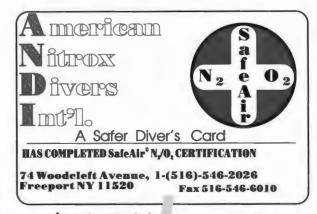


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> Publisher / Editor Joel D. Silverstein

Associate Publisher / Managing Editor James F. Cleary

> Associate Editor Jeffrey J. Silverstein

Senior Editors Tom Baker, Daniel Berg, Cathie Cush, Capt. Hank Garvin, Kirby Kurkomelis, Barb Lander, Dave Morton, Bob Raimo Capt. Eric Takakjian

> Medical Editor Stephen J. Lombardo, M.D.

#### Writers & Photographers

Edward Betts, Capt. Stephen Bielenda, Dr. Jolie Bookspan, Glenn Butler, Dr. Jennifer A. Flynn, Bernie Chowdhury, John T. Crea, Rod Farb, Gary Gentile, Bret Gilliam, Les Glick, Peter E. Hess, Prof. Henry Keatts, Jozef Koppelman, Capt. John Lachenmeyer, John Pfisterer, George Power, George Safirowski, Bradley Sheard, Brian Skerry, Hillary Viders, Ph.d, Andrea Zaferes

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## It's Always a Great Day to Breathe Underwater

At the end of US-1 before the turn into Key West there is a sign that reads: *It's Always a Great Day to Breathe Underwater*. After the celebrating is over from the biggest party scuba diving has ever seen, what do we do?

What party? Scuba's fiftieth anniversary. This year we looked back on all the wonderful things scuba has enabled us to do. We have been able to slip beneath the waves and swim with sea lions in the Pacific, stingrays in the Caymans, sharks in Australia, dolphins in Florida and on the historical shipwrecks off the Atlantic coastline. We have marveled at the treasures brought up by prospectors and historians.

Scuba has helped us examine our environment. We have watched the destruction of our coral reefs as sewage covered them, and we have increased awareness of these problems. Around the world scuba has enabled aquatic farmers to find and develop new methods of feeding the hungry. We can't forget our police, fire and emergency rescue people who have saved countless lives because of scuba.

I could go on and tell you about the history scuba has helped uncover as far back as amphoras from ancient Greece to the art found on the Andrea Doria, but you see that in every issue of Sub Aqua. If we put aside all of the things that scuba has helped accomplish, the one thing that always happens when someone comes up from the bottom of the ocean is the creation of a smile. Being underwater is special. I wonder what the next fifty years will bring? It's always a great day to breathe underwater.

Joel D. Silverstein, Editor

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ON THE COVER - "Today's the Day" - Mel Fisher, the last American treasure hunter. Shot with a Hasselblad 500 C, 150 mm Sonar lens on Kodak Tri-X film at f 8.0, by Joel Silverstein.

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### "First Lady of the Deep" Joins DAN's Board

THE HANG LIN

Dr. Sylvia Earle - diver, biologist, researcher, and explorer - is now a member of DAN's Board of Directors. Dr. Earle will help advise and guide DAN's general and major policies.

Dr. Earle's distinguished career in undersea research began nearly four decades ago. Throughout her career Dr. Earle has studied plants and algae in the Gulf of Mexico. She was one of the first researchers to study marine plant life in its natural setting. To date, Dr. Earle has catalogued more than 20,000 types of marine plants throughout the Gulf of Mexico.

Dr. Earle is founder and director of Deep Ocean Engineering Inc., which manufactures underwater robots and submersibles. Deep Ocean Engineering has produced more than 275 unmanned *Phantom* submersibles, and several one- and two- person submersibles including *Deep Rover* and *Deep Flight*, for access to 3,000 feet. A project involving a pair of special single-person *Deep Flight* vehicles, is being planned to reach the bottom of the Mariana Trench - the deepest point on earth at a depth of 36,000 feet.

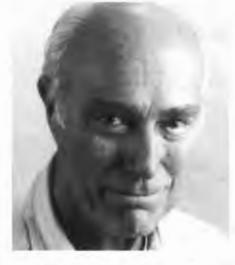


"Take Pride In America"

Hillary Viders, NAUI's Director of Environmental Programs and Projects, was recognized by President Clinton as a recipient of the "Take Pride in America Award." The award is presented for volunteer service in the preservation and protection of the country's resources.

Several aspects of Hillary's ongoing environmental work were noted, but most notable was her role in producing and creating the NAUI/NOAA Marine Conservation videos. The two programs are "To Preserve and Protect the Last Frontier", which is aimed at divers and the general public, and "You Can Make a Difference," produced for children.

The Take Pride in America Award is given for volunteer work and leadership in the American community for programs and events that preserve America's resources.

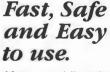


NEXT ISSUE

Flanked by a shelf of Emmys, a library of classics, an ancient amphora, and cabinets of photographic trophies, Stan Waterman invited us for an exclusive interview into his world of undersea image-making.

We talked about his famous underwater cinematography classes, his feelings about video (he likes it!), and a lifetime of capturing the sea on film and tape. Stan took us through his one-of-a-kind photo albums, and shared rare footage of sharks and even stranger creatures. He was generous with his much sought after advice on learning how to shoot underwater. Don't miss it.

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### Dear Sub Aqua,

Me and a friend of mine have always spent a lot of time on the water, in our boat of course, we have been watching these scuba divers week after week, falling into the water off the Gurnet at Plymouth. When they return it seems that they have been enjoying this a lot, which must be so, because they come back week after week. So, one day we decided that we should be a little more daring than these pussy cats that wear all that gear, hoods, goggles, weight belts, tanks etc. And as we all know anyone can do that diving stuff, because it's the gear that does most of the work anyway.

So we get our gear together, such as sun glasses, hose, bathing suit and backpack. There is only one way to get to the bottom in a hurry, so we load the backpack with rocks, and tie it on snugly so it doesn't slip off, on with the sun glasses, stick the garden hose in my mouth, and over I go. I get to the bottom in a hurry, head first in the sand. Thank God I had that garden hose for the fresh air, because I really did need it at the fifty foot mark, or as I think they say, 50 fsw. It was a good thing my buddy had enough sense to breathe down the hose from the boat side, because I think it would be a lot harder sucking down the air at this depth. This is not mentioning the fact that I think my father had used this hose to clean out the septic tank some year or so ago.

So, I'm kicking around trying to get on my feet while this dam back pack is keeping my head down. All of a sudden I notice that the lobster pots are heading to the surface, and I realize that this is my ticket home. I grab onto one of these pots, what a relief, and I go up. As soon as I break the surface the lobsterman notices me attached to his pot, and he leans over the boat, kicks me in the head and away I go.

There I am head in the sand once again. As I'm sitting there with this stinking hose in my mouth, along comes one of those fancy dressed up scuba divers with all that fancy dancy gear on and he comes to my assistance. He has the audacity to cut the straps on my brand new backpack, sticks one of those octopuses in my mouth, and up we go. I get back on the boat, put my gear on board, thank the diver for coming to my rescue, and pat my buddy on the back to let him know that he can stop blowing down that hose. We call it a day. Maybe next week we'll try a little deeper now that we have the trial dive completed, and we do agree that it's obvious that the sunglasses have to go.

Lou Cook

PS: We found a wet copy of your magazine (which is how we got your address) Cool.

### **USS Monitor Update**

by Rod Farb

The National Oceanographic and Atmospheric Administration (NOAA) hired me to dive, photograph and guide them on the Monitor shipwreck during their 1993 Monitor Archaeological Research and Structural Survey (MARSS) project this past summer. After a week of training at Harbor Branch Oceanographic Institution, using a diving bell and a special blend of trimix gas, we spent seventeen days aboard their 178 foot long research ship, Edwin Link, working on the Monitor site. During a submersible dive, I directed the placement of a permanent mooring next to the Monitor for divers to use - something that we requested in 1990 after our first dives there.

Immediately following the MARSS project, my private expedition to the *Monitor* continued work that was not accomplished during MARSS. On August 16, the 1993 *Farb Monitor Expedition* became the first American divers to recover artifacts from the *Monitor* for NOAA.

Four glass mustard and pepper bottles were recovered from the port armor belt area where they were first discovered last year by Mike Phipps of our team. Some bottles were still sealed with contents and air bubbles intact inside. These bottles will be sent to the Smithsonian Institution for an analysis of "old" air by a group studying the changes in the earth's atmosphere. No other artifacts were seen by our nine-diver team after a thorough search and videotaping of the site.



John Broadwater, Monitor Sanctuary Manager and Rod Farb with a recovered artifact.

Though currents may uncover artifacts, excavation of non-surface artifacts by divers is not currently permitted by NOAA. The expedition left anchor line and a surface buoy attached to the mooring for future divers to use.

