

DIVE LOG

The Bimonthly Newsletter of the United Divers of New Hampshire



Dolphin rescue & recovery from left - Jean Stefanik,
Laura Coldwell, Ray Allen, Bob Lacz, Jim Stewart

Photo by Lea Nichols

Forward

I am told that since Cape Cod has existed as we know it, dolphins have been stranded in the natural trap it forms. On March 19 a group of Atlantic white sided dolphins and two harbor porpoise were caught in its maze. A group from UDNH collaborated with members of the New England Aquarium Dive Club and other interested persons to assist in a rescue and recovery effort. That day the group recovered about thirty animals from the shores of Wellfleet. The effort mostly consisted of loading dead animals onto stretchers and hauling them through the mucky marsh to the road side for transport to a nearby necropsy facility. One person can tow a dead dolphin through the water where it takes four persons to move them on shore. Where possible floats were attached to dead animals and they were pulled into the water and towed by hand to a pick up site. Two of the animals were found alive and evaluated by a veterinarian and determined to be in shock. The record of survival for solitary dolphins is nil and so after taking blood samples the veterinarian deemed it most humane to euthanise the two living animals. The following story is a compilation of my experiences that day.

Stranded Dolphin

Fiction by Lea Nichols

The dolphin lay exhausted in the ocean water supported by humans keeping her blow hole just above water. Earlier that morning she left Stellwagon Bank as the tide was low and followed members of her pod chasing a school of herring into Massachusetts Bay. Hunting had been poor that day and she was still hungry. The elders had taught her to maintain sonic contact with ocean depth of 50 dolphin lengths (300 feet). If in doubt the navigation rule of fin is to head toward the depths of the open ocean to the East navigating with her ability to sense Earth's magnetic field. Stories were told and retold in the pod of cousins not following the elders advice who became stranded on the marshes of Cape Cod. Swimming in darkness, the stranding tales ran through her head of relatives slowly baking in the sun until their skin cracked. Finally being pecked to death by swarms of sea gulls.

When the water ahead unexpectedly started to shallow the group headed easterly but the water did not deepen and the distant sounds from the others in their pod became more muddled. All night they searched for an escape passage to the East. They worked their way from Barnstable to Wellfleet moving ever eastward. They followed the shore line North staying in the trough of deepest water only to find them selves trapped in Cape Cod Bay by the peninsula jutting out from Wellfleet.



The Newsletter of the United Divers of New Hampshire

Editors: Lea Nichols
Gary Thuillier

Support: Don Eva

Submissions

Editorial contributions may be e-mailed to COMPTUS@aol.com or FAXed to 603-487-5513. Submissions can also be sent on paper or PC floppy to:

Lea Nichols
342 Lyndeboro Road
New Boston, NH 03070

Please include a brief byline and author contact information with your submission. Submission shall automatically constitute an expressed warranty by the contributor that the material is original and is in no way an infringement on the rights of others. While no compensation is paid for published submissions, a byline indicating the source of an article will always be provided. Authors grant *Dive Log* and United Divers of New Hampshire first print rights to the submission. *Dive Log* and its editors reserve the right to edit all materials as needed. The opinions stated in the articles in *Dive Log* are those of the writers and do not necessarily reflect the opinions of the United Divers of New Hampshire or the editors of the *Dive Log*. For further information, please contact Lea Nichols at (603) 487-2726.

Subscriptions

Subscriptions to *Dive Log* are included in the UDNH membership fees. Non-members may subscribe to the newsletter for \$15/year. Subscription inquiries should be addressed to Lea Nichols as well.

Advertising

Rates for a full year placement (6 bimonthly issues) range from \$75 to \$360, depending on placement size and location. For detailed information on advertising in *Dive Log*, contact Don Eva at (603) 672-5608 or dpeva@aol.com

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Website:

Newsletters and other current info are available at our website: <http://www.udnh.org>, graciously hosted by Jake & Linda Richter.

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Carrying dolphin to recovery site

Jim Frederick, Ray Allen, Don Eva, Bob Lacz

Swimming into Wellfleet Harbor the water became even shallower. She knew the open Atlantic was just ahead but the group fell into discord after spending so many hours searching for a passage. All were mentally exhausted from the prolonged

fear of entrapment. They could sense freedom to the East but there was not water enough to swim free. Many of the pod pushed their way onto the marsh inching Eastward with the yet rising tide. But there was not enough water and daylight brought the feared scavengers from the sky to feast on her brethren thrashing on the marsh. Fearful and exhausted she lay by the town pier near the ocean surface hearing cries for help of her dying family.

