

# *Pacific Northwest Diver*

Publication of the Pacific Northwest Underwater Photographic Society  
November, 2012



Candy Stripe Shrimp | Jett Britnell

# Pacific Northwest Diver

BIMONTHLY MAGAZINE & WEB SITE PROMOTING UNDERWATER PHOTOGRAPHY, EDUCATION, & TRAVEL IN THE PACIFIC NORTHWEST | SEPTEMBER, 2012

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# Pacific Northwest Diver: In This Issue

This month's featured photo team are Jett and Kathryn Britnell of Port Coquitlam, BC, along with Mike Barras from North Vancouver, and Jay Sprenger of Seattle. Our featured operator is Pinnacle SCUBA Adventures in Victoria. We also have write-ups, photos, and a video of this past August's six gill shark week in Barkley Sound, and the 2012 Underwater Photo "Walk". Dr Chris Harvey-Clark penned a harrowing article about his near death experience with CO poisoning, and there are two articles relating to conservation: the first (below) is about how to protect GPO's in West Seattle; and the second is how to support Rendezvous Lodge's Suzuki Foundation application. Enjoy!

## Cove 2 Octopus Kill: How You Can Help



As many of you are aware, on November 1, two 19 year-olds "harvested" a GPO from Cove 2 in West Seattle. All of this was perfectly legal, if not an incredibly lame act.

A petition was presented to the State Department of Natural Resources.

Unfortunately, it is the City of Seattle who has the ability to establish a marine conservation area, similar to the one set up by the City of Edmonds in 1971. So if you want to see Cove 2 set up as a marine conservation area as soon as possible, send an e-mail to [Sally Clark](mailto:Sally.Clark@seattle.gov), Seattle City Council President, and ask to have Seattle consider adopting a conservation ordinance similar to Edmonds ([City code 5.32](#)).

Also, if you live outside the City of Seattle, you may want to let Sally know that Seacrest Cove 2 is a dive destination that draws you and others to the City of Seattle.

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## From the Archives: First Underwater Photograph: 1856

While the French and others make much of the photograph taken by Frenchman Louis Boutan of a hard hat diver taken in 1893. However, the first underwater photograph known was actually taken by an Englishman by the name of William Thompson in Dorset in 1856.

Thompson didn't dive to take his photograph: he lowered his housed plate camera to the seabed in Weymouth Bay and operated the shutter from a boat anchored over the site.

The front of the box was made of plate glass and on the outside of the front there was a heavily weighted shutter, hinged at the top, that could be raised by a long string attached to it. Thumbscrews secured the back of the box so that when the camera was placed in the box, it could be made reasonably watertight. The box was fitted on an iron tripod and provided with a rope for lowering it into the sea and pulling it up again.



- Victor Adam, [In Focus](#), Sep, 1993

# Pacific Northwest Diver: Featuring Jett Britnell

## Jett & Kathryn Britnell



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**J**ett & Kathryn Britnell are an internationally published diving photojournalist team who specialize in underwater photography and scuba diving editorial.

Based in Port Coquitlam, British Columbia, they pursue their mutual interest in traveling off the beaten path on editorial assignments to far-flung corners of the globe to craft compelling picture stories about diving destinations, the marine environment and the magnificent creatures that inhabit the ocean realm.

Both are members of the British Columbia Association of Travel Writers, and the International Food, Wine, & Travel Writers' Association and Jett is also a member of the Professional Writers' Association of Canada.

Also, apart from having 53 magazine covers to his credit, Jett is also a member of the highly esteemed Ocean Artists Society (Photographer).

Before they met, Jett figuratively laid the foundation with his underwater photography and diving editorial, his wife Kathryn is now an equal partner in many respects. While both are capable of turning a phrase as co-writers, Kathryn has taken on the role of dedicated underwater model and also provides a second set of eyes scanning the seafloor for the seemingly more elusive marine life. During a recent assignment in the Philippines, Kathryn seized the opportunity to develop her underwater photography skills and Jett can foresee purchasing yet another camera system very soon.

While Kathryn became a certified diver in 2010, Jett's love for the ocean and his lifelong fascination with sharks dates back to the early age of five when he would watch black & white episodes of the famed underwater television series, Sea Hunt. His boyhood heroes, Ron & Valerie Taylor, fueled his imagination with their daring shark diving exploits.

The Taylor's work inspired Jett to become a scuba diver and a life-long shark fanatic. Of course, watching scuba diving oriented documentaries such as The Undersea World of

Jacques Cousteau during the late sixties merely stoked the fire.

Jett & Kathryn's words & images appeared in magazines such as: Northwest Dive News, Diver Magazine, Sport Diver, Depth Magazine, Underwater Photography, Scuba Diver Australasia, and Sportdiving in Australia. Their photos and editorial work appear regularly in diving publications, travel & lifestyle magazines, books, calendars, web sites, and commercial advertisements worldwide. DRK PHOTO, MAXX Images, and ALAMY represent their stock photo images. In recent years, the Britnell's have been guest speakers at several North American Dive Shows.

Jett's pursuit of underwater photography started out using film with a Nikonos underwater camera. He then advanced to using a Nikon F3 in an underwater housing. After switching to digital in May 2004, he has not exposed one roll of film since. Presently, he is using a Nikon D700 DSLR housed in an Aquatica AD700 underwater housing, with twin Sea & Sea YS-D1 strobes.