### Women's Equipment Test Team (WETT)

The first sessions of the WETT test dive team were held over the summer at various locations around Southern California. The tests were designed to discover how well the equipment works for a variety of women divers.

Contact: Women's SCUBA Assoc. WETT Jennifer King, 7025 S. Atlantic Ave. New Smyrna Beach, FL 32169 (904) 426-5757 ■



### NOVEMBER

### Dive New Jersey ... And Beyond

The 17th Annual Symposium presented by the New Jersey Council of Dive Clubs has been expanded to a two day event. Saturday will feature dive related workshops on Wreck Diving, Oxygen Administration, an introduction to Hyperbaric treatment and

more. Sunday's program will feature Stan Waterman, Mark Stanton, John Chatterton, Mike Emmerman and Herb Segars.

The exhibit hall will be filled with new products and services from over 100 different companies. Door prizes and raffles; this is a weekend you don't want to miss. November 20th at the Ocean Palace Hilton, Long Branch NJ. Tickets available at the door. Contact: Bill Loughran (908) 449-2051

### NAUI North Atlantic Conference

The NAUI North Atlantic Branch will hold the annual Fall Conference on November 12-14 at the Mystic Hilton Hotel in the historic seaport town of Mystic, CT. This year's conference features educational seminars, pool workshops, awards banquet at the Mystic Marinelife Aquarium, and an opportunity to socialize with your fellow members. Instructors, dive masters, assistant instructors and other dive industry people are welcome. Contact: Richard Norton, Branch Manager, 72 Northrop Rd, Woodbridge, CT 06525

### JANUARY

#### TEK HITS BIG EASY

New Orleans is host to the 1994 tek Conference — Running January 9 through 11, the "Emerging Dive Technologies Conference" promises the latest and leadingedgiest take on diving in the industry.

Take a leap into the future with the next generation of hardware, software and divewear — meet the industry gurus and basement geniuses who are deep into this area — and going deeper.

If you think SeaQuest DSV is for "pink pansy divers," the tek Conference should charge your rebreather. Sub Aqua will also premiere a photographic gallery, "The Faces of Adventure," highlighting personalities in the wreck and tech diving community.

Jammed with seminars, workshops and exhibits, who'll have time for jambalaya at K-Paul's or dessert at Commander's Palace? Contact: aquaCorps PO Box 4243 Key West, FL 33041 (800) 365-2655

### APRIL

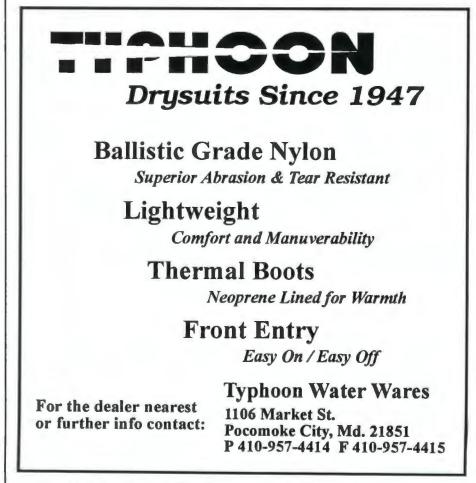
### INTERNATIONAL DIVING CONFERENCE

IQ'94, the International Conference on Underwater Education, promises to be one of the best educational programs for divers and instructors in 1994. Speakers and attendees from all over the U.S. are scheduled to participate in the show. The program will be held in conjunction with the Discover Diving Equipment and Travel Expo.

Some of the speakers who are scheduled to speak at IQ and the Discover Diving Equipment and Travel Expo include Marty Snyderman, Eric Hanauer, Al Bruton, Brett Gilliam, Dick Long, Butch Hendricks, and Tom Mount. Since the IQ conference draws instructors from all over the world it is expected that many of the top names in diving will be in attendance.

The conference will be held at the Town and Country Hotel and Convention Center, centrally located in San Diego's Mission Valley. The hotel has a pool directly behind the conference area and is available for pool presentations and demonstrations.

Contact: NAUI, P.O. Box 14650, Montclair, CA 91763 (800) 553-NAUI



### SCUBA FORUM HITS 100,000 MESSAGES

The Scuba Forum, the worldwide computer based Scuba "club" on CompuServe, recently reached its 100,000th message. That's almost 100 messages per day left on the system by all levels of divers, beginners to experts. Thousands of divers (including many of your favorite Sub Aqua Journal writers) use it to find out about dive spots, equipment, medical facts, experiences and much more. The Scuba Forum is divided into 17 different sections, including Technical Diving, Diving Education, Diving Medicine, Travel, Snorkeling and Wreck Diving. The Scuba Forum also contains software for scuba diving, including log books, simulators, games, graphics, reviews, as well as diving stories.

The Scuba Forum can be found on CompuServe by entering "GO DIV-ING" anywhere on the system. For information and a free trial membership to CompuServe, contact: The Scuba Forum, 6841 W. 79th Street, Burbank, IL 60459 (708) 430-5070.

# LOST IN A HURRICANE

by Dave Morton and Eric Takajian

In the days before modern electronic navigation aids such as LORAN, radar and GPS, lightships provided important and essential references for mariners transiting coast-

wise waters. These ships were strategically placed at the entrance to harbors, bays and major waterways, and near dangerous shoals and reefs. Lightships were operated by the U.S. Lighthouse Service until July 1, 1939, when that service merged with the U.S. Coast Guard.

When the lightships were built they were assigned a num-

ber, prefixed by the letters LV. This number designation stayed with the ship for its entire life, although the same could not be said for its name. Lightships were named for the station to which they were assigned, and as such the name of the ship would change each time the ship moved station. These names were painted in large white letters on both sides of the hull, clearly identifying their location.

Lightship number LV-73 was built at the Spedden Shipbuilding Corp. in Baltimore, MD for a cost of \$79,872, in 1901. She was 112' long, had a beam of 29' and a draft of 13'. The steam powered lightship displaced 693 tons, and carried a crew of twelve. She was equipped with lanterns on her two masts that were each lit with three oil lamps. To warn of fog, she carried a 12" steam chime whistle, and a 1,000 lb. hand operated bell.

Over the years as technologies developed, changes were made to improve LV-73's ability to aid mariners at sea. In 1919 a radio telephone was installed, and in 1928 a radio beacon was added. The oil lamps were replaced with electric lights

in 1929, and in 1931 the fog whistle was changed from steam to air power during the installation of new boilers.

LV-73 was first assigned to the waters

7Y ARI

southeast of Chatham, Mass., where she marked the hazards around Pollack Rip until 1924. Although stationed within a mile of the Rip, her name was changed over the years to reflect the different positions of channel entrances, due primarily to dredging. During that time, she had several names painted on her sides, including Pollack Rip Shoal,

Pollack Rip Slue, and Pollack Rip.

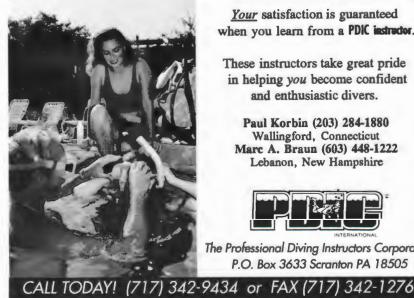
In 1924, LV-73 was assigned to the Vineyard Sound station, where she remained until she was lost with all hands during a severe hurricane in September 1944.

The mystery as to why the Vinyard Lightship sank remained unsolved until the wreck was first found by Dr. Harold Edgerton in 1963. "Doc" Edgerton was a mechanical engineering professor at M.I.T., and was

the inventor of the photographic strobe, and the side scan sonar.

As one of the early investigators and developers of a variety of sonar systems, Dr. Edgerton was constantly out on the

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water looking for wrecks and underwater structures. On September 2, 1963, after some preliminary research as to the last known location of the Vinyard Sound Lightship conducted by Brad Luther, Dr. Edgerton began his search with a U.S. Coast and Geodetic Survey Ship, The Wainwright. As a testimony to the efficiency of his new techniques and equipment, the wreck was found after only a one hour search.

The sonar images showed a remarkably intact wreck. The wreck was dove on and positively identified shortly thereafter by Brad Luther, president of the Fairhaven Whalers Skin Diving Club. After several dives by Brad and a few other members of the club, it became apparent that the ship's auxiliary storm anchor made a slice in the hull at the bow, three feet long and six inches high. The heavy steel hull must have sank quickly as no distress calls were broadcast or recorded, and information blackouts in effect during the war (particularly relating to maritime disasters) kept the story out of the news. A theory exists that the crew was trying to rig this anchor to prevent the ship from dragging off station in the storm. They may have lost control of the anchor while lowering it over the side of the ship, causing it to strike the ship and puncture the hull.