There was thrashing in the bay and the taste of blood in the water. She watched as some humans dragged three cousins off the beach and into the water. She was alone now, running on pure fear with none of her kindred left for support. The pilings at the dock were impenetrable so she worked her way ever Easterly finally pushing through the seaweed onto the gravel beach. There was no hope left when four humans came crashing into the water and surrounded her.

At first she thought the human standing in just front of her nose was making a challenge so she let forth a feeble series of clicks. The human perceived this and moved away. A pair of humans approached from each side and pressed upward on her belly. Their skin had a texture like hers and felt slightly warmer than the cold sea water. Ocean waves

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INSTRUCTIONS

RENTALS

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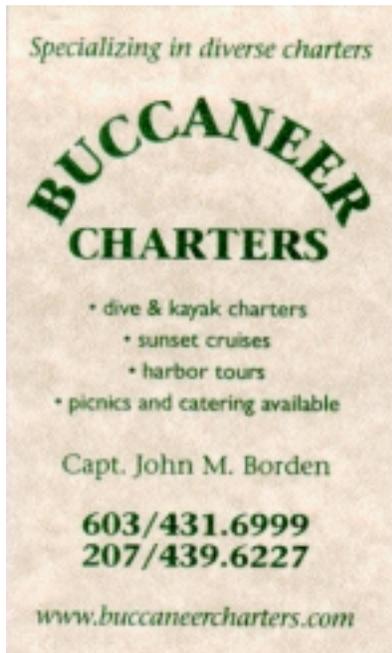
swept up her back occasionally flooding the slight depression surrounding her blow hole. An occasional shiver rippled through her body. More humans came from the beach, some of them had a large third eye that kept an intent watch on the gathering, especially her. The humans held her like this for an hour some times making fast moves with their fins , splashing water and frightening her. More humans came and slid a stretcher under her

belly pushing her fins through two holes in the slippery fabric. Another human came very close and felt her belly and dorsal fin. The humans counted the eight circular pock marks about the size of an eye ball on her skin. The vet noted her body between dorsal fin and fluke was thin. There was more commotion in the water as the humans unwrapped an assortment of tubes and bags. One of the humans held her tail very tight and but there was no strength left to resist. She felt a dull pain in the center of her tail followed by an odd puckery feeling that lasted for some time. The smell of fresh blood, her own was in the water. She wished for the comfort of her own species as a calming warmth spread from her tail towards her brain. There came an irresistible need to close both her eyes and sleep.

Thanks to Jean Stefanick, Elsbeth Nichols and my Dad for their help in preparing this story. The Marine Mammal Stranding Center (mmsc.org) provides some additional information for those interested.



Bob Lacz & Don Eva towing animals to recovery site
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A CASE OF POOR JUDGMENT

By Lada Simek

Most of us probably know that Long Island Sound's frequent tranquillity belies its ability to become a bitch when the wind blows from the east. It was such a day, winds 25-30 from the east, making for a fetch of a hundred miles. I had two highly experienced divers, Vreni and Soliman, who wanted to get wet that day. Realizing the conditions would be poor, I took them with my boat out of Rye harbor. "Perhaps I can find a sheltered spot." I thought.

As soon as I got to the end of the sheltered harbor I saw it would not be worth it. The waves were 3-4 feet and had a frequency of about seven seconds. I was about to turn back when we spotted a sailboat, anchored and flying a dive flag a half a mile east of the Scotch Caps and the other rocks in the vicinity. We decided to go there and check it out, even though we knew that diving was out of the question.

I was not too concerned about the safety- I have a 26 foot I/O powered boat, the last of a military series, built to military specs and very strong, heavy and stable. Planing was out of the question, so I proceeded at displacement speed and had not much difficulty. When we got close, conditions worsened. There is an underwater wall starting at Parsonage Point where the depth goes from 50 to 15 feet, about another half a mile windward. This caused the waves to pile up more and refracted their direction so they no longer moved downwind.

When we got close we saw there was a problem. There were two divers in the water, on the surface, hanging on to a line. They entered the water and tried to climb back in, but their plastic ladder broke. There were two girls left on board who could not pull them in, nor could they get the anchor up and start the engine. I approached the boat on its starboard side because I knew there were rocks on the port side. Waves were also splashing on rocks 40-60 yards behind the boat. The anchor rode was very thin and under severe strain. If the anchor let go, they would be drifting so fast that it probably would not set again. The two divers were being slammed against the hull and underwater half of the time. The situation looked bad.