His workhorse lenses for underwater work in the Pacific Northwest are the AF Fisheye-NIKKOR 16mm f/2.8D for wide-angle work, the NIKKOR AF Micro 60mm f/2.8D, and the AF-S VR Micro 105mm f/2.8G IF-

ED lenses for shooting fish and macro critters. Jett states with these three lenses you can pretty much cover it all underwater. He recently acquired an AF-S NIKKOR 16-35mm f/4G ED VR to the arsenal that will offer more wide-angle flexibility down below. However, he adds never underestimate the technical capabilities of modern day Digital Point & Shoot cameras that can today produce publishable quality underwater images.

As far as underwater photography advice, Jett says never feel you must purchase the most expensive photography equipment. Buy the best you can afford, and never to forget it is the photographer, and not the equipment, that makes the photo. Lighting is everything in photography. Study the work of other photographers to gain inspiration and perspective. Try to figure how they used light, the subject matter and composition. The key is to keep working at it and learning. In time, your successes will become more frequent and you will start to amass a quality portfolio.

Jett always admired the professional teamwork of famous diving couples such as Ron & Valerie Taylor, Hans & Lotte Hass and Howard & Michele Hall. He feels blessed that he can explore the ocean realm with a talented wife who is also his best friend. Life could not be better!



Sea Jelly in the Water Column by Jett Britnell



Opalescent Nudibranch by Jett Britnell



Sockeye Salmon by Jett Britnell

While there is an annual sockeye salmon migration up British Columbia's Adams River, some years see "ballistic" runs. Tens of thousands are expected in 2013, millions of fish in 2014, and hundreds of thousand in 2015. This is a wonderful location to photograph a Northwest icon.

Gooseneck Barnacles by Jett Britnell

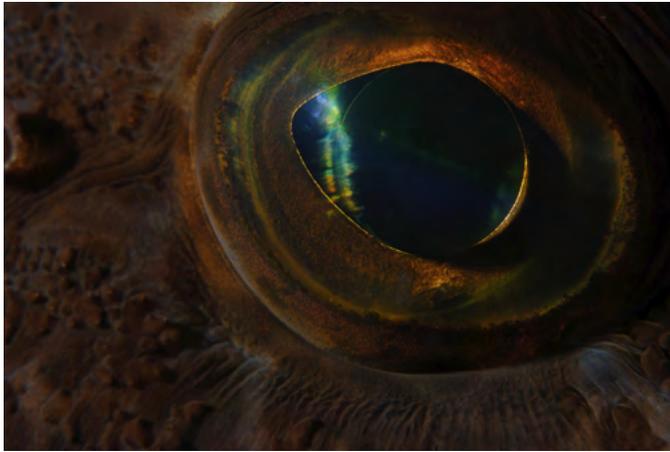
The gooseneck barnacles found in the Nakwato Rapids off the north end of Vancouver Island are only known to occur here and one other north Vancouver Island locale.



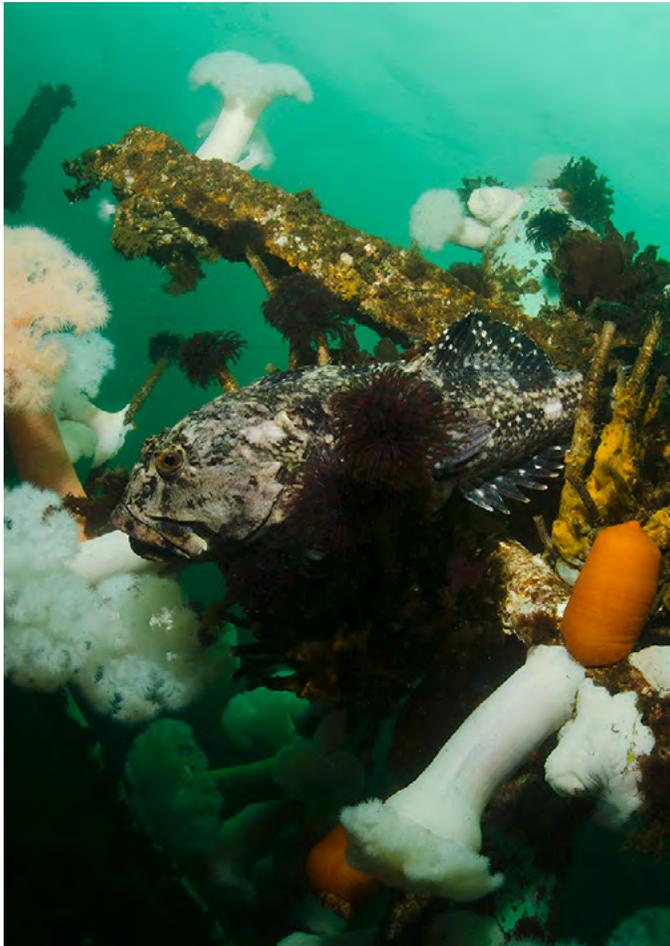


Decorated Warbonnet by Jett Britnell

# Pacific Northwest Diver: News Corner



- Wendy Carey



- Pat Gunderson

SCOTT KELBY  
**WORLDWIDE  
PHOTOWALK**  
OCTOBER 13, 2012

On October 13 the fifth annual Underwater Photo Walk took place at the Edmonds Underwater Park. The weather and visibility all cooperated for a fun event.