Back in those early days of wreck diving, the Vinyard Sound Lightship was a popular target, and early wreck divers like Brad Luther and Bob Lanegan frequented the wreck, and recovered some great artifacts, including the bell, searchlight, compass and binnacle, and portholes. The bell was donated to the Cape Cod National Seashore Maritime Museum in Eastham, Mass. According to Lanegan, when they dove on the wreck in the early

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1545 N.E. 104 Street, Miami Shores, FL 33138©2665 USAfounded 1985 by Dick Rutowski, pioneer of recreational EAN diving To recieve the IANTD Journal send \$40.<sup>60</sup> U.S., \$50.<sup>60</sup> International

1960's, it was sitting perfectly intact. Much has changed over the last 30 years since the first divers explored the lightship, and time and the environment have taken their toll. She lies in about 55' of water, and is partially covered with sand. which shifts and varies with the winter storms, hiding and revealing different parts of the steel hulled wreck. The outline of the hull is still recognizable, but most of the superstructure is gone. The bow has the highest relief on the wreck, rising about eight feet off the bottom. One of the light masts lies off to one side. Recognizable deck fittings such as large bits and winches are still exposed on the deck, permitting good tie-off locations for the dive boat, and good reference points for exploring divers. Because the wreck is one of the few structures in a vast sandy area, the site is home to a wide variety of marine life, including large tautog and stripers. As with any wreck, it also has its share of monofilament, dragger nets, and old lobster traps and lines to avoid.

The violent winter of 1993 moved significant quantities of sand from around the *Lightship*, divers who were lucky enough to get out to the site this year were amply rewarded. One team discovered some beautiful china bearing the gold rim and anchor insignias of the Coast Guard. Another diver found a large porthole on a newly exposed deck house bulkhead, and many other divers were able to recover various brass fittings.

Any wreck on a shifting sand bottom undergoes constant change, and the Vinyard Sound Lightship is no exception. With a shallow depth in the warm waters of Buzzards Bay, and with an abundance of artifacts as yet undiscovered, this wreck has something for everyone. We'll just wait for that next big storm to show us what it might be.





# Surface Interval with: Captain Mike Hillier

by Barb Lander

Morning dawns offshore and I drift into consciousness swaying in my bunk in time with the rhythmic slap of waves against the hull. The aroma of pancakes, brewing coffee, the sizzle of frying ham, and the cheery voice of Captain Mike calling out, "Does anybody want some pancakes?" erases the fog of sleep and primes me for a unique diving experience.

Mike Hillier, flapjack flipper extraordinaire, and holder of an Ocean Master license did his first dive as part of what he describes as a resort course in 1962 — off of Cape Cod. "Don't go too far," were his instructions. His second lesson, also off Cape Cod, was on a wreck. He recalls practicing emergency buoyant ascents. He took the regulator out of his mouth and dropped it, only to have the instructor signal, "not yet," but Mike couldn't find his second stage. "I had to go," he explained. Surviving such training, a diver was born.

Captain Mike does better by his students, he is an active instructor for SSI, NAUI, and PADI. Hundreds of divers credit Mike's teachings for their underwater skills.

Just a few years after Mike started diving, he earned his Captains license. Boating has always been a family affair for Captain Mike. "My father really knows some stuff about boats. For you and me boating is just a way to get from here to there, for him it was just being on the water." He pauses reflectively, "I think I'm about ready to get into that part of it." Mike's son, Luke, barely in his twenties, is a licensed ocean operator also. Observing Luke's manner and quiet competence about the boat, you don't have to be told he learned from watching his dad.

Eight years ago Captain Mike bought the bare hull that he has customized into his dream dive vessel,



The Miss Lindsay. Based out of Virginia Beach, VA, the 56 foot boat is certified for 49 passengers and sleeps 14 plus three crew. As Captain Mike pours coffee and juice and flips pancakes onto your plate it is obvious he enjoys his passengers. "That is the great thing about what I do — I get exposed to everybody's thing." Later, he shares tidbits about what he describes as world class diving off Virginia. "Virginia really gives you all the seasons. There are seasons in the ocean just as there are on land. The ocean changes, migration of life, visibility, we get swirls of the gulfstream. With the gulfstream we really get to see summer. This time of year [early October] the ocean lags the air. Summertime we see mantas, fall and early spring is the time for whales, ocean fall and spring that is, late November and early May."

Mike's favorite dive site — "The Chesapeake Light Tower." A navigation marker on the mouth of the Chesapeake Bay, the tower is located in only 45 feet of water. Visibility changes, with no rhyme or reason, from terrible to extraordinary. Mike explains that the marine life is the tower's big attraction, he has seen fingerlings, herring, false albacore, cobia, turtles, and rays — all on one spectacular dive.

Mike nods, a shock of wind-tousled, iron-grey hair tumbling across his forehead, "the marine life is what it is all about." As I descend through the blue summer water of offshore Virginia, through the schools of triggerfish and dolphin, past the circling king mackerel, through the thirty-foot layer of amberjack and onto the wreck to be dazzled by the graceful antics of three manta rays, I must admit Captain Mike, you have a point.



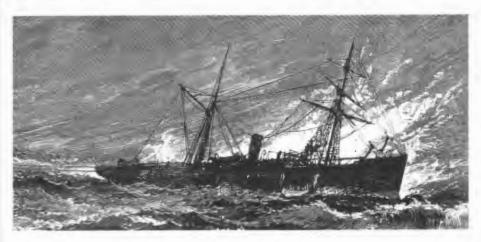
# New Jersey Shipwrecks

Off the New Jersey

coast lie the remains of thousands shipwrecks. Many are historical, others just recently sunk. These wrecks, which range from 15 feet to over 200 feet in depth, are now the main attraction for wreck divers who descend the sometimes chilly Atlantic to spearfish, lobster, explore, or search for artifacts. Enjoy the history of three of my favorite New Jersey Shipwrecks.

# The Pliny,

a British cargo ship, was built by Barrow Ship Builders Company of England in 1878. She was 288.4 feet long, had a 33.3 foot beam and displaced 1,671 gross tons. The *Pliny* was owned by Liverpool, Brazil & River Plate Company and was powered by compound inverted engines. passengers and crew. Operations continued, removing the *Pliny*'s cargo until May 16th when she broke in two. According to diver and shipwreck historian, Bill Davis, "It was discovered later that a passenger had \$3,000 in gold coins locked up in the safe of the captain's cabin. It is assumed that this safe was never recovered."



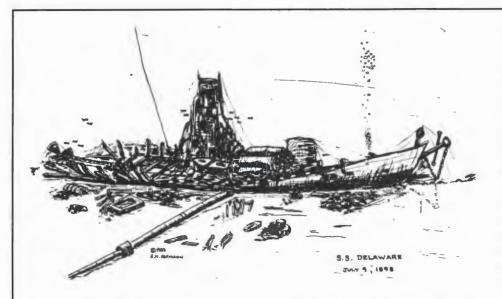
On April 22, 1882, the *Pliny* left Rio De Janeiro with a general cargo of 20,000 bags of coffee, 300 bales of hides, 21 passengers, and 34 crew. On May 13, the schooner-rigged vessel ran aground during a fierce storm. The Life Saving Service quickly assembled and rescued all

Captain Mike's WRECK DIVING L.I. SOUND ON THE DEFIANCE ICE DIVING AT LAKE GEORGE JAN 22ND & 23RD and MARCH 5TH & 6TH DRY SUIT CERTIFICATIONS In Stock: DUI, VIKING, POSEIDON & PARKWAY EQUIPMENT SPECIALIST COURSE Learn to Maintain your own Equipment Full Service Repair Facility for: Viking
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The wreck now rests in ten to twentyfive feet of water, about 200 yards out, directly in front of the Deal Casino Beach Club. According to diver Dan Lieb, the wreck is half buried in the sand and lies with her bow pointing south. Her stern is covered in seaweed. Her rudder post and her propeller remain easily recognizable. Dan reports that her flywheel has spokes large enough to swim through. Although the Pliny is not well known for artifacts, in the bow of the wreck divers can find brass spikes from her wooden decking. Bill Schmoldt reports there is a five foot fluted anchor on the eastern side of the wreck. Bill Davis reports that the north side of the wreckage consists of a long propeller shaft held up off the sand by steel and brass supports. Midships are her engine and other related equipment. Diver Howard Rothwieller reports that large blackfish inhabit this wreck, and in the past he has speared some in excess of ten pounds.

# The Delaware

was a 250 foot long by 37 foot wide Clyde Line steamer built in 1888 by Birely, Hill & Streaker in Philadelphia.