Due to the wind and sea conditions, I dared not approach closer than 20 feet- I just did not have the lateral control. We made several passes trying to throw the divers a line. They were reluctant to let go of the sailboat, but finally diver one grabbed the line. I went into neutral and we pulled him in. The man was too exhausted to climb on my swim platform and unable to drop his weightbelt because he had put equipment over it. His eyes were big, his face very gray and he was borderline panic. He was not helping much. Meanwhile the wind turned my boat broadside to and we were rolling viciously. My crew could only use one hand to help the diver because they needed to hang on.

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During this time the wind was pushing me in the direction of the rocks behind to sailboat and they were getting close. I screamed at my crew "Get him aboard, now!" Since the swim platform was underwater some of the time, they managed to roll all but one leg of the diver out of the water. That allowed me to use power for safety. The person was barely coherent and that is when we found out what happened. It was his first dive and his buddy also had little experience.

Diver two was cooler of the two. We threw him a line and with his acknowledgment I dragged him slowly away from the rocks a couple of hundred feet to give me more time, and this worked well. He was the owner and operator of the sailboat and I now had to get him back on the sailboat because now the two girls were in danger. I made another approach, turning in the trough of the waves downwind and backing to the stern of the sailboat. We got quite a bit of water in my boat, but I was able to narrow the distance to about three feet and the owner jumped aboard his vessel.

We followed him to his mooring in Mamaroneck harbor where I transferred diver one to the sailboat. Even there the water was so rough that I managed to get a six inch hole in the side of my hull where the two of us brushed together. I never got a "thank you" from either of them.

There are lessons to be learned, both in diving and boating. The diving I will not discuss, but as far as boating is concerned :

- 1) Always have more than one means of climbing back in case you should fall in.
- 2) Always have someone else qualified to operate your boat if you can't.
- 3) On Long Island Sound, if the wind is over ten from the northeast to southeast, think twice about going boating.
- 4) Wear your life jackets when things get hairy, (none of us remembered in this incident)!

Flying After Diving

After your last dive, how long should you wait before boarding an airplane to fly home?

This question has been at the heart of specific DAN Research since 1993. But its roots run deeper. To understand the question and its answers, let's begin with some basic truths about diving and flying.

There is a very small risk of decompression sickness (DCS) after diving with dive computers or using dive tables. Mountain- or air travel can increase this risk significantly as a result of exposure to reduced atmospheric pressure.

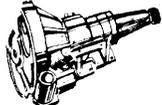
Divers can avoid additional risk by remaining at sea level until the nitrogen absorbed by their tissues during diving is eliminated harmlessly through the lungs. Flying after diving guidelines are the surface intervals that are recommended before flying after scuba diving is considered safe; and there is more than one guideline affecting when divers may fly after their last dive.

The History

The origin of flying after diving guidelines is obscure. To clarify this uncertainty, the Undersea and Hyperbaric Medical Society (UHMS) held a workshop in 1989 under the



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leadership of Col. Paul Sheffield (USAF) with the objective of establishing the best guidelines that data and expert opinion could support.

The 1989 workshop revealed little relevant data and based its conclusions on an expert consensus that recommended:

- a 12-hour wait after up to two hours of no-stop dive time within the previous 48 hours;
- a 24-hour wait after multiday, unlimited (repetitive) no-stop diving; and
- a 24- to 48-hour wait after dives that required decompression stops.

To simplify these guidelines and make them safer for recreational divers, Divers Alert Network proposed a wait of 24 hours before flying after either single or repetitive no-stop dives. This guideline was revised in 1991 upon consultation with members of the recreational diving community who argued that the available evidence did not justify a 24-hour preflight surface interval for all types of diving. The revised DAN guidelines recommended waiting at least 12 hours after a single no-stop dive and longer than 12 hours after repetitive dives, decompression dives or multiple days of

diving. These are DAN's current guidelines.

The relative uncertainty of the current recommendations led DAN to begin a human study in 1993. Its goal: to provide data upon which to base more objective guidelines. The study is conducted in the hyperbaric chambers of the F.G. Hall Hypo/Hyperbaric Laboratory at Duke University Medical Center. Thus far, seven dive profiles to depths of 40, 60 and 100 fsw / 12, 18 and 30 msw have been tested.