This year 20 individuals took part: thanks to Carl, Mike, Jim, Bruce, Wendy, Sarina, Kerry, Pat, Anita, Dennis, Bob, Mark, Jay, Lee, Lisa, Emily, and Tom for participating and sharing their photo and diving talents.

As you can see from some of the photos up-loaded for the contest, the creatures were out, and so was the light. Conspicuously absent were particulate matter in the water column. Check out Pat Gunderson's wide angle cabezon and plumose photo to the left. Not too often we see this type of conditions in the Park.

Wendy and Bruce Carey are legendary for the length of their bottom time, and this dive was no exception. At 2.5 hours the duo finally surfaced. Bruce said he had to cut the dive short for a much needed bathroom break!

Several divers headed down to Optical Ocean to talk cameras, strobes, housing, and take a snack break. Once again, thanks to Optical Ocean and Martin Heyn for his very informative talk on the new 4/3 cameras. If you are interested in underwater photography, plan on taking part next year!



- Kerry Enns



- Mark Sideman



# *Pacific Northwest Diver: News Corner*



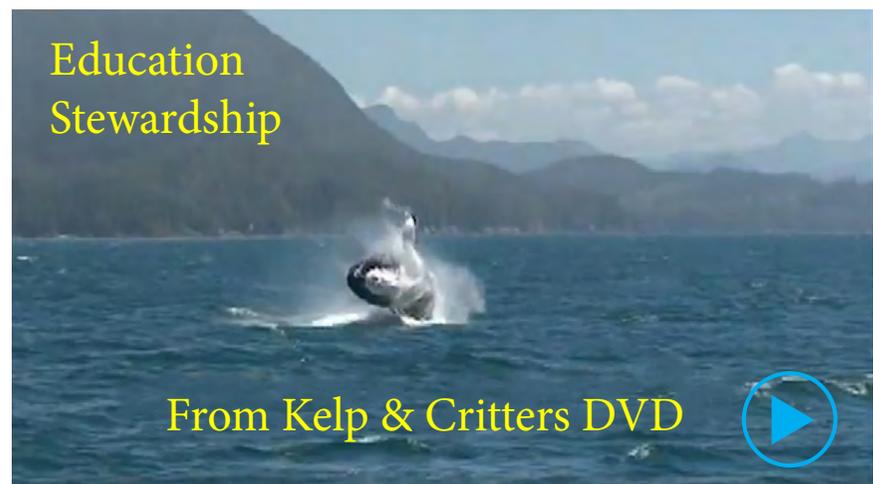
## Rendezvous Lodge & Suzuki Foundation

Peter Mieras and Kathy Johnson have reached out and asked for assistance with their continuing stewardship efforts.

The [David Suzuki Foundation's](#) mission is "to protect the diversity of nature and our quality of life, now and for the future." Their vision is that within a generation, Canadians act on the understanding that we are all interconnected and interdependent with nature.

Peter and Kathy have submitted three videos that illustrate their stewardship efforts in Barkley Sound. Their hope is to successfully compete for Suzuki Foundation prizes that would enable them to both increase and expand their conservation efforts. Here is how you can help:

- Like them on the Suzuki Foundation page;
- Watch the videos and post a comment;
- Re-post it on your Facebook page.



# Pacific Northwest Diver: Operator- Pinnacle SCUBA Adventures



- Skipper Jesse Kunce

**W**ant to dive some of the beautiful locations in the Victoria, BC area? Consider an outing with Pinnacle SCUBA Adventures.

The Pinnacle is a 30' aluminum dive boat customized specifically for diver comfort on the Pacific Northwest of Vancouver Island. It can accommodate up to eight divers and equipment for fun, safe, and easy diving.

Captain Jesse Kunce was born and raised in the BC interior. He had only seen the ocean once prior to his move to Victoria for university. To pay his way he began commercial fishing and experienced the Pacific Northwest up close and personal. After a year of fishing from BC to Alaska to Japan it was time for a change. He wanted to give back rather than take from the ocean.

From that Pinnacle was born!

Jessie truly believes in leaving a better planet for his son and all future generations through helping other see what he loves.

Dive Master/Photographer Scott Stevenson grew up on Vancouver Island: his passion for the ocean was ingrained into him at a very early age. Scott rarely dives without a camera. Experiencing life as a recreational scuba instructor, charter owner and photojournalist has honed his skills and increased his desires to provide people with a life changing experience.



- DM/Photographer Scott Stevenson

In 2006 Scott started Pacific Marine Imaging to showcase Pacific Northwest marine life and give divers and non-divers alike a resource to experience an appreciation of the ocean.

Web: <http://pinnaclediver.com/>  
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Phone: 250.704.6896



## Victoria Area Diving

Fed by the both the Juan de Fuca and Strait of Georgia's rich currents, the waters around Victoria host an abundance and diversity of marine life that rivals anything in the Atlantic or other parts of the Pacific. Over 320 species of fish and several thousand species of kelp, coral, sponge, and other invertebrate life are found here.

Several species of octopus, including the Giant Pacific Octopus inhabit the waters, as well as Puget Sound King Crabs, and towering Cloud sponges that can be found dotting the underwater landscape. Local reefs are home to huge schools of rockfish and several species of perch. Greenlings, sculpins, wolf-eels, ratfish and Six gill sharks can be seen patrolling these reefs. In addition to the many miles of natural reef, wreck and artificial reef systems attract additional species of rockfish, herring, lingcod, and provides alternative habitats for juveniles of all species.