On July 9, 1898, the Delaware, which had recently been refitted to accommodate passengers, was steaming five miles offshore. At 10:00 p.m., the captain received a report that there was a fire in her hold. The crew tried to contain the blaze, but it was soon apparent that the fire was out of control. Captain A.D. Ingram gave the order to abandon ship. His crew of 38 and all of the 35 passengers calmly boarded her life boats. By this time, the entire ship was on fire and nearby vessels came to her assistance. Captain Ingram was the last to leave the sinking ship. Aside from a few burns, there were no serious injuries.

The *Delaware*'s still-floating hulk was taken in tow by one of Merrit Chapman's tugs, but she slipped beneath the waves before making it to shore.

Today this wreck is very popular with New Jersey divers. She is located in 65 to 70 feet of water about two miles off Bay Head, New Jersey. Her broken down charred remains hold many interesting artifacts. The *Delaware* was also rumored to be carrying \$250,000 in gold bullion. I first dove this wreck aboard George Hoffman's dive boat *Sea Lion*. By digging, Bill Campbell and I were able to find a few old bottles. What made the bottles from this site interesting was that they were fused together by the intense heat of the fire that sunk the *Delaware*.

# The Mohawk,

was built in October, 1926, at Newport News Ship Building & Drydock Co. for the Ward Ship Line. She was 387.5 feet long, 54.3 feet wide, had 4,200 hp turbine engines and displaced 5,896 gross tons.

Under the command of Captain J.E.

Wood, the Mohawk left New York on January 24, 1935. She was carrying 53 passengers, 110 crew members and a general cargo. Shortly after leaving port, and within one-eighth of a mile of the freighter, Talisman, the Mohawk's automatic steering device went haywire. At the time, she was steaming at her full speed of 14 knots. Although this alone would not explain why the Norwegian freighter Talisman, smashed through her port side, some say the Mohawk's lights also failed. Almost immediately after the collision the Mohawk started to list heavily to her port side. At least two survivors report they saw Captain J.E. Wood still on the bridge of the sinking ship during her last moments. Within an hour she was on the bottom, leaving her

survivors to endure the bitter cold water.

The rescue ships, Algonquin and Limon, picked up six life boats with just over 100 survivors. A total of 46 people were killed, 16 passengers and 30 crew, mostly due to exposure to the near freezing temperature. In July 1935, for navigational reasons, the Army Corps of Engineers blasted and wire dragged the wreck to a depth of 50 feet.

The Mohawk lies in 80 feet of water, eight miles east of Manasquan Inlet. Her broken-down structure rises 20 feet off the bottom and supplies a home for all kinds of aquatic life. The Mohawk is also a favorite digging wreck for area wreck divers. They have learned that by moving



enough sand they can uncover some unique artifacts like china and silverware.

New Jersey wreck divers are certainly a lucky group, with shipwrecks ranging in depth from the shallow surf of Jersey's sandy beaches to the deep, dark waters of the mud hole. There is without a doubt enough history, exploration and artifacts to keep any diver regardless of experience level, happy for a lifetime.

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# Gold Digging: Yield of Dreams

by Cathie Cush

# "All That Glitters Is Not Gold" — Miguel de Cervantes, Don Quixote

Something in the sand sparkles. Optimistic, the diver goes to work. Chances are, the gleam comes from an aluminum can that a careless angler tossed overboard too recently to have rusted. But what if today is The Day?

It could happen, if you know the right places to look. We're not necessarily talking mother lode here. But mid-Atlantic divers — and beachcombers, too — have come across centuries -old gold and silver coins at a few different spots along the East Coast. And, if tales are true, some valuable treasures lie buried beneath the sands.

Florida doesn't have the exclusive on sunken Spanish galleons, although the losses of the 1715 and 1733 treasure fleets left a bounty behind in Sunshine State waters. Having learned their lesson, officials tried to ensure that the fleets left Havana for Spain in early summer to avoid the hurricane season. They weren't always successful. In

1750, the Spanish fleet under the command of Captain General Juan Manuel de Bonilla didn't set sail until mid-August. As the ships rode the Gulf Stream northward, a storm was born in the tropical Atlantic. Some of the fleet reached safe harbor before the hurricane hit. Some of the ships, like Nuestra Señora de Soledad, foundered near shore and were salvaged. El Salvador was lost near Cape Lookout, N.C., and another vessel sank off Cape Charles, Va. Yet another, La Galga, is believed to have run aground at Assateague Island. Spanish silver coins found at Assateague and across the inlet at Ocean City, Md., may be remnants of the lost cargo of the 1750 fleet.

Some of the coins that were found near Ocean City were Spanish pillar dollars, one-ounce silver coins used after 1732. A number of these coins, dating from 1740 to 1790, have been found on the beaches from Shinnecock



to East Hampton, Long Island. According to a story related to Stephen Voynick in <u>The Mid-Atlantic Treasure</u> <u>Coast</u>, the source of the coins may have been a mysterious ship that grounded off the Hamptons in 1816. The unidentified vessel, found without a crew, probably had fallen victim to wreckers or pirates. Locals exploring the ship found pillar dollars hidden away, but the Money Wreck broke apart before it could be fully salvaged. The main cache of coins may still await an enterprising diver.

And then there's Captain Kidd's treasure. Rye Beach and Gardiner's Island are among many spots along the Atlantic Coast where this pirate's booty is said to be buried. Block Island is another. Kidd's name has also been associated with Cape May, N.J. Were the gold coins found near the lighthouse at Cape May Point buried pirate treasure? Or did they come from a shipwreck at the mouth of Delaware Bay? Coins also have been found at Lewes, De., and it is conceivable that currents could have carried coins from such a wreck either north or south.

Voynick and others had speculated that the wreck could be the Juno, a Spanish frigate that sank in a storm in 1802. Her cargo presumably included silver and gold coins in addition to the twelve tons of silver she was carrying. Voynick suggested that the Juno lies within sport diving depths.

Now the Juno is believed to lie farther south. In his <u>Shipwrecks of</u> <u>Virginia</u>, shipwreck authority Gary Gentile notes that in 1989 a group of salvors surveyed a wreck tentatively identified as the Juno off Assateague. A bell and sternpost have been recovered from the site.

No one knows whether the coins found at Holgate, on the southern tip



of Long Beach Island, come from a shipreck or buried treasure. Whatever the source, thousand ofgold and silver coins, including Spanish pieces of eight (eight reales), have been found here. The beach was particularly productive in the early 1900s, but still yields an occasional find, especially after a northeast storm.

Pieces of eight also have been found to the north, at Asbury Park, N.J. The coins, discovered in 1956, were dated from 1760 to 1784. Nearby Highlands, N.J., has yielded Portuguese gold Johannas from 1770. These may have come from a wreck believed to lie in the Navesink River.

A spot on the Delaware coast has generated a variety of coins and may hold an even greater

treasure. In 1775 the Three Brothers ran aground between Cape Henlopen and Indian River Inlet. She broke apart in a storm, leaving on the bottom military payroll meant for His Majesty's troops in the Colonies. A decade later, the Faithful Steward met the same fate in the same area. The ship was carrying immigrants bound for Philadelphia, and it foundered with great loss of life. The area where the Faithful Steward was lost has come to be known as the "Coin Beach." Copper halfpennies bearing the image of King George III, silver pillar dollars and even gold English rose guineas have been found here.

Sometime this winter, on a day when it's too cold even for a drysuit, browse through a copy of Robert Marx's <u>Shipwrecks of the Americas</u> and check out the cargos of some of the 18th- and 19th-century merchant ships listed there. Or take a trip to one of the towns along the coast, where the local historical museum is likely to have an interesting coin or two on display. And when the weather starts to warm again, grab a metal detector and dive into your imagination.



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# Mel Fisher Treasure Hunter

an exclusive interview by Jeffrey J. Silverstein

The mere mention of Mel Fisher's name in any of Key West's rum-soaked watering holes starts arguments. Whatever the locals say, in this Conch Republic of smugglers, millionaires, and edge-of-theworld dreamers, Fisher is a true American hero. Larger than life, he's the greatest legend and mythmaker here since Hemingway walked Duval Street. We've all heard of his exploits – <u>The Atocha</u>, <u>The Santa Margarita</u>, untold fortunes of Spanish gold and emeralds. Mel invited us to his Treasure Museum in Sebastian, Florida for an exclusive Sub Aqua interview. Just turning 70, with a pony-tailed cap covering the hair returning from a bout of chemotherapy, he wove his magic spell.