The dive profiles have been single no-stop dives or two and three repetitive no-stop dives — all separated by one-hour surface intervals. Dive times were selected using the Repetitive Dive Planner (RDP) developed by Diving Science and Technology (DSAT). Dive profiles were followed by surface intervals of three to 17 hours, with a four-hour flight at an altitude of 8,000 feet / 2,438 meters, the maximum airline cabin altitude permitted by the Federal Aviation Administration (FAA). The Institutional Review Board of Duke University Medical Center approved the experimental protocol for volunteer recreational divers. The @ were initially supported by a small start-up grant from the PADI Foundation, with subsequent support provided entirely by DAN. Each individual exposure costs about \$525: 102 to 192 individual exposures have been conducted per year.

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Work-in-progress reports have been presented at scientific meetings, but formal publication in reviewed scientific literature awaits completion of planned trials at the end of 1998. Revised flying after diving guidelines will be published separately after initial scientific publication.

The Present

For the study to provide useful results, decompression sickness has to occur, but in sufficient mild form so as not to be a health hazard. By beginning trials of each dive profile A, with a preflight surface interval long enough to ensure the DCS risk was small, DAN Research has been able to achieve mild DCS while avoiding serious problems.

Pre-defined rules specified how much testing was needed before a surface interval could be accepted. After acceptance, the surface interval was then reduced by one hour, and the shorter interval was tested until it was accepted or until sufficient DCS occurred to violate pre-defined rejection rules. Upon rejection, DAN Research halted trials of the dive profile and began tests of a new profile.

Testing of each dive profile required 49 to 109 individual exposures and provided data to estimate how the DCS incidence increased as the preflight surface interval became shorter.

DAN has conducted more than 700 exposures, with 29 DCS incidents. The signs and symptoms were generally mild pain, with occasional local paresthesias (tingling and numbness). The overall DCS incidence was about 4 percent, but long preflight surface intervals had a 0 percent incidence, and short surface intervals had an incidence approaching 15 percent. For single no-stop dives, DCS occurred after preflight surface intervals of 12 hours or less. For repetitive dives, DCS occurred after surface intervals of 16 hours or less.

The Future

How will these results help establish new flying after diving guidelines? Based on data DAN has accumulated thus far, the simplest approach would be:

- To wait for at least 13 hours after a single no-stop dive; and
- To wait for at least 17 hours after repetitive no-stop dives before flying in pressurized commercial aircraft at an altitude not above 8,000 feet.

While this strategy would cover much flying after diving activity, it does not address short, shallow dives, low-altitude air- or mountain travel, or multiday, repetitive diving. We cannot test every possible combination of dives and altitude exposures in the laboratory. To address the problems of short dives and low-altitude exposures, DAN will attempt to develop a decompression model that predicts the DCS incidence based upon data from the current trials. The accuracy of this model will require validation in a future human study.

Flying or mountain travel after multiday diving cannot be tested in the laboratory, however, but will be studied by using dive computers to record the depth-time profiles during actual recreational dives in Project Dive Exploration.

As members of DAN, you have supported the flying after diving trials with your donations and membership dollars, and you have volunteered to get decompression sickness as research subjects. You have made a commitment to DAN, and DAN's commitment to you is the continual improvement of diving safety through research.

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TECH TIPS

Tech Tips is a column for members to share their knowledge, ideas and/or inventions. All submissions welcome.



Neoprene Buyers Guide

by Lea Nichols

Not all neoprene is made the same. This was brought home recently when I realized that a mail order wet suit manufactured in Thailand had collapsed and now had only the thickness of the nylon layers. Rubatex G-231 is an excellent grade, but others may be adequate. The following may help determining the quality of neoprene.

1. Squeeze it. The neoprene should not collapse like so much bread dough. It should resist compression and snap, not ooze back to its original shape.
2. Stretch it. The material should stretch easily, but still snap back. The nylon backing usually stretches more in one direction than another. Preferably it will have more stretch in the diameter of the arms and legs and not in length.
3. Heft it. You get what you pay for. All other things being equal the heavier the material the better. Heavier material will have thicker cell walls that will stand up to repeated compression.

Weather

Current marine weather for New England can be accessed on the world wide web at NWS.FSU.EDU/BUOY/



Club Meetings

Meetings are held the first and third Mondays of each month, January through November. We encourage potential members to attend a meeting or two to experience our club before joining. The meetings are held at the YMCA on 30 Mechanic St. (off of Elm Street) in Manchester. The meetings start at 7:00 PM. Each meeting consists of a short business portion followed by a variety of presentations and discussions. Immediately following the club has an hour of pool time for swimming, trying out gear, and the occasional game of underwater hockey. Members and guests often meet afterwards at a local restaurant for food and drink.

