

# Paradise Dive Club

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## President's Log

### *Dive Safety*

Michael Ring  
President

By now you have all heard that the diving community lost one of its newest members: John Koenig, who came to join us at the March meeting, drowned while on his 14<sup>th</sup> dive of his new hobby this month. Our sympathies go out to his family and friends.

While we may never know what caused this tragedy, we all must take a moment to remember that the sport we all love is dangerous. Even when done correctly, things can happen that may dramatically affect the outcome. With that in mind, I feel it is time, once again, to revisit the issues of dive safety and fitness to dive.

What is "dive safety?" It is not simply keeping track of your air pressure and depth. It is not just knowing where your buddy is when in the water. Dive safety is a state of mind and readiness that pervades the diving experience. It includes checking that your equipment is functioning properly. It includes knowing how to use your equipment, including, especially, the things that will keep you alive. Your regulator; your BC; your sausage buoy, etc.

It means staying current on your dive times, your certifications. Techniques that you learned in your classes. It means paying attention to the weather and conditions of the

dive site. Knowing where you are in the water. Knowing where the boat is so that you do not get lost or surface too far from the boat.

Dive safety includes paying attention to currents and temperatures that might affect you in the water. It means knowing when it is just too damn cold to go in with the exposure suit that you own. Or not eating that extra hamburger before jumping in for the early afternoon dive. Knowing your limits, both on time and ability. Remember, fatigue happens.

"Fitness to dive" includes not just being able to swim 1500 yards, or tread water for 20 minutes in a pool. It means keeping yourself in good physical and mental condition so that you can handle the stresses that might occur while under the water. Or even while on the boat. It means recognizing the signs that you just might not be up for diving today, even though you have already spent lots of money to get to where you are, and you really, really feel the need to get into the water. There are just times where some relatively minor issue could become a major problem when you are not paying enough attention to what your body is telling you in some not so subtle way.

One of the best tools that you as a diver have is learning to pay attention to yourself. Physically and mentally. Do not ignore the symptoms. You cannot afford to realize when you are 100 feet down that your sinuses just don't feel right, or that the ache in your gut is not just a little heartburn.

We have all done it. Casually passed off as a mere annoyance some physical sign that was telling us something was wrong. Most of us have gotten away with it, and come back to shore with no real problem. Will that always be the case? Are you willing to subject yourself, and your family, to the negative outcome that might be avoided either by simple passing on a given dive?

We as a Club, and for that matter as people who enjoy our sport actively, have a responsibility to make sure that we keep not only ourselves, but our fellow divers safe. While we all should know how to do it, do you want to be the one who has to remember critical steps to rescue or resuscitate a fellow diver who has suffered a lapse of consciousness down in the depths? You do not want to be the one who has to come back to shore and tell a family what happened. It is incumbent on all of us to take steps to insure that we are ready to be out there. That we are fit to dive, and that we dive safely. ■

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## Free Diving

by John Kushwara

I once described the contrast between SCUBA diving and free diving as; SCUBA diving is diving into the water, free diving is diving into yourself. Breathing is the most basic of our primal urges. It is the most critical of our life sustaining functions. Breathing is considered an autonomic function. It is a reflex.

Free diving asks that you choose to leave the terrestrial world with life sustaining oxygen, for the aquatic world, returning to our roots. There is actually a physiological response in mammals when immersed in water that shifts us in to oxygen saving mode including bradycardia (reduction in heart rate), peripheral vasoconstriction (restriction of blood to the extremities, saving oxygen for vital organs and brain), and a shifting of blood to the thoracic cavity (chest). This complex of physiological changes is known as the "Mammalian Reflex". The reasons for this are complex and are under study. Like breathing this is a reflex.

Whether you choose to believe this is a remnant of our ancestors who migrated from the seas, or a survival tool we have developed over the eons, it helps us survive. It also opens up the doors of the underwater world, without the encumbrances of having to bring our terrestrial world with us. With free diving we venture into the mysteries of the aquatic world and ourselves.

There are a wide variety of exercises, which involve free diving as its core. My initial reason for free diving was to collect abalone in Northern California. During many of my abalone trips, I found that harbor seals were very prevalent, as compared to times when I was SCUBA diving in the same area. This was always a treat, but I didn't think much about it. As I did more free diving, my experiences with sea mammals were much more prevalent than with SCUBA. I believe that harbor seals and sea lions were seeking me out. The practice of free diving has subsequently led me into many other encounters with aquatic mammals that I believe I would have never had, had I not practiced free diving. The interactions are much more as a participant than as an observer.

I can say that most of my very memorable diving experiences have come while free diving. I relate this to several factors associated with free diving. First, I find that I cover much more territory while free diving. Second, while SCUBA diving, my focus is generally looking at the bottom, or focusing on a specific subject, while free diving my focus is much broader, taking in the entire visible environment. Third, I find while free diving, I dive on the edge of reefs, and drop-offs, exploring the entire water column. With SCUBA I am typically on the reef, and I can only change depths slowly. I spend more time while free diving looking into the blue water, and therefore I see more mammals, and pelagic fish.