Let's go back to some highlights of your history. "I was one of the pioneers of scuba diving in the world. Jacques Cousteau and Gagnan invented the aqualung. They shipped six of them over to the United States... and I bought one of the first six units. There was no one to teach me how to use it, so I had to just learn myself. Then I decided to start a scuba diving store. I had the only one in the world and so I started teaching people... and had fifteen instructors working for me and had a television show every week in Los Angeles..."

You studied engineering in college. "I was born and raised in Gary, Indiana and went to Perdue University and studied engineering. When all the kids ask me about how they become a treasure hunter, I tell them that I had to go through college first and that every course I took I am using treasure hunting. At the time, I had no idea I was going to be a treasure hunter."

When you were a kid, did you read Treasure Island? "Oh, yeah, that was the first one. Then I would go to the second hand book stores, buy all the books I could find about pirates, treasure, Spanish/American history. Then in my grade school and high school libraries, we had two study periods, one hour in the morning and one in the afternoon. I would try to get all my homework done in the morning in the study period so I could spend the afternoon reading about treasures and pirates." You must have loved pirate movies... "Oh, yeah. Errol Flynn and all that... Wallace Beery, Long John Silver. It's fascinating to me. ...we have bus loads of kids coming here from the schools. When they come in, they are not at all interested in history. After they go through and see all the stuff — that turns them on and they really get excited and interested in archeology and history and preservation and cultures, the old way people used to live. It teaches them about perseverance and "Today's the day," — my slogan."

Let's talk about treasure hunting technology. "I'm trying to use every minute I can developing a new metal detector. It's a new invention and it will be the first underwater, long range detector to find gold, silver...it looks like it's going to work, I am all excited about it.

I have been trying to build a long range gold detector for about 50 years. Back in 1950, I had one that discriminated; it had a four foot diameter loop on it, mounted on a 16 foot long sled and we made a movie of taking that thing and some other equipment out to Cortez Banks off the coast of California - we were looking for a Spanish galleon that went down there. It is still there if anybody wants to go look for a Spanish galleon off the coast of California... We were using a magnetometer — the first underwater magnetometer to ever be used and we had to keep constantly adjusting it because of the high magnetic properties of the Cortez Banks. But we did find another shipwreck there called the Stillwell S. Bishop ... "

You were looking for precious metals and jewelry? "Yes. Back then, I was



Mel with his sons Kim and Kane display a bounty of gold bars and gold chains from from the Atocha. In the background are two of Fisher's "Mailboxes" which are used for digging. Photo by Pat Clyne.

more or less practicing, I was developing metal detectors to use for treasure hunting, but I used them on wrecks that were on hand out there. We'd go on Al Capone's gambling ship and I brought up a chugg-a-lug machine and a cash register full of money and a roulette wheel, a slot machine. There are still more slot machines there, too, today."

When did Capone's ship go down? "I think it was 1929, in the middle of the heyday when everybody was wealthy and spending their money.... There is another gambling ship in Santa Monica Bay... I found over a hundred shipwrecks off the California coast."

Do you recommend treasure hunting as a good living? "Well, it's pretty tough job. It's hard to find treasure and there's really a big, big ocean out there. It's extremely difficult to find an emerald." Why? "We don't have any emerald detectors, except maybe pretty girls. The girls that dive with me seem to find more emeralds than the guys do. I guess they got an eye for them. But, then again, if it wasn't for those pretty girls, they wouldn't be worth near so much money either. I think we might have something here though... we got a reading on something out in the ocean which matched the reading we got in the museum here on those diamond broaches."

Are any artifacts particularly special to you? "I found a lot of interesting special artifacts. I guess the emerald cross we have in the museum in Key West is probably the most significant piece. We also found these bezoar stones mounted in gold ... something like a goose egg. Kings and royalty used that to ward away diseases and to protect them from being poisoned by people that were trying to kill them."





Mel's Aqua Shop in Redondo Beach, California, 1950, with his wife Deo and their son Dirk.

They were for superstitious purposes? "It worked too, it actually worked, it would detect poisons and supposedly it had medicinal properties. It's made, I believe, from the gizzard or something like that...I think what it probably is is something like our lymph nodes that warn us of diseases and they create corpuscles to fight the diseases. ... those things now are in the priceless category."

Have you used psychics to help find treasure? "Yeah, I have done that quite a few times and I kind of lost faith in the psychics, but dowsing may have something. Dowsers swear up and down they can find something a long ways away, yet they are all poor." Any interesting finds lately? "...this summer we found another shipwreck along the [Eastern Florida] coast here and it has a vast potential of being many, many billions. It is very difficult to work on, it's really very down under the sand. ...if you have ever gone to the beach and dug a hole in the sand and you get the water and you start moving it faster and faster and it keeps caving in and caving in and the more you dig, well, that's the way it is. There are 66 chests of emeralds there... and each chest is worth about three million dollars."

You have a history of conflict with government agencies trying to impede your treasure hunting. "Yes, that is a tough challenge... on the Atocha case, it took me eight and a half years... The attorneys and their expenses ended up to be \$1,600,000. We went through three Appellate Courts... and finally ended up in the Supreme Court of the United States. And I won, how about that! ... they awarded me one hundred percent of the treasure. After I won the whole thing, I went to the State of Florida and I said,... I will agree to donate 20% of what I find each year and what all my subcontractors find, and you can use that in your museums and preservation labs. We'll cooperate one hundred percent and exchange data and information on the archeology and the history records and the information about where everything is found..."



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You have said that the government is in competition with you. "They have said so, yes. They are saying the government can do a better job than private enterprise can and that they would be more careful with the environment. ...they don't realize that I am an environmentalist myself and I started making underwater films about the environment long before they were even born. I love all those creatures down in the ocean - it has been my entire life."

Is it harder today to go into the treasure hunting business than when you started? "It is more difficult now, although, what I have been doing is acting like an umbrella or grandfather to quite a few novices. I let them work under my jurisdiction and I am responsible for their actions... Some of them have been quite successful. I encourage everybody. I teach people and help them, I don't normally keep any secrets. Once in a while I have to."

What do you think makes you different? "I am not quite sure, it's just a grandiose hobby for me, I don't need any more money or gold or silver or emeralds; I have always beet fascinated by it... I enjoy it and it is fascinating and exciting and romantic and adventurous."



Emerald-studded gold cross. Probably intend for the reigning Pope. Photo by Don Kincaid

What do you do when you go on vacation? "Go treasure hunting."

If you hadn't gone into treasure hunting, what do you think you would be doing today? "I have no idea. ...just go to a spa, lay around in the sun and get a suntan and jump in the pool now and then and have a rum and coke. Do a little dancing... sing and play musical instruments."

We've heard rumors you found the lost continent of Atlantis... "I think I've found it, believe it or not."

You have specific coordinates to give our readers? (laughs) "Well, not quite yet, maybe a little later. I have to tie down all the problems with the government. (laughs again) If I was to tell NOAA where it was, they would just change the boundaries of the United States and say, "Now we own that too." I really don't feel like I own Atlantis, I think it belongs to the whole world... I am pretty sure I have found Atlantis and everything that Plato wrote in his writings, every measurement, precisely, is correct and all the descriptions - there is no where else in the world that fits it... There have been hundreds of books

written about Atlantis and I am sure there will be a lot more books written when we start deciphering these tablets that I am going to find next year...with all their constitutions, their one hundred commandments instead of ten commandments and their by-laws, amendments, addendums."

Have you have actually seen some of these artifacts? "No, I am just quoting Plato's descriptions and I haven't dug yet, I have yet to do that...next year."

How long have you been looking for Atlantis? "About forty years. Not full time, just off and on. It takes a lot of planning and a lot of money and a lot of thought into figuring out the proper way to do it. This is a gigantic undertaking, it's probably a hundred year project and it will probably end up enlarging even more so... it will end up encompassing North America, South America, Central America, Africa, Europe, Asia."

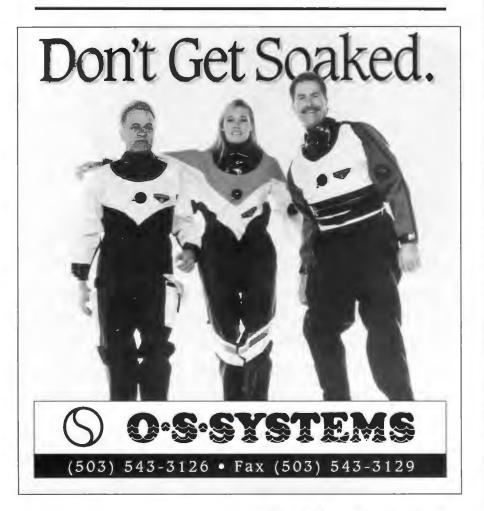


Mel and his grandson Josh, checking out a new metal detector.

