



KELP KRAWLERS DIVE CLUB

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How fast is slow enough?

By Jerry Ehrlich

No stop required diving is the vast majority of all of our diving. We all can agree that this term means **diving within the depth/time limits** to avoid mandatory decompression stops beyond a controlled ascent and safety stop. We can also agree that **all diving beyond free diving is really a form of decompression diving**. Most recreational dives only require reasonable ascent rates and safety stops, but all of it involves the addition of inert gas to our bodies and some sort of decompression scheme to safely remove it.

Given current research, the term **no stop diving could perhaps be replaced by the term Minimum Decompression Diving**. This may seem like hair splitting, but a basic change in the way we do ascents deserves a different terminology to separate it from past methodologies.

One of the most important parts of any dive is the ascent. During this critical period, gas is expanding inside a diver's body. Diving research indicates that a slow ascent rate, with a series of safety stops, can reduce a diver's risk for decompression illness.

During a dive, a diver's body becomes loaded with pressurized gases. During a gradual ascent, gas is carried to the lungs by the blood and off gassing occurs naturally via the lungs and expired breath. **A diver's ascent rate must be slow enough to allow time for this gas transfer to occur.**

During a rapid ascent, pressure on the gas is reduced too quickly and bubbles can become large enough they cannot be filtered by the lungs. We can help avoid this problem by slowing our ascents.

Minimum Decompression Diving applies to all dives until the minimum decompression threshold (No Decompression Limit) is reached, beyond that, longer stops are required and a direct ascent to the surface without them will have an increased risk of decompression sickness. A direct ascent to the surface in emergency situations is still a viable option for Minimum Decompression dives.

Minimum Decompression Diving works like this: **Maximum ascent rate of 30 feet per minute for the deeper part of the dive is the top speed limit. The shallower part of the dive should be even slower. One minute stops at 30 feet-20 feet-10 feet and then a slow ascent to the surface is the procedure for dives 60 feet or less. Dives in the 70 - 100 foot range should add an additional minute stop at 40 feet.** These are minimums and time spent longer at these depths just means more fun diving :o)

Sources for this article:

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New Year's Day Dive & BBQ

We had a great turn-out for the **New Year's Day Dive & BBQ**. Ron Ault of Hoodsporn-n-Dive. A big **THANK YOU** to Ron.

Divers included: **Jerry Ehrlich, Mike Beyer, Greg Volkhardt, Noel Ostrander, Katie Morgan, Jamie Welsh, Scott Boyd, Alan Niles, Jeff Evans, Bob & Joel Richart, Ingrid, and Tasha Geiger.** Shore support and food eaters included: **Karen Beyer, Janet Boyd, Cale Niles, Wayne Campbell, Sue & Bob Treinen, and Becky Lundin.**

Calendar of Events

January 20th: Club meeting. Speakers: **Leon P. Scamahorn & Scott Koplín**

January 31st: Club Dive - **Edmunds U/W Park**

February 17th: Club meeting.

March 16th: Club meeting.

April 20th: Club meeting.

May 18th: Club meeting.

June 15th: Club meeting.

July 20th: Club meeting.

August 17th: Club meeting.

September 21st: Club meeting.

October 19th: Club meeting.

November 16th: Club meeting.

December ?: Christmas Party

January 31 Club Dive - Edmunds U/W Park

I know its been cold, but does the **prospect of seeing a 75 lb lingcod get your blood racing? How about scads of 20 lb rockfish?** Well here is your chance!

The **Kelp Krawlers** will hold their **February dive on Saturday January 31 at the Edmonds Underwater Park**. The parking lot fills up quickly and space is limited, so we will need to car-pool and leave early. We will meet at the **Hawks Prairie Park n Ride at 5:45 am and leave at 6:00** in order to get to the dive site by **7:30am**. This should guarantee us parking spaces next to the beach and change area. There is only a 1.8 -ft exchange during the morning, so we should be able to get a couple of great dives in.