There is another factor that I relate to having more interaction with mammals, and pelagic fish. Sea Lions will blow bubbles

as an aggressive, territorial display. Various whales will use bubbles while hunting. In the ocean you are the hunter, or the hunted. From my observations bubbles alert, and lead many sea creatures to be defensive. The rebreather, and free diving removes one of the detriments of SCUBA, the noise, and the disturbance the bubbles create.

The area where free diving exceeds the performance of the rebreather is in the freedom of movement in the water. With free diving, a diver exhibits the same traits as any other sea mammal, whales, porpoises, or harbor seals, all of them have to breathe, submerge, and then return to the surface for air. I believe that in many cases this leads to an affinity toward the diver. With free diving, I can dive as fast as my ears will let me, do the dolphin kick laterally, and then rocket to the surface, all while being chased or led by a fur seal. I have spent a couple of hours free diving, the entire time having harbor seals at my side. I have dived down while spinner dolphin pass through, to find I have been incorporated in their pod, feeling their clicks deep in my chest, and later memories in my mind.

These are only the outward rewards. I find that free diving is a combination of yoga, and meditation, in a weightless medium, combined with the opportunity to see things very few people on this earth can even imagine seeing, and experiencing. Practiced breathing, relaxation, slowing heart rate, and then a dive only to be surrounded by a hundred or more yellowtail jacks, a school of barracuda, a kelp forest or a playful sea lion, to me it borders on the spiritual.

Free diving gives the diver the opportunity to experience the aquatic environment in a very different way than does SCUBA, or even a rebreather. There are some animals and fishes you will probably never have an interaction with unless you do free dive.

Free diving can include almost everyone who is healthy, and who can easily clear their ears (there is an earplug now on the market which reportedly helps protect the ears from rapid pressure changes while being safe for diving). There are many rewards even by floating quietly on the surface.

Fish in the open water look for structure for protection from predators, for food, and for shade. A floating mass provides all three. I have observed this behavior of bait fish in the temperate waters of the Pacific off of Baja Ca. coast as well as the colder water of northern California. Fishermen, aware of this phenomena are always on the lookout for weed lines, flotsam and jetsam, as many times the floating material sets up the entire food chain, from small fish at the bottom, to pelagic fish at the top. Laying on the surface, and being part of this is in itself one of the rewards of free diving.

I have watched millions of baitfish as they milled around, some using me as they would use a floating patch of seaweed. I intimately observed the franticness of life, as one moment life is peaceful and easy, the next moment a predator enters the area, and the mass of life moves back into the protection of the reef, only to return to peacefully feeding on plankton,

and tiny shrimp, that moved to the whim of the currents.

There are sport divers who dive to a hundred feet, for two, three, and four minutes at a time. For those who want to test the limits of what is humanly possible there are a variety of breathhold disciplines that can lead to diving to depths of 610 feet for men, 600 feet for women, and breathhold times of almost nine minutes.

The skill enriches the diver experience no matter what level one wishes to achieve. Whether we are spearing a fish for dinner, or getting a close up photo op with a wary sea creature, free diving enhances the experience, and in many cases it is the only way the encounter can occur. Al Giddings (underwater videographer & photographer), Amos Nachom (photographer and guide) and Carlos Eyles (underwater photographer and author) speaks of free diving as being the only way to effectively interact with some animals, such as blue, humpback, sperm whales, and orcas.

Many of us actually embarked on our diving avocation by free diving or snorkeling. We then moved on to SCUBA and sought out training. I free dived for years without any formal training. Ignorance, as they say is bliss. Free diving becomes an extreme sport as we leave the surface. The deeper we go and the longer we stay under, the more the extreme. This means there is a need for formal training, for safety sake, as well as an enhancement of the experience.

Entanglement with SCUBA is an annoyance; with free diving it is life threatening, it is best to avoid it and you had better be prepared to get yourself free.

Shallow water blackout is a life threatening phenomena caused by the brain being starved of oxygen. This is typically associated with hyperventilating, which purges the body of carbon dioxide, but it does not significantly affect the amount of oxygen in the system. A build up of carbon dioxide is what triggers the breathing reflex. As one dives to depth, the lungs compress, maintaining the partial pressure of oxygen in the blood. If the carbon dioxide is purged, and the urge to breathe is suppressed, one can draw down the oxygen in the blood to a point that one loses consciousness as one returns to the surface. This is related to Boyles law in that as we surface, our lungs expand. As they expand they actually draw oxygen from the blood, and if we have overstayed our oxygen load, we pass out due to lack of oxygen to the brain. This usually occurs in the last few feet before we reach the surface, thus "shallow water blackout".

DCS can be a risk. In my last live aboard trip we were prohibited from free diving after SCUBA diving. This was the first time this limitation has been enforced or even spoke of in a formal manner. I have not seen any studies on this, but it makes sense that if rapid ascents on SCUBA can lead to DCS, the rapid ascents associated with free diving, with residual nitrogen in the system could be a hazard. Advanced free divers who dive for hours at a time, diving to fifty, or more feet, for several minutes at a time with surface intervals of a

minute or less, can build up nitrogen to the point they could be in danger of DCS from free diving alone. This is not the level the typical person achieves.