What do you think people will say when you tell them you found Atlantis? "Well, you would be surprised. I think a lot of people think I am going to do it. They seem to respect my thoughts and opinions pretty much. I think it is going to happen."

Do you have any final words for people who would want to get started in treasure hunting?

"Go for it!, it's very exciting and rewarding - do your thing!"



# **Bielenda on Transition**



Even if you weren't a diver and you met Captain Steve Bielenda, you'd have the strong feeling "This guy knows something." It's his eyes – the way he stands – the way he makes you feel comfortable while he keeps you on your toes. Divers the world over seek him out and dive off his boat, The Wahoo, for just those reasons.

### an interview by Joel Silverstein

Steve, how does a recreational diver in the no-stop area make the transition to the more challenging deeper wrecks? You have to pay your dues in diving experience. Get in three dives a week. You need that in-water time because we have a relatively short season.

When winter rolls around there is nothing wrong with taking trips to the quarry and practicing your diving and tuning your gear configuration. ...winter diving is the best time to practice. You can simulate task loading in a relatively safe yet cold environment. Once a diver can conquer the thermal challenge the rest of it falls into place.

What about gear configurations? You have to graduate from single tanks to dual tanks, you must use two tanks. Here is where you have to take one step at a time, you can't go out and just say: "I am going to doubles, I am going to put a pony bottle on, I am going to put a stage bottle on, I am going to put a reel on, I am going to put an up line, I am going to put a lift bag on." The transitional diver can't...shouldn't change that fast. The best transition is to take exactly what you have now and dive with it, just add one more tank. Once you get comfortable in double tanks, then you can start adding pieces to it.

What's next? You gotta spend time practicing. This is what I call filling your knapsack. You have a knapsack on your back and in there you have all your diving experience, and the only time you really have to use all that stuff is when you have a problem. ...it takes time. A diver can't just wake up one morning and say, "I want to do the Doria this year." You just can't do that. You need a couple of years of experience.

Have people trained in a short period of time? Some have, but their dedication involved hundreds of dives in tough conditions.

What should a diver practice? The biggest danger in challenging wreck diving is a free ascent. You must come up the anchor line or your own personal ascent line. Start practicing up-line techniques. Each time you finish your dive, send the bag up, go up the line, see what its like to hang on that bag, find out what you need to change — before you really need it. Ask yourself what do you need in Jon-lines, how much air do you need in that bag, and what different techniques you need to master.

How do you feel about warm water diving for training? I think that the warm water diving for training is good if you train with all your equipment on. But just taking vacations to look around — that's not warm water training.

Do you have any specific feelings about equipment? ... it comes down to what you really, really feel comfortable with. If you feel good and comfortable in your stab jacket [bcd], you should not let anybody convince you that the now popular backpack wing system is a better system. If you can configure your stab jacket to carry stage bottles and other necessary equipment than by all means use it.

What about regulators and gauges? Any diver, I don't care how deep you are going, whether you are going to 60 feet or 160 feet, should be diving with the best piece of equipment they can dive with. I've heard a lot of people including instructors say, "you can buy an inexpensive regulator and put it on your pony bottle." That's a lot of baloney. I want the same kind of regulator, I want to have the same breathing resistance, I want to have performance in the regulator on my pony bottle that I have on my main system.

How do you feel about divers going past 200 feet on air? If you are going to dive on a wreck like the Andrea Doria where we tie in at 170 feet, and you are going to do excursions down to 190, 200, 210 feet and maybe make a couple of moments at 220 and you got the dives behind you to this depth on air, that's fine. But, if you are going to start at 200 feet and go down to 240, you absolutely should be diving on mix. At those depths you have no safety factor at all if you go on air.

We recently had real experienced divers give totally different explanations of what conditions were at 255 feet on the wreck of the *Republic*. Obviously from their description they were narced very badly; they had tunnel vision and they had the usual sense of paranoia. They went down and said they had to turn their lights on to see...that visibility wasn't more than fifteen feet. The divers going down on mix right behind them said they had between 60 to 80 foot visibility and it was an indigo blue bottom.

Are there any specific courses you would recommend to a transitional diver? Yes, I think one of the technical nitrox courses from IANTD or ANDI should be an absolute must for the diver if they want to increase their safety. They don't necessarily have to go out and use nitrox all the time, but the knowledge of physics, oxygen, and decompression tables that they will gain will give them a different view on what it's all about.

If you could make diving simpler, easier and safer how would you do it? ...post dive discussion groups. Getting a group of fifteen to twenty divers together, half of them newies, with up to four years experience and mixing them with divers with five to twenty years experience would be a great learning experience. Not only will they learn from the guys who have a lot of experience, you are going to learn from the new people.

Is that kind of post-dive trip session available? Right now, it's not, although we do it on an informal basis with many people one-on-one. When I teach my wreck diving course I adjust the material as I am going along, so it is not something that you are only getting from a textbook or from my own diving experience of thirty years, you are getting all of that including everything I did that day, or anything I saw or learned myself.

Every time you go out, it is a new learning experience for you and everybody else? I learn new things every day on the boat. We are learning all the time, that's how we stay on the cutting edge of what's going on. It's because we are progressing, we are changing all the time. If we didn't, we would fall behind. If you want to stay diving, if you want to stay technical diving, you can't fall behind everybody, you have to stand by the cutting edge. If you see something new happening, it's your job to learn about it, even if you don't want to do it, you should know it and understand it.



# Submerged in Diving History

by John Pfisterer

The front tender barks, "Dumb-bell, down and locked, exhaust valve set, spitcock open, two and a half." Hearing this familiar and comforting checklist, the diver gives the ready signal. A whoosh of air resounds. The porthole slams shut; the sound of brass threads screwing in tightly echoes in the helmet. Darkness envelops, creating a separation from the outside world. Two inches away, the narrow window offers tunnel-vision at best.

Rising from a seated position to bear a 140 lb. weight belt in addition to the helmet, is no easy task. Twenty pound shoes make the first steps reminiscent of those a toddler. Guided by the steady hand of a guardian, the diver wades into the water, conscious that any miscalculation will send him toppling. Both know that exit and entry are always the most dangerous parts of any dive. Remarkably, once below shoulder-level, the load lightens.

As the helmet disappears below the surface, a voice crackles over the com unit: "Diver, are you okay?" "All systems go," is the response. With one hand tightly grasping the air line and the other hand controlling the air-intake valve, the diver trudges forth. In order to change direction the diver faces a conflict with the physical laws of motion because the suit's momentum makes it reluctant to give up its original path. Like some prescuba ancestor, the diver walks erectly, opposing the normal human evolutionary track. Alone in his canvas and brass microcosm, the diver feels a strange

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duality, as if in limbo. The medium that brings him into this aquatic realm also impedes his assimilation to it. Not fully adapted, the only link, for this waif of two worlds, is an umbilical cord running to the compressor.

When the task is completed, the line is followed back. After exiting the water, the diver sits back down on the staging platform. When the tender unscrews the face plate, a wave of fresh air washes in. The hissing is replaced by silence.

This is not a scene from a Jules Verne novel, but a depiction of Mark V diving rig experience, a rig recognized by its brass helmet.

From as far back as Alexander the Great, humankind has struggled with the mysteries that lie hidden in the ocean's depths. Only within the last two centuries has this become a truly feasible endeavor, and only within the last forty years or so has this been available to the general public.

In the middle of the sixteenth century, the first practical step toward underwater exploration is taken with the invention of the diving bell, setting the tone for diving technology for centuries to come. Quickly realizing the limitations on the amount of air contained in the bell, William Phipps, in 1680, supplies divers with inverted buckets of air, thereby extending their time at depth. Ten years later, Edward Halley, of comet fame, is credited with increasing the efficiency of the air supply process by the simple action of raising and lowering weighted barrels connected to the bell by hoses.

In 1715, by downsizing the bell, John Lethbridge pioneers the first diving suit. Finally, humankind has direct access to the underwater world by means of leather, watertight sleeving for arms Lethbridge's methodology is later improved by other inventors, with the addition of a hand pump to send air down and sleeving for legs, giving divers both extended time and mobility.



Retaining the bell concept, John and Charles Deans, in 1823, develop a helmet, essentially a mini bell, which is held in place by its weight. As when Halley redesigned Phipps' inverted bucket system to eliminate their instability, Augustus Siebe, in 1837, improves the weakness of the Deans helmet. By sealing the helmet to the suit, the prototype for the Mk V is created, a standard that has lasted until today.

In 1866, Benoist Rouquayrol makes a major leap toward a self contained system, but falls short. He could not help living in a time when manufacturing processes were just emerging and high pressure cylinders were inconceivable. The demand-regulator, his invention, was used for surface support. Twelve years later, H.A. Fleuss circumvents this limitation by developing the first selfcontained breathing apparatus using 100% oxygen. Creating a workable system, Fleuss' approach turns bittersweet when the problem of oxygen toxicity arises.