Victoria is very close to a very special diving experience known as Race Rocks. Race Rocks is the resting place of hundreds of California and Stellar Sea lions each year during their seasonal migration. The small group of islands that makes up the area of Race Rocks is an ecological reserve and marine protected park. This designation has allowed the marine life and mammals to flourish providing for a perfect dive experience. See the seal lion and harbor seal to the right.

Southern Vancouver Island especially the Victoria area offers a multitude of diving opportunities. Colourful reefs, shipwrecks, massive schools of fish, kelp forests, sea lions, underwater photography – it's all here, and just minutes from the dock. Whatever your scuba diving interest or experience level, we have it all.



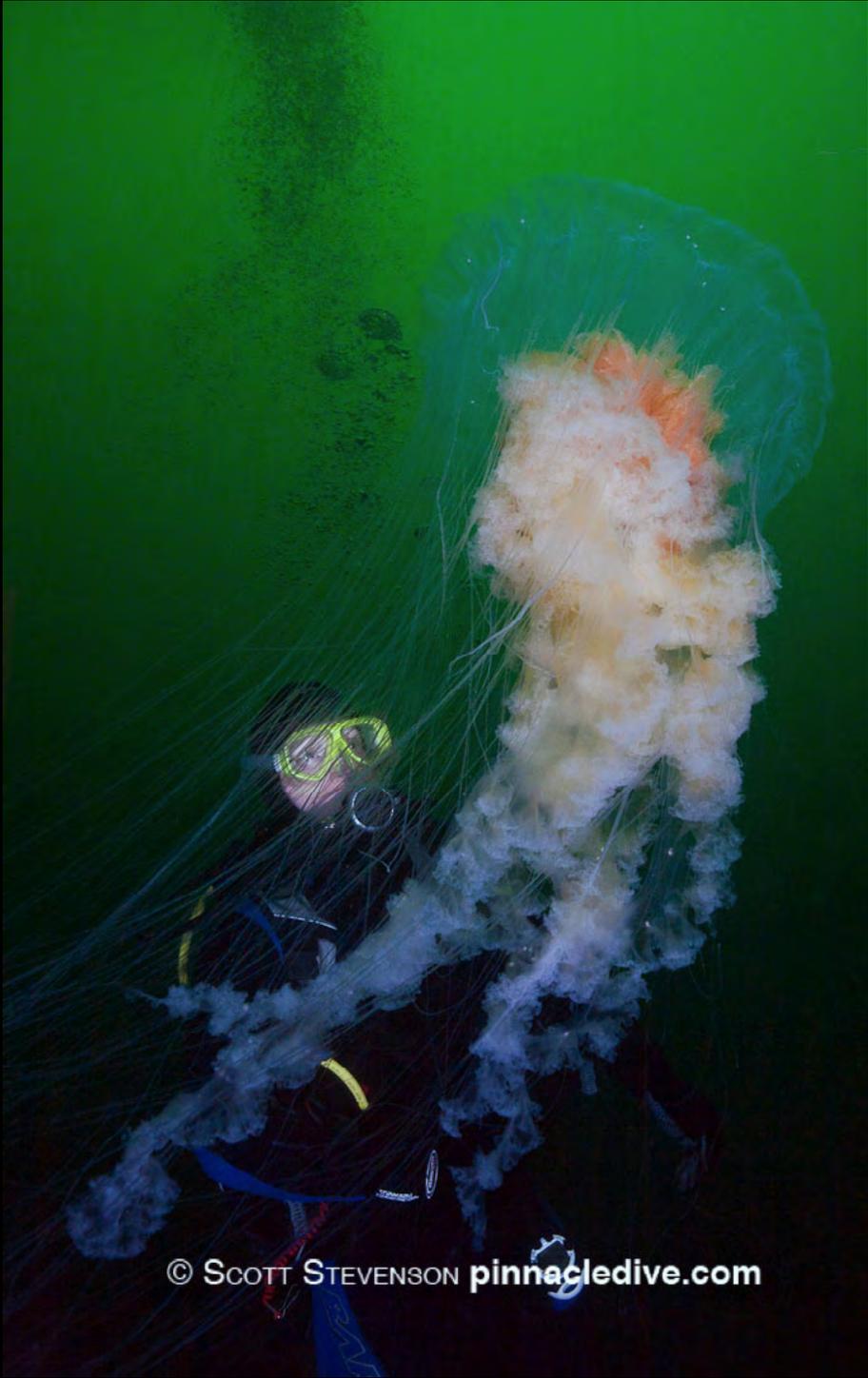
Stellar Sea Lion at Race Rocks by Scott Stevenson



Baby Harbour Seal at Race Rocks by Scott Stevenson



Juvenile Wolf Eel at Pinnacle Reef by Scott Stevenson



Egg Yoke Jelly & Jessie by Scott Stevenson

# Pacific Northwest Diver: British Columbia

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## Mike Barrass



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**M**ike Barrass lives in North Vancouver, British Columbia. He started diving in the spring of 2006. Mike took his AOW a few months later and now averages about 170 hours or more of diving per year.

He describes himself as a dive-a-holic. Mike is currently UTD Tech 2 certified with well over 700 dives. As an experienced diver, he has learnt that it does not matter what depth a dive is at, 4 feet or 170 feet, or if it's a rock wall or just crossing sand, there is always something amazing to see if he keeps his eyes open.