The park was established in 1970 as a marine preserve and the protection has enabled the resident fish to get really **LAAARRRRGE!!! Bruce Higgins** and his cadre of volunteers have filled the park with lots of boats, culverts, and other structures to provide fish habitat over the 27-acre site (**see the map in the Yahoo Groups KelpKrawler Files section**). The 300-ft long **DeLion Drydock** has been in place since 1935, so the life found here is quite abundant. Large boats such as the **94-ft Alitak** have also been in place for quite awhile. **Max depth at the park is only 40-ft or so**. Nevertheless, there is reportedly more structure than can be explored in 10 dives. For more information on the site, go to http://www.ci.edmonds.wa.us/Discovery_Programs%20Website/Underwater_Park.html . This web site also has a link to a sidescan sonar image of the underwater park.

The park regulations are simple:

All divers and snorkelers must dive with a buddy.

All divers must be certified or in training.

All divers must wear buoyancy compensators.

No fish or marine organisms may be removed from the park.

No night diving without a permit. (Permits issued at the Parks and Recreation Office.)

No boats allowed inside the park.

Divers should bring their gear and at least one or two tanks. Wouldn't hurt to have your c-card just in case. The club will provide lunch and refreshments. **Please contact Greg Volkhardt by email at g.volk@ix.netcom.com or by telephone at 866-0702 to reserve your spot.**

Editor's note: We will be keeping track of everyone who participates in club dives throughout the year, and at the end of the year, 2 names will be drawn to receive prizes that are yet to be determined, but maybe a Bandito's boat dive trip, or merchandise from a dive shop. The more often you attend, the more often your name gets put in the hat. :)

January Meeting Presentation:

Leon P. Scamahorn is a former 12 1/2 year veteran of the **U.S. Army Special Forces**. He's highly trained in **maritime special operations**. Leon has been training various foreign services in tactical diving and marine raid operations. He has extensive experience in training of various **Special Operation Groups** such as: **Navy Seals, Marine Force Recon, and Air Force Special Tactic Squadron**. He is known as one of the **U.S. Army's most diversified experts on diving and small boat operations**. Furthermore, he holds **Instructor** ratings in **TDI, NAUI, NACDS, PSI and DAN**.

Leon's company, **Innerspace Systems**, produces one of the finest **closed circuit rebreathers** on the planet, perhaps, **THE best**. This is a rare opportunity to hear about this technology from the designer and manufacturers of this technology.

Scott Koplín has designed and manufactured equipment for every **major technical diving manufacturer**. **His skill as CAD designer and CAM machinist is legendary**. He is one of the **pioneers of normoxic helium use**.

We are fortunate to have both of these gentleman for our January presentation.

Pics of New Year's Day Dive:



Feather star (*Florometra serratissima*)

by Scott Boyd

The **Feather Star**, is a delicate, 10 armed **Crinoid** with slender, feather-like arms that wave in moderate currents looking for plankton to eat. They utilize root-like cirri at their base to grasp firmly to hard substrates. While feeding, the arms are alternately curled slowly inward to bring plankton to the mouth. This is mesmerizing to watch, and is similar to the movement used by the feather star to swim through the water. **Relatively common in Puget Sound waters**, the arms of the feather star grow to about 10". They **range from Alaska to Baja California** at depths ranging from shallow to 3300 ft.

Surveys taken off **Vancouver Island** suggest that as many as 80% of feather stars had one or more regenerating arms due to predation by **Decorator Crabs and Sunflower Stars**. Fortunately, they are able to regenerate arms rather quickly given adequate supplies of plankton (mostly larva). Scattered individuals are very common among the **hydroids and bryozoa** that cover rocks, especially on vertical and undercut faces. The photo shows my favorite location for observing large clusters of **Feather Stars, on the bridge of the HMCS Saskatchewan near Nanaimo, B.C.**



Crinoids are echinoderms, relatives of the sea urchin, starfish and brittlestar, which all have five-fold symmetry and a skeleton of calcite plates. **Feather stars** are often confused with **brittle stars**,

which also lift their arms into the water to feed. However, brittle stars have only five arms, not ten.