Not until 1943 are all the components for a completely self-sufficient system combined. Although his senior officers scoffed at his ideas, French Naval Officer Jacques-Yves Cousteau collaborates with an engineer, Emile Gagnan. Together, they modify and improve Rouquayrol's demand-regulator and join it to high pressure cylinders and the result is the predecessor of today's gear.

By this time, scuba gear is conceptually stabilized, leaving the next fifty years to focus on systematic improvements of this technology which bring it near the level of mastery. This has led to the emergence of mixed gas diving. Its influx into recreational diving comes after years of being restricted to commercial and military use. Whether there exists a future in mixed gas remains to be seen. Other possibilities could include personally owned rebreathers or even the one atmosphere [Newt Suit] suit (imagine being able to dive without accumulating any decompression debt) or a hybrid of all these. There are plans to descend the seven miles into the Mariana trench within "Deep Flight." This singlemanned, submersible vehi-

cle, that glides like a plane, is a prototype envisioned by Graham Hawkes, an engineer. It is reminiscent of Lethbridge's submersible suit or in more recent history, the Japanese World War II kaiten diver-guided torpedo.

Did Cousteau realize his scuba would be the Model T of diving, and does Hawkes see a place for "Deep Flight" in every driveway? What would Rouquayrol, with his inability to foresee high-pressure cylinders, think of the new ceramic technology that can withstand 16,000 psi? And could Lethbridge recognize the leap he had made so long ago from suit to submersible? Or could you imagine planning weekend getaways to the Titanic? If mastery forces us to look forward, the precautions needed to understand this mastery should force us to look backward.

Groups like the Northeastern Working Equipment Group generate an enthusiasm to know this history by their unique opportunity of submerging you literally in a piece of diving history. They provide experiences like the one I tried. It was like diving into history.

Northeastern Working Equipment Group Contact: Jim Boyd (201) 948-5618, P.O. Box 759, Middleville, NJ 07855 or Fred Barthes (908) 964-5959.

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Sebastian, Florida Mel Fisher Center, Inc. 1322 U.S. Highway 1 Sebastian, Florida 32958

Key West, Florida Salvors, Inc. 200 Greene Street Key West, Florida 33040

The Mel Fisher Maritime Heritage Society publishes a bi-annual journal called Astrolabe, and a monthly newsletter called The Navigator which focus on his work and related disciplines. Contact: Mel Fisher Maritime Heritage Society, PO Box 511 Key West, FL 33041

# New Dive Computers

## OMNI DIVE COMPUTER and REEF SAVER CONSOLE



With Omni, you can quickly and easily monitor your existing dive and maximize your no-decompression dive time. The computer function not only provides current information, but maintains a permanent dive log as well. The userfriendly graphic display is large, easy to read and simple to understand. The computer is powered by two diver replaceable 3 volt lithium batteries. The battery compartment is sealed from the electronics for added reliability. A manual on/off switch activates the unit.

Dacor's Reef Saver console is designed to attach to your BC; the console is positioned across your chest so you never have to search for your instruments again, or risk entanglement or damaging the environment. The Reef Saver concept and Dacor's mission of being Geared For The Environment<sup>®</sup> were recently recognized by NAUI with the awarding of the 1993 NAUI Environmental Enrichment Award. NAUI presents this award to individuals or organizations for outstanding efforts and accomplishments that preserve, protect and restore the aquatic environment.

The versatile Reef Saver design allows you to use the Omni in a console, or adapt it to a wrist mount or a hose mount. The optional System Compass attached to the console with a swivel mount so you can read your instruments and navigate at the same time. The instrument faces come equipped with replaceable lens protectors that prevent scratches.

For more information contact your Dacor Dealer or Dacor Corporation at 161 Northfield Road, Northfield, IL 60093.

## THE BRIDGE PROGRAMMABLE COMPUTER



The Bridge is the first programmable dive computer for the enthusiastic sport diver. This computer allows the diver to program in an Air dive or a Nitrox dive. For and dive, the diver simply scrolls and selects the appropriate percentage of oxygen from 21% to 50%. The nodecompression limits presented upon scrolling represent the Air or Nitrox mix selected. The Bridge has audible alarms for decompression violation, rapid ascents and exceeding the limits of the Air/Nirox mix programmed for the dive. The unit has an operational depth of 300 feet.

The Bridge logs profiles and scrolls nodecompression limits for dives. You can also upload your individual dive log and profile information to an IBM/Windows application with the optional software and interface.

Some features of the PC software inlude, inputting personal data into each log entry uploaded, dive simulations for dive planning, and profiles of logged dives.

Available early 1994 from your Dive Rite dealer. For a free descriptive brochure contact: Dive Rite Manufacturing Inc. 117 West Washington Street Lake City, Fl 32055 (904) 752-1087

### ADUANAUTS

in the next issue we explore the space program inspired hoseless transmitting dive computer <u>Two Nemesis</u> from Cochran Consulting Inc. Don't miss it. =

## **New Products**

### Hand-Held Doppler Now Available



Underwater Applications Corporation, a New England based diving equipment specialist, is the exclusive distributor of the Huntleigh Dopplex to the diving community.

The units, known as dopplers, use high frequency sound waves (ultrasonics) to detect gas bubbles in the blood stream. Routinely used by physicians to detect fetal heart sounds and to screen for vascular disease, the pocket size unit is ideal for use by the serious diver.

Until now, ultrasound systems dedicated to decompression studies have been cumbersome and prohibitively expensive.

Preliminary testing has proven the effectiveness of the system in detecting venous gas bubbles in the subclavian (shoulder) region of several subjects following both air and mixed gas decompression dives. The subclavian region is an easy site for an inexperienced user to obtain results and is effective for general evaluations.

The Dopplex is available to diving instructors, store owners, charter boat operators, as well as to diving physiologists and commercial diving contractors. For more information contact: Underwater Applications Corp. 427-3 Amherst St., Suite 345 Nashua, NH 03063 (508) 433-6586

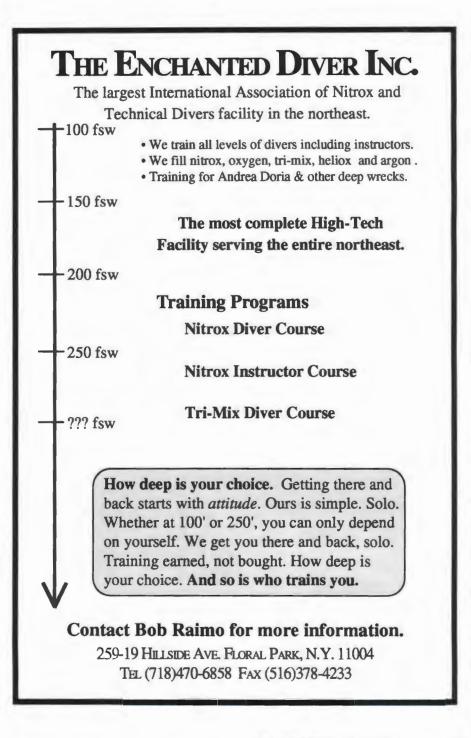
### **SAFE-T-MATE Pony Bracket**

SAFE-T-MATE is a new and innovative product to connect and disconnect an auxiliary air source from the main air tank.

SAFE-T-MATE is constructed of high grade stainless steel. It is the only device with an integral positive quick lock and release system. With its three locking positions the pony bottle can be swiveled to any position with the push of a button. Designed to accommodate all tanks and any other devices. SAFE-T-MATE comes complete with a 300 series stainless steel band kit including six bands to accommodate two main and one pony tank plus tubular nylon band covers to protect the tank surface. Contact: Safe Dive Inc. P.O. Box 599 Rockville Centre, NY 11570 (516) 678-5719

### **BIODEGRADEABLE SOLVENT**

American Nitrox Divers International brings to the USA C-12, a product of Selden Research Ltd, a fully-biodegradeable nontoxix, non-foaming detergent/de-greaser for cleaning equipment for enriched air service. This low foaming detergent is an alternative to the TCE and TCA solvents. It's concentrated form dilutes well and performs well in ultra-sonic cleaners and is fully recyclable. Clean and de-grease hoses, fittings, breathing equipment, steel and aluminium cylinders and valves for enriched air service with ease and confidence while being kind to the environment. Contact: ANDI, 74 Woodcleft Ave. Freeport, NY 11520 (516) 546-2026 =



## **New Products**

### US Navy Diving Manual

Long regarded as definitive works, the U.S. Navy Diving Manuals-Volume I & II undergo regular updates to keep pace with changes in



diving techniques, equipment and physiological research. Major revisions of Volume I were recently completed. The reviewing team was comprised of fleet master divers and diving medical officers from the United States Navy Experimental Diving Unit, the Naval Medical Research Institute and the Naval Medical Research Institute and the Naval Diving and Salvage Training Center. Major changes/additions were made to chapters covering physics, diving medicine, decompression, recompression and diving emergencies as well as the appendixes.