Mike began dabbling with photography in 2007. He starting using a Sealife Reef Master Mini then switched to a Sealife DC500. Needless to say he quickly outgrew these cameras with their limited features.

His current camera is a Canon Power-shot A620 with an Ikelite housing plus a Sea & Sea YS-90 strobe. This compact camera has full manual capabilities. This allowed Mike to take excellent pictures without having to make a large investment on a DSRL system. He says that when he either strikes it rich or boots his 4 kids out of the house he will upgrade to a better system, but for now this one works just fine.

Mike is trying his best to learn to take good pictures that don't need any post-processing, but for those pictures that do, he uses a freeware program called PhotoScape.

Mike mainly dives in the Vancouver area although he does get over to Sechelt and Vancou-

ver Island when he can, occasionally venturing down into the Washington area of the USA. He really appreciates the quantity of life that is in our local waters.

Even so, he find our local waters a challenge and blessing when taking pictures; low visibility and silty conditions can make photography a challenge when trying to get pictures without backscatter. However, he does enjoy showing his friends and family all the incredible life that he is finds while diving.

Mike calls himself a critter hunter and loves long slow dives. His friends know him as The Octo King – if there's an octopus to be found, he'll find it. He finds the slower he goes, the more he sees and recommends this to all divers, "just take your time while diving and enjoy it".

Taking pictures on a dive is not Mike's first priority and has had many dives when he has left the camera clipped off. Diving is his main source of relaxation and as a casino surveillance supervisor, a late night dive after a stressful day can often be just what the doctor ordered. Mike's gear is rarely unpacked so his van can be loaded in minutes for a spontaneous dive on his own or with one of his many diving buddies.

Mike's goal in diving is to enjoy it, and that's just what he does. He loves to share his passion for diving with other people either by diving with them or by showing them his photographs.



Spiny Lumpsucker by Mike Barrass  
After 700 dives Mike found one!



Red Irish Lord by Mike Barrass



Tube Worm by Mike Barrass



Northern Spearnose Poacher by Mike Barrass

# Pacific Northwest Diver: Washington

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## Jay Sprenger



e-Mail: [jay@mtn-high.net](mailto:jay@mtn-high.net)

Jay has been actively diving since 2004 after taking re-certification course, and then advancing to master scuba diver following a 30 year hiatus from diving when stationed with the Air Force in Turkey.

Following his retirement after completing a 30 year career in military medicine, taking photos while diving and traveling the world has become a fantastic way to spend his first retirement. When not underwater or up on the ski slopes, he is engaged in an active Allergy and Asthma practice.

Underwater environments and the physiology of diving have fascinated Jay. While stationed with the Air Force in California he had addition duties as hyperbaric medical dive physician for the medical center hyperbaric chamber.

Also diving safely, paying attention to the total environment, while also concentrating on getting the shot is a priority as he has seen firsthand what can happen with things go wrong.

Despite the enjoyment of exploring many of the warm water regions throughout our world's oceans, cold water diving in the Pacific Northwest to Jay is a treasure trove of photogenic fish, animals and critters that continually pulls him back into the waters of Puget Sound and around Vancouver Island. There are always surprises to be found beneath the surface.

However, after getting very up close and personal with a six-gill shark trying to swim through his legs during a night dive in Barkley Sound, Jay had to shove her away with his camera dome port. Experiences such as this make for very exciting dives and often very close up photographs.

Each dive with other Pacific Northwest dive photographers provides him a wealth of hands on experience, another set of eyes spotting the unusual and then post dive learning, new techniques and procedures to obtain a better photograph.

