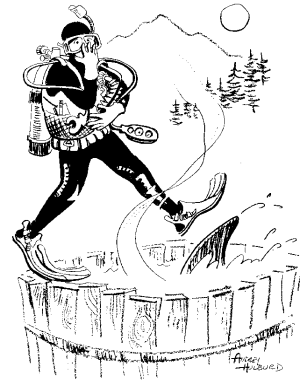


# MARIN SCUBA CLUB NEWSLETTER

Volume 18 Number 2 February, 2010



## Jellyfish's Revenge

A 10-ton fishing boat has been sunk by gigantic jellyfish off eastern Japan, according to the London Telegraph. The trawler capsized as its three-man crew was trying to haul in a net containing dozens of huge Nomura's jellyfish. The crew of the fishing boat was thrown into the sea when the vessel capsized, but the men were rescued by another trawler.

Each of the jellyfish can weigh up to 200 kg and waters around Japan have been inundated with the creatures this year. Experts believe weather and water conditions in the breeding grounds, off the coast of China, have been ideal for the jellyfish in recent months.

One of the largest jellyfish in the world, the species can grow up to 2 meters in diameter. The last time Japan was invaded on a similar scale, in the summer of 2005, the jellyfish damaged nets, rendered fish inedible with their toxic stings and even caused injuries to fishermen.

Experts believe that one contributing factor to the jellyfish becoming more frequent visitors to Japanese waters may be a decline in the number of predators, which include sea turtles and certain species of fish.



## How Diving Animals Hold Their Breath

[From a blog by Marine Biologist Daniele Zanoni]

The need to breathe is felt when the carbon dioxide (CO<sub>2</sub>) level rises above a certain threshold. CO<sub>2</sub> dissolves in the blood causing its pH to decrease, which makes the blood slightly more acidic. Sensors in the brain "tell" an animal that it is time to breathe again.

In most animals the O<sub>2</sub> reserve is solely in the lungs and the blood. Once this reserve is depleted, the animals need to exhale CO<sub>2</sub> and inhale new O<sub>2</sub>. Diving animals have the advantage of an additional mechanism which relies on a protein called myoglobin, located inside muscle cells. In humans it makes up a very small percentage of the muscle mass. This percentage goes up to 45% of the muscle mass in sperm whales, which can hold their breath for up to two hours.

How does it work? Simply, the blood carries O<sub>2</sub> to the tissues and the extra oxygen that is not used "immediately" is stored in the myoglobin. Once the animal is under water and can no longer breathe and the O<sub>2</sub> stock of the blood is depleted, the myoglobin then releases its O<sub>2</sub> into the blood that will carry it around where it is needed. At the same time the

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## Fish Ears and Shrimp Songs 2/17

Michael Stocker, executive director of Ocean Conservation Research, is an acoustician and naturalist by trade and a musician by avocation. At our February 17 meeting, he will discuss how we can understand the scope of, and explore solutions to, the growing problem of human generated noise pollution and its impact on marine animals.

The Flatiron is resuming its Wednesday trivia nights in February, and a full house is expected in the main dining room. MSC members who want to eat dinner before our 7:30 meeting should gather in the back room, which will be reserved just for us.

### Please Renew Your Membership

It's time to pay your annual dues. To renew, please fill out the enclosed membership application and liability waiver, and return them with your check (\$42 for individuals, \$66 for couples at the same address). Even for renewals we still need a fresh signed, dated and witnessed application and waiver. Couples should photocopy the 2-sided liability waiver and fill it out individually -- non-divers, too!

Bring everything to the February meeting, or mail it to the address on page 4. Don't wait -- you must have a current completed waiver on file to participate in Club activities.

## **Scuba Diving Safety: Part II**

by Michael Mohawk

Always dive within the limits of your experience and level of training. Good rules to follow for safe diving include:

1. Never try a dive you're not comfortable with. During descent, you should gently equalize your ears and mask. At depth, never dive outside the parameters of the dive tables or your dive computer (information that helps you avoid decompression sickness).