Extreme Weather

Meetings will be held if the YMCA is open. You can call them at 603-623-3558. Check close to the meeting time as the front desk often has no advance warning of early closures.

Membership

Annual dues for membership for 1999 in the United Divers of New Hampshire are \$30/individual or \$45/family. Dues are not prorated for members who join later in the year. To join, please contact Don Eva at 603-672-5608

Get in the Swim

After every meeting, the YMCA pool is open to our dive club for an hour of fun and fitness.

Don't wait for the ice to thaw before trying out that new equipment, the pool is the perfect place. Check out the club calendar for special presentations in the pool like dive knife use or trying out a dry suit. So bring a suit and a towel to every meeting and get into the swim.

United Divers of New Hampshire Contact Information - 1999

President	Mike Griffin	603-673-9250
Vice President	Kerry Hurd	603-672-8325
Treasurer	Gary Thuillier	603-487-3001
Secretary	Karen Marion	603-880-0293
Dive Coordinator	Tom Tremblay	603-625-8459

*Meeting schedule: 7:15-8:15pm - meeting & presentation ,
8:30-9:20- pool time, 9:20-9:30 - Hot Tub!*

Meetings and Events

April 29 Eastern Mountain Sports Club Day Sale.
20% off everything in the store for members of outdoor clubs. Contact Don Eva @603-672-5608 if you need a membership card.

May 1 Boat Dive dive the Chester Poling in Gloucester. Meet at Cape Anne Divers @ 12 PM. Intested divers must make reservations in advance with Cape Anne Divers. Contact Mike Griffin @603-673-9250 for details.

May 3 Meeting Cliff Simoneau will tell us about exciting new diving technology.

May 8 - White Island Work Day - Contact Don Stevens @ Atlantic Aquasport

May 16 Bay State Council of Divers Treasure Hunt @ Stage Fort Park, Cape Ann, MA.

May 17 Meeting

May 19 Hyperbaric Chamber Tour - Catholic Medical Center @ 6:30 PM Contact Tom Tremblay for details

May 22 Whale Watch. Contact Jean Stefanik @603-647-1063 for details.

June 7 Meeting Paul Young & Charlot Richarson will presnt a multi-image slide show about divin in Borneo

June 12 Boat Dive on the Pinthis (Scituate, MA). Contact Lea Nichols @ 603-487-2726.

June 21 Meeting

July 10 Great American Fish Count. Nubble Light, York, ME.

July 16-18 Hermit Island Camping/Diving/Kayaking/Canoeing/Biking/Windsurfing/Carousing Weekend. Contact Tom Tremblay (603-625-8459) for details. (For carousing info, contact Alice Mann)

July 31 New England Aquarium Dive Club Annual Picnic. Fort Getty, Newport, RI

August 21 Annual Jay Lewis Picnic. Great Island Common, Newcastle, NH

August 27-30 Les Escoumins, Quebec trip with New England Aquarium Dive Club.

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Viking Sport Dry Suit Size 02

Orca Edge dive computer

Both suits little used and in good condition with under garments, \$450 ea. Contact Lea Nichols @ 603 487-2726

Dive Computer: Orca Marathon- excellent condition w/ new battery. \$100. Contact Mike Griffin @ 603-673-9250.

TIDES

The following abbreviated tide tables are for High Tides only based on Portsmouth Harbor. This guide is a quick reference only and should not be used for dives requiring exact times for slack tide. My detailed information is available at maineharbors.com

Sat May 1 - 1:09 PM	Sat June 5 - 4:39 PM
Sun May 2 - 1:44 PM	Sun June 6 - 4:46 AM
Sat May 8 - 6:01 PM	Sat June 12 - 10:43 AM
Sun May 9 - 6:56 PM	Sun June 13 - 11:39 AM
Sat May 15 - 11:56 AM	Sat June 19 - 5:15 PM
Sun May 16 - 12:11 PM	Sun June 20 - 6:12 PM
Sat May 22 - 6:45 PM	Sat June 26 - 11:00 AM
Sun May 23 - 7:46 PM	Sun June 27 - 11:41 AM
Sat May 29 - 12:46 PM	
Sun May 30 - 1:21 PM	

DIVE LOG

United Divers of New Hampshire
P.O. Box 4176
Manchester, NH 03108-4176

Forward and Address Correction Requested

DIVE LOG

Dive Log is the semi-monthly newsletter of the United Divers of New Hampshire, an organization dedicated to educating divers and expanding the knowledge of diving in the State of New Hampshire and New England.

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- Flying after diving