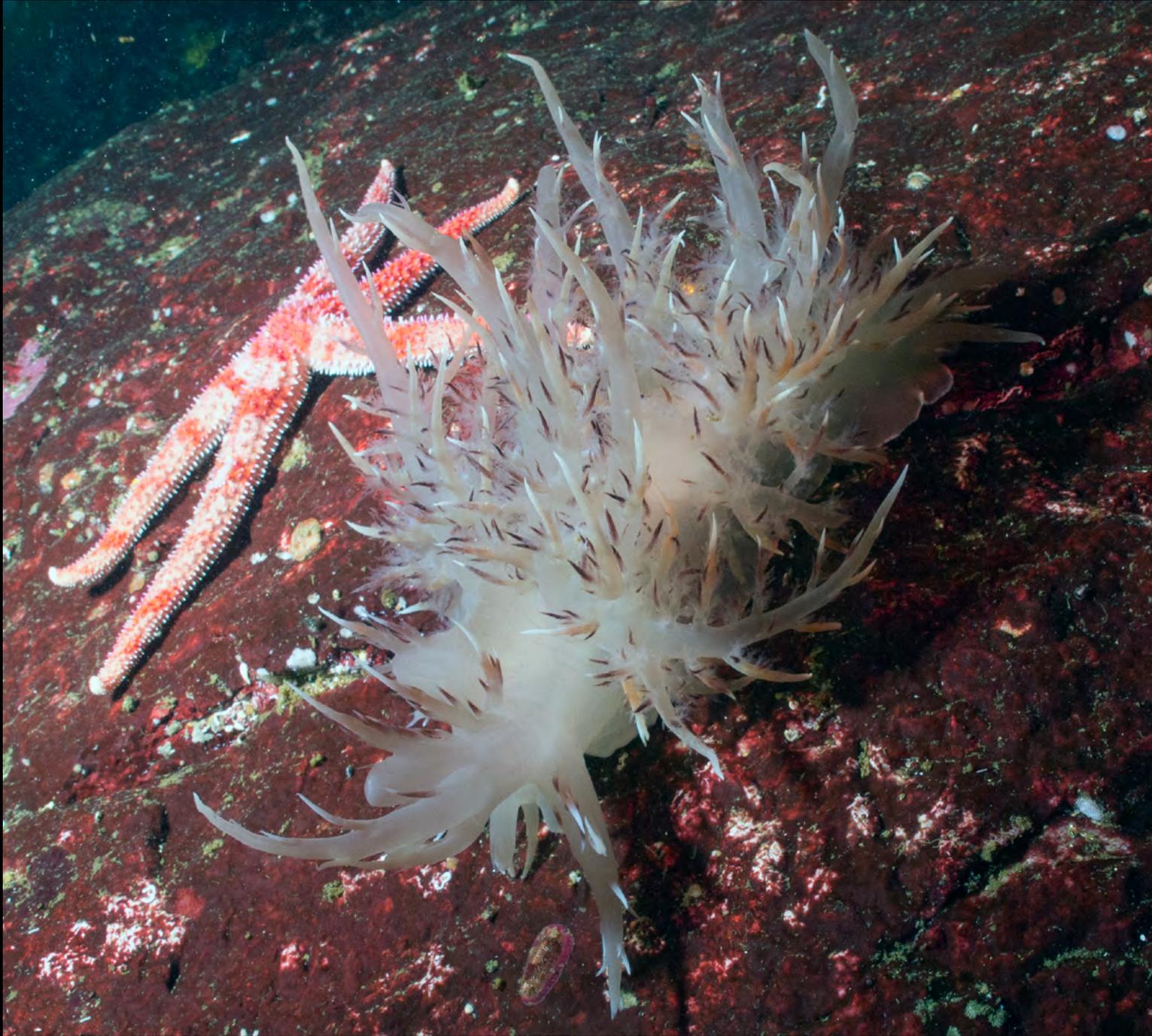
Jay started his adventure in underwater photograph with a specialty PADI course in under-

water photography with a Casio Exilim camera point and shoot with a Casio housing.

After watching his dive buddy Dan obtaining incredible shots with an "exotic underwater rig", he upgraded to the Olympus E-30 DSLR in Ikelite housing with an Ikelite DS-125 strobe.

He currently shoots using the Olympus E-5 DSLR in the Nexus Housing with dual Ikelite DS-161 strobes. For wide angle, he uses the Zuiko 11-22 mm f1:2.8-3.5 lens with, for macro the Zuiko 50 mm f1:2 lens and for general purpose the Zuiko 14-54 mm F1:2.8-3.5 lens in a dome port.

For post processing, he uses Photo Mechanic for the first pass initial screening, and discarding the bad and ugly. Then images are processed using Lightroom 4 and Photoshop CS6. eos which follow.



Giant Nudibranch and Rainbow Star by Jay Sprenger



China Rockfish by Jay Sprenger



**Black Rockfish by Jay Sprenger**

**Hooded Nudibranch in Eel Grass**  
by Jay Sprenger



# Pacific Northwest Diver: Trip Report- Six Gill Shark Week 2012

## Jim Boon



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This past August a group of our eclectic divers/photographers made our annual pilgrimage to Barkley Sound, with a primary goal of seeing rare six gill sharks. This is Jim's account, along with a short video from Carl Baird.

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On a warm, sunny August afternoon, I'm leaving Port Alberni with my dive buddies on Rendezvous Adventures boat. I'm heading west into Barkley Sound and a time-travel trip back into western history. Although Port Alberni is close to several major cities, visitors like me are entering a remote wilderness first discovered by explorers with a recorded history that goes back only 225 years.

As a tourist, hiker, kayaker, and adventurer, I've traveled Vancouver Island for over twenty-five years to familiar places like Port Hardy, Port McNeil, Sointula, Alert Bay, Telegraph Cove, Port Alice and Quadra Island. Each of these destinations brings its own unique piece of island history, but Barkley Sound has become my all time favorite, offering a warm connection with it's presence and it's rich history.

On a similar warm afternoon in June of 1787, the Imperial Eagle sailed into this same pristine body of water. The captain was only 27 years old and his wife was just seventeen. Charles and Frances Barkley were sailing under the flag of Austria and working their way along this poorly charted coast, trading with local Indians, buying fur pelts and documenting the coastline. They easily sailed eastward to what is now Port Alberni before heading back to open ocean and shortly thereafter entering and naming the Strait of Juan de Fuca.

It would be another 55 years before the Hudson Bay Company (HBC) established a

fort on Vancouver Island and although Barkley Sound was on the map, the area was mostly inaccessible due to the dense forest and steep terrain. But, in 1856, a trail was cut east to west from present day Nanaimo to the Alberni Valley. Coal deposits, gold mines, the first sawmill and a deep-water port brought prosperity and rapid growth.

As coal provided one of the economic backbones to the island for almost 100 years, minerals, logging and fishing were also major contributors. In the early 1960's however, all of these natural resources were heading into decline and they could no longer sustain the island's economy.