2. Never hold your breath while ascending. You should always ascend slowly while breathing normally.

3. Become familiar with the underwater area and its dangers. Learn which fish, coral and other hazards to avoid so injuries do not occur. Be aware of local tides and currents.

4. Never panic under water. If you become confused or afraid during a dive, stop, try to relax and think the problem through. You can also get help from your dive buddy or dive master.

5. Never dive without a buddy.

6. Always plan your dive; then always dive your plan.

7. Be sure that your equipment can handle the dive you have planned and that the equipment is working well.

8. Don't drink alcohol before diving.

9. Never dive while taking medicine unless your doctor tells you it's safe.

10. Ask your doctor how diving may affect any existing medical conditions.

11. Cave and wreck diving should only be attempted by divers with proper training and equipment.

12. If you don't feel good or if you are in pain after diving, go to the nearest emergency room immediately.

13. Don't fly for 12 hours after a no-decompression dive, even in a pressurized airplane. If your dive required decompression stops, don't fly for at least 24 hours.

If you or one of your dive buddies has an accident while diving, call the Divers Alert Network (DAN) emergency telephone line (919-684-8111). DAN is located at Duke University Medical Center in Durham, N.C. Doctors, emergency medical technicians and nurses are available 24 hours a day to answer your questions. If needed, they will direct you to the nearest hyperbaric chamber or other appropriate medical facility. To discuss a potential diving-related health problem, contact the non-emergency Divers Alert Network telephone line (800-446-2671).

### **Long Beach SCUBA Show 5/15-16**

America's largest consumer dive expo takes place May 15-16 at the Long Beach Convention Center. Exhibits include dive gear, travel pros (many offering show discounts), and diving experts. Several exhibitors offer free prize drawings.

A film festival running continuously on a three-story screen will feature images from around the world by over a dozen underwater experts. The festival is also open to non-professional and semi-professional underwater camera operators, including video and digital still presentations set to music or narration. Entries accepted for screening will be paid an honorarium. Deadline for DVD submission is March 5.

The Club will have discount coupons for admission to the show at future meetings. For more information, call (310) 792-2333 or visit [www.scubashow.com](http://www.scubashow.com).

### **Three For One**

At our February meeting, we were treated to presentations by two current and one former club member. Thanks to John Lewis for his images from the Sea of Cortez, to Ric Miller for his shots off Northern California, and to Kerwin Louis for his video of the Kona manta night dive . . . and his first sky dive!

### **Diving Animals**

*continued from page 1*

myoglobin will "catch" the excess CO<sub>2</sub> in the blood, restoring it to a level that does not trigger the need to breathe. When the animal returns to the surface to breathe air, the myoglobin releases all of its stored CO<sub>2</sub> and replaces it with fresh O<sub>2</sub>. The

amount of myoglobin in the muscles determines the time the animal can spend underwater.

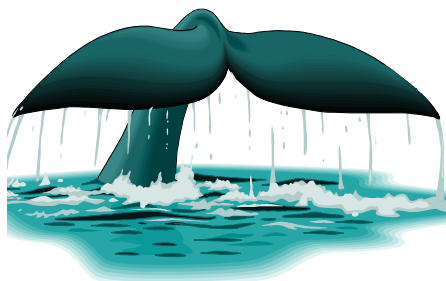
The more the animal wants to stay under water, the longer the period it has to stay at the surface for the gas exchanges to take place. A dolphin needs to breathe a few times (about two to four minutes) to stay submerged 20 to 30 minutes. A sperm whale will

breathe 4 or 5 times per minute for up to 15 minutes at the surface to stay underwater for two hours. Sea birds normally dive for 3 to 10 minutes and need to breathe for about 2 to 3 minutes before diving.

### **We Need Your Help**

The Board needs a Membership Coordinator to help greet guests, follow up on membership renewal campaigns, and explore new strategies to attract and retain members.

