea

### *--There Are Risks, You Know*

It's becoming increasingly tony to handle any critter that happens to swim up to a diver underwater. Morays are cuddled and stroked. Lionfish are balanced on one's hand. Scorpion fish are squeezed by the tail. Guides continue to entertain their customers with any number of "death defying" feats and now novice divers, at the encouragement of the guides, are off doing the same. In fact, our Australia reviewer wrote of handling "docile" sea snakes he found in great numbers around the Great Barrier Reef.

We think it's time for a word of caution. Many of these creatures, no matter how beautiful, can be deadly. Sherman Minton, M.D., from the Depart-

ment of Microbiology and Immunology at the University of Indiana, wrote us:

"I think it is unwise to suggest to divers that sea snakes can be handled without danger. There are about fifty species of sea snakes, and they vary considerably in size, temperament, and toxicity of their venom. All are relatively good natured as venomous snakes go, but several of the larger species are unquestionably dangerous. The commonest species at Swains Reef and most other localities on the Great Barrier Reef is the olive reef snake (*Aipysurus laevis*) which reaches a length of almost 6 feet and has venom about 3½ times as toxic as that of the Indian cobra. It's usually inoffensive, but males during the

breeding season (June and July on the Barrier Reef) have been known to behave aggressively toward divers. Also these snakes are curious and will investigate a swimmer or diver without hostile intent. Swimming around with a snake in open water probably carries very little risk, but it is most unwise to grab one with a bare hand or try to pull one out of a clump of coral or other refuge. Under these conditions they will bite.

"Sea snakes' bites are quite uncommon in Australia but may increase with growing recreational use of Queensland waters. About 1979 a child paddling in shallow water was bitten by a sea snake. She survived, but it was a very near thing.

"Concerning other dangerous marine life on the Great Barrier Reef, in April, 1980 I treated a diver whose hand was badly ripped by a moray eel he was feeding at Heron Island. The same day a tourist was bitten by a blue-ringed octopus that slithered out of a shell he picked up on the reef flat."

Indeed, the blue-ringed octopus is another creature which divers must consider quite harmful. But consider this case, as reported by Douglas Walker to the South Pacific Underwater Medical Society:

Joe Johnson, with his two young nieces on an island off the Queensland coast, walked along the beach and the children saw some creatures in a pool. As they were too frightened of the unknown to pick one up, he did so. He seemingly had a vague feeling that the small octopus could be dangerous to children but felt safe in handling one himself. He threw away the first creature and picked up another, which he placed on the back of his left hand. It was after this one also had been discarded that he noticed a spot of blood where the animal had rested. There had been no sensation of a bite.

At this time he was near the launch which had brought them and told the skipper what had happened. This conversation was overheard by the

pilot of a seaplane drawn up nearby in preparation for a flight. The pilot saw Joe collapse to the ground, which was due to his legs becoming weak, and remembered articles recently published in the local paper which gave warning that there were many blue-ringed octopuses in the locality at that time. He had become interested and had read up the symptoms and correct management of victims of their bite, so immediately diagnosed this as such a case. With the help of two persons standing nearby he quickly assisted Joe into his plane and set off for the mainland where treatment would be available. During the seven minute flight Joe twitched a few times and then became apparently pulseless and ceased to breathe.

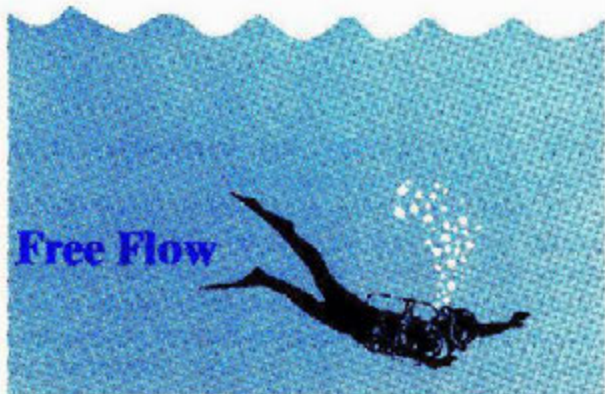
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*"The crisis occurred about seven minutes from the time of the bite."*

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Joe's luck still held, for both the bystanders from the beach who had been co-opted to assist had accompanied him on the plane trip. They were not only aware of resuscitative measures but had recently attended CPR refresher courses. The crisis occurred about seven minutes from the time of the bite. Because of their work Joe was alive on arrival at the airport, where an emergency ambulance awaited, summoned via the plane's radio. Brain oxygenation was sufficient, despite the difficulty of resuscitative action in the confined space of a small plane, to prevent irreversible anoxic changes. The end result was complete recovery, though with some amnesia for the fine details of the incident and of the plane trip.

Of course many critters can be handled safely. But if you're facing a toxic critter or one which you know nothing about, why not just smile and give a nod -- rather than a handshake?



Because we don't regularly publish many letters to the editor, we don't regularly get many letters. However, during the past year we received more responses -- eleven -- to one item than to just about

any other item we've ever run. We took a shot at the doctors who run off to tax deductible diving conferences, get their couple of hours of class work and plenty of reef time, with every bit of it a tax write-off. Not many blokes can get away with that unless you have some sort of exotic occupation-and the wherewithal. Well, plenty of Doc's screamed "foul," and some even went so far as to refuse to renew their subscription, which if they would have computed things right would have cost, after the deduction, about \$9. Now we don't have a thing against doctors, and we don't object to tax deductions. But we do find it interesting that they write to us for more about tax deductions than they do about decompression sickness.