Sitting on the edge of a great wilderness, Port Alberni and Barkley Sound reset the economic stage for a new future as this island gem moved into a new life phase of eco-tourism. Although today some of the original industrial elements still remain, but at a much smaller scale, sport fishing, pleasure boating, kayaking, hiking, camping and of course cold water diving are now providing the economic sustenance for the area.

On this beautiful day, I'm leaving Port Alberni with 8 other photo/divers, heading due west to Rainy Bay, about 2 ½ hours by boat from the Port. We are headed to Rendezvous Dive Adventurers and Lodge, operated by Kathy Johnson and Peter Mieras. Peter and Kathy will be our hosts and guides over four days as our group seeks to photograph six-gill sharks. Although I have encountered six-gills in the

# Pacific Northwest Diver: Six Gill Shark Week 2012

lower Puget Sound area, their population increases from June to September in this area of Barkley Sound.

Among our group is Dr. Chris Harvey-Clark, a marine biologist from the University of British Columbia and a recognized international cold-water shark expert. Dr. Clark has studied, photographed, videotaped and published his research on six-gill sharks, Greenland sharks and Arctic sharks. On this trip his narrative and guidance was immediately evident as we headed out for our first day of diving for six-gill sharks.

Our first dive was on Jen's Jewel. It's a no-current dive down to 80 feet with more than 30 feet of visibility. The beauty of several Tiger Rockfish and some of the largest anemone forests I have ever seen consumed me on this dive. Back on the boat Dr. Clark had the first six-gill story to share and video to go with it.

After a surface interval punctuated with breaching humpback whales and shark story's we descended onto Diplock Reef. This is another area teeming with sea-life and more than 50-feet of visibility. Photo opportunities were everywhere but I did not see any sharks. Again, back on the boat, a dive team from Holland had video of two six-gills. I knew we were in the right area and it was only a matter of time before I would see a shark.

Two days and several dives later we returned to Dip Lock Reef. We all agreed this dive location seemed to provide the best odds for more six-gill encounters. Just a few minutes



after entering the water one of the divers raised her hand over her head with the familiar shark sign and off we went.

I dropped down to a sandy open area at 95 feet with over 30 feet of visibility. Just ahead of me, only inches off of the bottom, was a slow moving six-gill. I came along her right side and shot a few images from about two feet away using my aptly named 'fish-eye' super wide-angle lens.

I then decided a photo from the left side would be good. As I swam over the top of her, she rose up a little and we actually touched and to my surprise she did not seem at all as intimidated as I was. I took one photo as I passed over her, then a



few more along her left side. She was perhaps eight to nine feet long and very bulky.

This encounter was a thrilling experience and my breathing rate really proved it. As I swam next to the shark along the sandy bottom I glanced at my computer and saw that we were at 120 feet, still heading deeper and I had consumed a lot of air. I broke off the encounter and took an extra long safety stop before returning to the boat. I had my shark story and photos; my trip was a success.

The next day we packed our gear and loaded Peter's boat for our return to Port Alberni. Leaving this perfect wilderness is not easy. Along the way we continued to see breaching humpback whales, sea lions feeding on salmon and Eagles sitting in trees just above us. I sat happily on the flying bridge of the boat and thought of Charles and Frances Barkley following this same path just 225 years before me. This was a great trip.

If you are interested in diving during Shark Week 2013, let either [Jim Boon](#) or [Dan Clements](#) know so we can put you on the list!

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If you think you need gear costing thousands of dollars to photograph six gill sharks, check out the video to the left taken by Carl Baird. Carl Shoots with an Olympus XZ-1 with one i-Touch pro mini video light. Really up-close and personal!

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# Pacific Northwest Diver: Technical Corner- CO Poisoning

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## Dr Chris Harvey-Clark



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In the last issue of PNW Diver we talked about receiving bad air on a recent Mexico trip, and ran an article by Ben Davidson in Undercurrents about the lack of compressor maintenance requirements from SCUBA certification agencies. Chris shared his near death experience with bad air to help increase awareness of this problem. He calls this article "Death is a Haze of Yellow Dots."

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I had been an active diver for 9 years and was living and practicing veterinary medicine in St Johns Newfoundland. During this time I survived a brush with death due to CO contaminated scuba air. Some would say the neurological damage from that incident persists (see photo to the left singing into a light can), but those who know me say I was kind of always like this!

In Southeast Newfoundland at that time there were several places you could obtain scuba air, ranging from modern and well kept, to the one I am about to describe. When I went to this particular location I noted all the warning signs they tell you to watch out for in your basic diving course, and of course ignored them:

- The location was drawing air for the compressor at tailpipe level via a pipe through the shop wall from an active parking lot.
- The compressor area was ill lit, dirty and cluttered, smelled like oil, and the compressor unit was greasy, dirty and looked poorly maintained.
- The owner of the operation was surly and disinterested in customer service.

Nevertheless I ignored my training and instincts, filled my 80 cf aluminum tank, and then compounded a felony by going for a solo dive. Fortunately my girlfriend accompanied me for shore support.

The isolated dive site was down a dirt road miles from any residence or human presence: a beach on Bay Bulls on the Avalon Peninsula. When I entered the water I noted a definite oily hydrocarbon flavour in my breathing air, but again ignored this. The site was a steeply sloping sandy bottom that started almost at the water's edge and went downward at a 1:4 slope ratio to about 50 feet where it flattened out.