Feather Stars reproduce in the spring and early summer. Free floating eggs hatch into larvae which swim for one or two days until they find a site to attach to. There, each grows into a tiny stalked **crinoid**, a miniature version of the fossil and deep-sea species. Finally they develop cirri at the base and break free of the stem, which is left to die while the little **Feather Star** begins its adult life.

Dive Report from Canadian Visitor Neil Lake

During the weekend of **29/30 Nov. 03** several members of the **Victoria SCUBA Club** visited the **Hood Canal in Washington State** for a weekend of diving. Those that made the journey south were **Mike Kalina, Sandie Hankewich, Neil Lake, and Craig Gibson**. The trip was organized and coordinated by **Mike Kalina** through the local dive store; **Hoodsport-N-Dive** in

Hoodsport, WA. We all traveled down to **Hoodsport** Friday afternoon on the 4 pm ferry to **Port Angeles**. Saturday morning we met with a number of the local divers who are also frequent visitors to **Victoria**.

Dive # 1: North Wall: During our dive we saw a single **Octopus**, 3 dens that had the remains of **Octopus eggs**, and an abundance of **Painted Greenlings, Quillback Rockfish, Striped and Kelp Perch, Black Eyed Gobys, and Northern Ronquils**. The deepest part of the dive was a visit to the **Sea Whips** which start at about 65 fsw and grow in literal forests. The last part of the dive was a visit to the **"Fish Bowl"**, a pile of rock in about 35 fsw which is home to large schools of **Rockfish and Perch**.

Dive #2: Sund Rock: After descending to the bottom we headed diagonally down the slope and into another grove of **Sea Whips**. On ascending from the **Sea Whips** we encountered a medium size **Octopus** out in the open. We spent about 5 minutes with the **Octopus** as it held its ground and we did not want to stress it. At 45 fsw we were at the base of a small wall/rock formation. **Mike Kalina** who has been here a number of times started signaling that I should have a look, to my great pleasure he was showing me **Wolf Eels**. In total we found 3 pairs, one of which had eggs, and 3 other single adult males.

Dive # 3: Sund Rock night dive: Of all our dives, this is the most memorable. After we'd been to the **Sea Whips** we headed back up and found our friend the **Octopus** again. **We actually got to witness it catching shrimps and prawns**. This was amazing. For the smaller shrimp it used the tops of its arms to capture them and then they were immediately tucked under the mantle. For the larger prawns it actually pumps water under itself, ballooning its mantle to form a net. It then lifts one part and shuffles over top of the prawn and captures it. As I hovered off to the side an **Opalescent Squid** plunged into the bottom from above. So there we were, on the bottom with a feeding **Octopus** and a dumb ass **Squid**. As we approached the wall we noticed something that looked out of place. As we got closer it turned out to be a **very large Lingcod with a Salmon tail sticking out of its mouth**. This was a monster of immense proportions! Its head was massive and its body was about 5 ft long. After this encounter we carried on along the rock wall and proceeded to find **10 Wolf Eels**. This was quite a dive. I'd never seen so many **Wolf Eels** in one dive nor had I ever see **Opalescent Squid** or an **Octopus** feeding. I figure the only other thing that could have topped it was to have shaken hands with an **Orca**.

Dive # 4: Octopus Hole: We saw a single **Octopus** as soon as we encountered the wall. The next 15 minutes however were somewhat typical, sort of bland. Shortly before we turned the dive I looked to my left and noticed a **young adult male Wolf Eel pacing me**, wow. Towards the end of the dive we came across 2 more **Wolf Eels**, both of them juvenile. Without the **Wolf Eels** this dive would have been some what bland but in the end it was a very satisfying dive.

I would definitely recommend this trip to anyone.