Also notable, modifications to Chapter Eight (Diving Emergencies), include patient evaluation and treatment. An entire section is added with respect to decompression sickness. In application, the medical instruction tasks are simplified by established guidelines for evaluation treatment outcomes. This also ensures that the urgency be driven by the diver's physical condition.

In the Appendixes, the section on neurological examination is completely revised to provide a systematic approach to patient evaluation and a sound basis of divingaccident assessment. Included are detailed checklists for recording the examination.

The Manual, is available in a loose-leaf ring binder, and is comprehensively illustrated with photographs, line drawings and relevant data tables, many illustrations and tables are in color. Contact:

Best Publishing Company, (800) 468-1055

### **Computer Artwork for Divers**

PSL has just released Volume 5 in the Diver's Art Disk Series. Volume 5 contains over 125 pieces of art, including commercial divers, marine life, cartoons and sport divers. Virtually all computer layout, design, word processing and graphics software can use the art contained on the Diver's Art Disks.

Designed for clubs, stores, training facilities and instructors, the Diver's Art Disk has something for everyone. The art is appropriate for dressing up signs, newsletters, letterhead and envelopes.

Volume 5 is available for the PC in PCX, CDR and EPS formats. Mac formats are TIF and EPS. Contact P.S.L., 6841 W. 79th St., Burbank, IL 60459. (708) 430-5070

### **RESPONSIBLE DIVER VIDEO**

A new diving safety video, "Be a Responsible Diver," is being distributed by NAUI. The video serves as a review of essential safety practices and reminds divers of the risks in diving. The program was designed for individual home viewing, as well as for use aboard charter dive boats, at dive resorts, and in dive classes.

The video was produced by the Scuba Diving Resource Group (SDRG), a nonprofit organization that promotes safety in diving. Funding for the video was provided by the Divers Alert Network (DAN), *Dive Training Magazine*, DUI, Innovative Scuba Concepts, JBL Enterprises, NAUI, Oceanic, Prosub, Scubapro, Sea Pearls, Soniform, Sport Chalet, Tabata, Truth Aquatics, and Watersport Publishing. Contact: NAUI P.O. Box 14650, Montclair, CA 91763 (800) 553-NAUI

### **Treasure Hunting Tools**



Proton 3 Magnetometer with Computer Interface — The PROTON 3 is a third generation marine magnetometer that is used to locate iron and steel targets. A built-in printer prints out the gamma readings with the Loran or GPS position coordinates of the target. This same information is available to input into any computer system. The information can be used by the computer for magnetic anomalies mapping or simply for logging information.

Once you have located your carpet of gold or long lost ocean liner you may want to check it out on a video screen before jumping in.



TOV-1 is an underwater very low-light camera with a 60 degree wide viewing area. This new camera produces excellent underwater pictures in very poor lighting conditions. A video recorder can be added. The TOV-1 comes complete with 200 watts of underwater light and is towable to depths of 250 feet. Contact: J.W. Fishers Mfg. Inc., 65 Anthony St. Berkley, MA 02779 (800) 822-4744

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# **My Secret**

by Kirby Kurkomelis

I had just finished teaching open water training dive number five. It was time to take my new friends on their first underwater tour.

Clarks Beach or commonly called Secret Beach, is located in the town of Greenport, Long Island. This area is home to a variety of marine life that inhabit this rocky shore on the northern tip of Long Island sound. Small gravel stones make up this site and large boulders protrude out of the water.

I discussed the dive plan. The divers took a compass heading off the beach, which was south. With excitement in the air, five female divers were ready.

Our visibility was 20 fsw. The water temperature was 72 degrees. A mild current guided us through this magical world of Jules Verne.

The first creature we came upon was a lonely northern pipefish (Synganthus fuscus) standing guard at the entrance to his domain. I guided the divers north, the bottom began to change to small boulders with seaweed and kelp reaching up to grasp the sun ray's. Underneath, tucked away in crevice in a large boulder, a colony of sea urchin (Arbicia punctula) fed on brain coral and barnacles that encrusted the large rocks. Signaling each diver not to pick them up, their needlelike spines which protrude from all directions and can cause an allergic reaction if they become broken in your skin.

We headed northeast passing a huge boulder. To my surprise swimming around it was a school of beautiful queen triggerfish (Balistes vetula) with painted blue strips — chasing small crabs that were feeding off the algae on the rock.

Queen triggerfish travel from the Caribbean, to as far north as Massachusetts. Queen triggerfish are of the most common of all triggerfish. Their hardiness and ability to survive under abnormal conditions make them a prize for the tropical fish enthusiast. This fish can be dangerous, it has very sharp teeth and vicious tail which is used when annoyed.

About 75 kick cycles out, I adjusted our course 90 degrees. It started to get a little deeper, 20 fsw. I could see two divers adjusting their BCD'S

We came upon a large fluke camouflaged in the sand waiting for a fisherman's worm to feed on. Boulders were everywhere, red sponge covered most of the rocks. Bergalls were always present



ranging from 4 to 8 inches in size. The group was amazed at the abundance of marine life. The current picked up. Out of the corner of my eye I saw bluefish off in the distance.

I signaled to the divers to keep a sharp eye out for the different types of jelly fish. One was very close — a lion's mane (Cynea capillata), with yellow-orange color and 18 inch long stinging tentacles, on closer inspection there were juvenile butterfish swimming in and out of the jellyfishes realm, under the protection of the jellyfishes' tentacles.

Some people are sensitive to a jelly fish sting. My divers gave this one a wide berth. It was getting time to head back to the beach. Our course was now south by southwest. Everybody was having a great time. Then suddenly we picked up a hitchhiker, a stripebass who guided us to a drain pipe which led us to shore.

One by one the divers broke the surface. Wonder in their eyes, ecstasy in their breath. I thought to myself, who's next?



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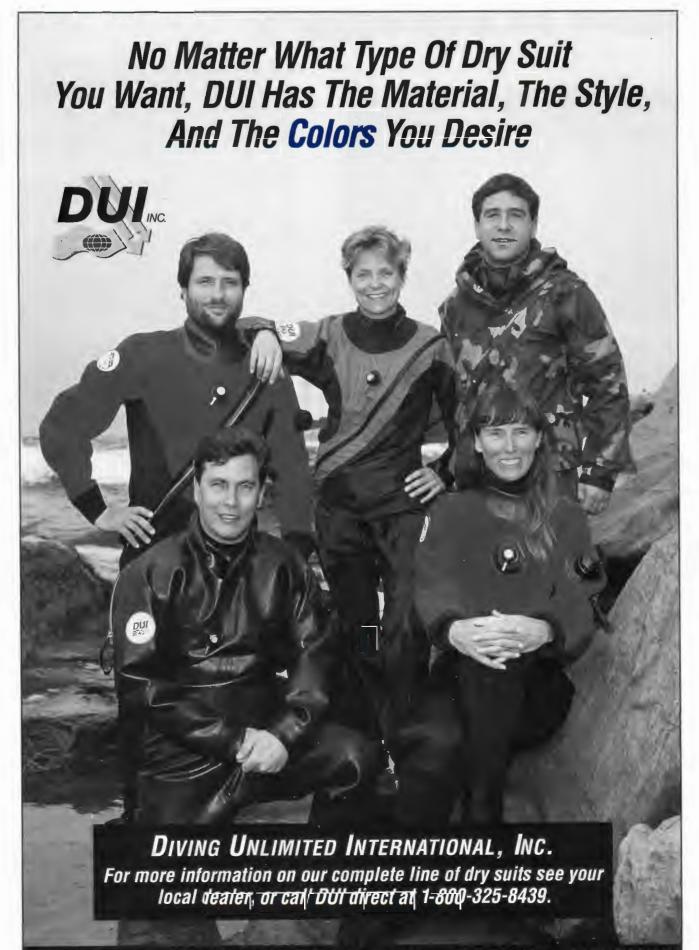
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1. Evelyn Dudas and Stan Waterman at the Dive Philadelphia Show. 2. Kudos to Di Dieter as he celebrates his 30th year as an instructor. 3. International instructor and photographer, Kathy Weydig. 4. Jim Cleary and Aqua Crazy Harvey get the big bugs. 5. Capt. Eric and the Metrowest divers. 6. U-Boat enthusiast Doug Kitchen on Block Island.



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