I started down the slope and within about 90 seconds at a depth of about 40 feet I experienced acute cramping pain in the abdomen and tunnel vision. My sense of survival had already been alerted by the taste of the bad air, and I immediately turned around and started heading up slope back to my entry point, negatively buoyant and crawling right on the bottom.

The next symptom as I crawled back up to the entry point at a depth of about 25 feet was nausea. This was quickly followed by yellow dots in my visual field: they seemed to expand and coalesce, obscuring my vision. I kept crawling up the slope and began to feel extremely weak, with most of my vision now gone. The air in my bulky dry suit expanded when I reached a depth of 6 to 8, and I managed to crawl/thrash into knee deep water, where I collapsed in a semiconscious state.

My girlfriend had noticed me flopping around in the shallows and she waded in, rolled me over with great difficulty, and removed my tank and weight belt. However, I was too big for her

# *Pacific Northwest Diver: Technical Corner- CO Poisoning*

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to drag further. And so I lay in the shallow water passing in and out of consciousness for the next 20-30 minutes while she cradled me and protected my airway.

I distinctly remember that the effort to open my eyes was supreme and if I slightly lifted my head I would pass out from the effort. This happened a number of times in the half hour lingering between life and death. This was in the pre cell phone era and we were in the middle of nowhere, so she elected to stay right with me and attend me rather than seek help, which is likely why I am still alive today. She later reported my face and mucous membranes were bright cherry red which is the classic symptom of carbon monoxide poisoning.

After about thirty minutes out of the water I had improved from semiconscious to being as weak as a kitten, and with her help I staggered/crawled out of the shallows and up the beach where I again lay prone and rested for about 30 to 40 additional minutes. I began to feel normal and good again after about 25 minutes out of the shallow water and rested a further 20 minutes. Once my strength and “normal feeling” began to return I improved very rapidly.

After this episode I learned that CO blocks

the oxygen receptor site on hemoglobin molecules, and when it does finally let go, oxygen resaturation proceeds quickly, along with clearance of hypoxic symptoms like weakness, visual disturbance, and other neurological signs. Within an hour of leaving the water I was able to get out of my suit and get my gear packed up, and leave the site feeling OK. My sole concession after surviving acute CO poisoning was to let my badly shaken girlfriend drive me home. I did not seek medical attention, although I am sure an attentive physician and oxygen therapy would have been helpful.

I returned a day later to the storefront where I had the tank filled and confronted the owner, who denied that he was selling bad air and showed me to the door, saluted me and requested that I never return. Not surprisingly he went out of business not long after. I did complain of the incident to the owner of another dive shop in the area but at that time and place there was little recourse.

I was very lucky to survive this episode: not a lot of people survive acute CO poisoning underwater, let alone while solo diving. Lessons learned are legion, and obvious. If you see any of the telltale signs pointing to bad air, avoid that air source and test for CO yourself.

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After last year's experience with bad air in Mexico with Club Cantamar, I invested in a CO monitor to take with us on overseas trips, and to periodically test local air. With the major dive certification agencies no longer requiring air quality monitoring in North America, you may want to seriously consider purchasing a CO analyzer. At a little over \$350, it is inexpensive insurance for peace of mind an potentially avoiding a fatal dive scenario.

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[Analog Co Analyzer](#)



# Pacific Northwest Diver: Our Team

The Pacific Northwest is a large, diverse region with diverse interests in underwater photography and videography. In order to make it easier for you to submit information about photographers, dive clubs, and operators/resorts in your area we have key contacts for British Columbia, Washington, and Oregon. Since we are all volunteering our time and efforts, we also hope to spread the work-load so we will all have ample time for diving and photography!

Below are our contacts, please either get in touch with one of the regional contacts listed below, or contact editor [Dan Clements](#) directly.

## British Columbia: Marli Wakeling



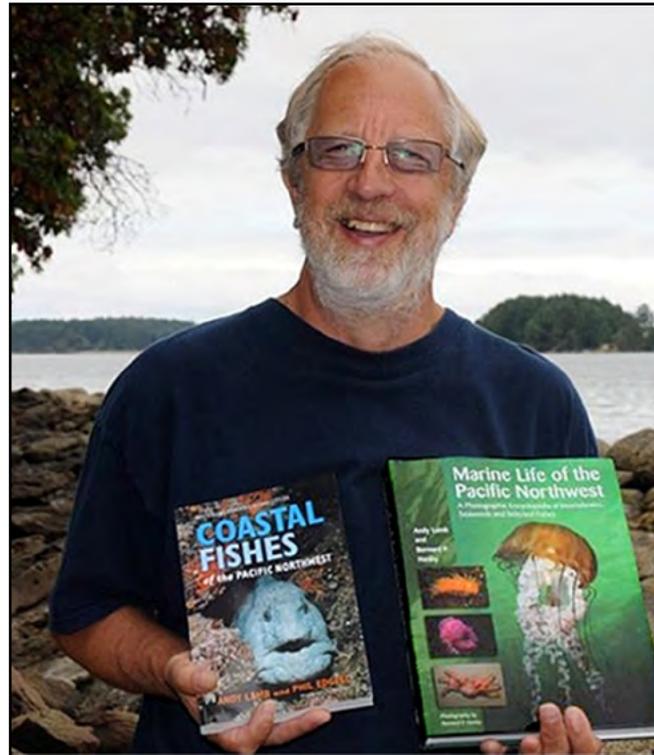
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