Aside from safety, training enhances the experience. I had dived for years thinking that thirty feet was a rare dive that occurred only on my best days. With techniques taught over a few evenings in a pool, and an open water final, I was diving to forty feet easily, and repeatedly. Forty feet was achieved by everyone in the class, including divers who had only done dives of fifteen feet as their best.

A sampling of links follows.

Links: free diving photography and big animals

[http://www.carloseyles.com/freedive\\_photo.html](http://www.carloseyles.com/freedive_photo.html)

<http://www.whalesfilm.com/hawaii.htm>

<http://www.freedive.net/freedive/chapters/photo.html>

<http://www.biganimals.com/orca.html>

<http://www.freedive.net/freediving/freediving.htm>

Links Physiology and Training:

[http://www.oar.noaa.gov/spotlite/archive/spot\\_diving.html](http://www.oar.noaa.gov/spotlite/archive/spot_diving.html)

<http://www.iantd.com/>

<http://www.iantd.com/FreeDiving/index.html>

<http://www.wfdma.com/>

<http://www.performancefreediving.com/>

<http://www.diveglobal.com/special/free.asp>

<http://www.popsci.com/popsci/science/19280b4511b84010vgnvcml000004eeebccdrerd.html>

<http://www.deeperblue.net/courses/sett/>

<http://www.carloseyles.com/index.html>

Links Associations:

<http://www.underwater-society.org/usoahome.html>

<http://www.freedivecanada.com/cgi-bin/welcome.pl>

<http://www.britishfreediving.org/>

<http://www.holdyourbreath.ca/>

Links General resource:

<http://www.deeperblue.net/cats.php/2>

Spearfishing:

<http://www.freedive.net/ibsrc/>

<http://www.freediver.net/iusa/home.php>

## CALENDAR OF EVENTS

### MONTHLY MEETING

WHEN & WHERE: TUESDAY MAY 26<sup>TH</sup>, 6:30 AT PETRINI'S

### BOARD MEETING

WHERE: AT JIM AXTELL'S

### MONTHLY DECOMPRESSION STOP

WHEN & WHERE: FRIDAY MAY 15, 6:00 AT ENDLESS SUMMER CAFÉ

### SCUBA SHOW 2009

PLACE: LONG BEACH CONVENTION CENTER, LONG BEACH, CA

TIME: MAY 30-31, 2009

THIS IS THE 22<sup>ND</sup> YEAR OF THIS POPULAR EVENT.

# PDC Thursday Night Dives!

To find out where the group will be diving, or to be added to the night dive e-mail list, sign up at [http://groups.yahoo.com/group/PDC\\_midweek\\_dive](http://groups.yahoo.com/group/PDC_midweek_dive), or send e-mail to [PDC\\_midweek\\_dive-subscribe@yahoogroups.com](mailto:PDC_midweek_dive-subscribe@yahoogroups.com)

## Membership

\$25/year for individuals, \$40 for families. Membership runs May-April and includes a monthly newsletter, free air-fills, and other benefits. For details or to join, contact Noah Philips at:  
[membership@paradisediveclub.org](mailto:membership@paradisediveclub.org).

## Newsletter

Send newsletter items to Stuart Ponder at:  
[webmaster@paradisediveclub.org](mailto:webmaster@paradisediveclub.org)

## Website

[www.paradisediveclub.org](http://www.paradisediveclub.org)

## Join the Coolest Club in Town!

1. Monthly meetings with entertainment.
2. Raffle prizes (we all need new dive stuff)
3. Great dive buddy pool
4. Beach and boat dives, AND weekly night dives
5. Club BBQs, and other activities
6. Free air-fills and gear discounts at local dive shops
7. Right to proudly wear the official PDC T-Shirt (nobody has a logo as cool as ours).

## Dive Club Officers

President	Michael Ring	<a href="mailto:info@paradisediveclub.org">info@paradisediveclub.org</a>
Vice President	Geof McFarland	
Treasurer	Mark Silva	
Secretary	Akiles Ceron	
Membership	Noah Philips	<a href="mailto:membership@paradisediveclub.org">membership@paradisediveclub.org</a>
Newsletter	Stuart Ponder	<a href="mailto:webmaster@paradisediveclub.org">webmaster@paradisediveclub.org</a>
Circulation	Jim Axtell	
Entertainment	Steve Trainoff	



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### Sponsors!

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Goleta, Ca 93117  
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#### Blue Water Hunter

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Santa Barbara, Ca 93109  
805!564!6677

#### Truth Aquatics

301 W. Cabrillo Blvd.  
Santa Barbara, CA 93101  
805!962!1127

#### Anacapa Dive Center

22 Anacapa St  
Santa Barbara, CA 93101  
805!963!8917

*Many thanks to our sponsors for their generosity including air!fill donations and gear discounts!*

## Meeting Place

The May 26th meeting will take place at  
Petrini's Restaurant in Santa Barbara.  
14 West Calle Laureles.

Feeding frenzy at 6:30pm, meeting at 7pm