If you can take on this task, please contact any Board member listed on page 4 of this newsletter.



# BOTTOM TIMES

**Feb. 17 (Wed.):** Board Meeting, 6:00, *Club Meeting*, 7:30. Michael Stocker, executive director of Ocean Conservation Research: "Fish Ears and Shrimp Songs" (bio-acoustics). Call Jeffrey (415- 898-7752).

**March 3 (Wed.):** *Newsletter deadline.* See below.

**Mar. 13 (Sat.):** *Cypress Sea boat dive* (3 Dives), Monterey. Call Pierre at SF Reef Divers (415-285-6293).

**Mar. 17 (Wed., St. Patrick's Day):** Board Meeting, 6:00, *Club Meeting*, 7:30. Virginia Bria, Bella Sirena Images, presents "Dominica, Fiji and Beyond." Call Jeffrey (415- 898-7752).

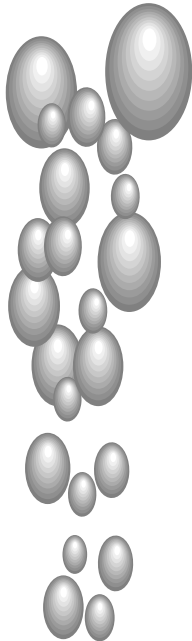
**April 10 (Sat.):** *Cypress Sea boat dive* (3 Dives), Monterey. Call Pierre at SF Reef Divers (415-285-6293).

**Apr. 21 (Wed.):** Board Meeting, 6:00, *Club Meeting*, 7:30. Program TBA . Call Jeffrey (415- 898-7752).

**May 8 (Sat.):** *Cypress Sea boat dive* (3 Dives), Monterey. Call Pierre at SF Reef Divers (415-285-6293).

**May 15-16 (Sat.-Sun.):** *SCUBA Show and film festival*, Long Beach Convention Center. See article on page 2.

**June 10-12 (Thurs.-Sun.):** *Spring Dive & Dine*, group campsite, Russian Gulch State Park, Mendocino. Call Jane (415-332-6196).



**We need articles, recipes, short notes, pictures, SCUBA funnies or whatever for future newsletters and for our website.**

Website: E-mail photos with a caption and/or article and photo credits to John Brenneis (webmeister@marinscuba.org). If you do not have access to a scanner, mail photos along with captions and photo credits with a self-addressed stamped envelope if you want the photos back. Ric's address is 1 Issaquah Dock, Sausalito, CA 94965.

Newsletter: Deadline is usually the first Wednesday of the month - two weeks before the meeting.

Send materials for future articles in one of the following ways. Note that these are listed in priority order.

1. E-mail text to Larry at [click@dipsymusic.com](mailto:click@dipsymusic.com). It's best to just send the material in the body of the e-mail and not as an attachment.
2. Send a CD to the address below. MS Word - PC format is preferred, otherwise include a note as to what the format is.
3. Fax typed manuscripts to 415-339-1361.

**Pictures and Graphics** - E-mail JPEG files to [click@dipsymusic.com](mailto:click@dipsymusic.com) or mail CDs or hard copy to Larry Clinton, 29 Gate 6-1/2, Sausalito, CA 94965.

**Marin Scuba Club**  
78 Edward Ave.  
San Rafael, CA 94903



*Next Meeting*

**Wed., February 17**

**Program:**

**Michael Stocker**

**Ocean Conservation Research  
"Fish Ears and Shrimp Songs"  
(bio- acoustics)**

**Happy Hour 6:00-7:00**

**Socializing: 7:00**

**Meeting: 7:30-9:15**

**The Flatiron, 724 B St,  
San Rafael**

**MARIN SCUBA  
CLUB  
NEWSLETTER**

The Club meets the  
3<sup>rd</sup> Wednesday of each month  
(except Oct. & December, 2009)

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**Board of Directors**  
*www.marinscuba.org*

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