

PNW

WINTER 2017 FINAL ISSUE

DIVER

M A G A Z I N E

Featuring:

Bruce Kerwin

Joyce Merkel

Jessica Alexanderson

and more...

01 About the Magazine

WINTER 2017 PNWDiver



Cover photo by Joyce Merkel

f/7.1, 1/160, ISO 160, 42.0 mm (cropped), SEA&SEA YS-02 strobe

The Pacific NorthWest Diver Magazine is published quarterly and is a publication of the Pacific Northwest Underwater Photographic Society (PNWUPS), which is an organization formed to encourage interest and participation in underwater photography. The organization's central goals are: to provide an environment where photographers can help other photographers improve their skill; to promote Pacific Northwest underwater photographers; and to share the beauty of our underwater environment with the non-diving public. If you have an idea for a story or would like to present an article for consideration, please contact the editor/publisher.



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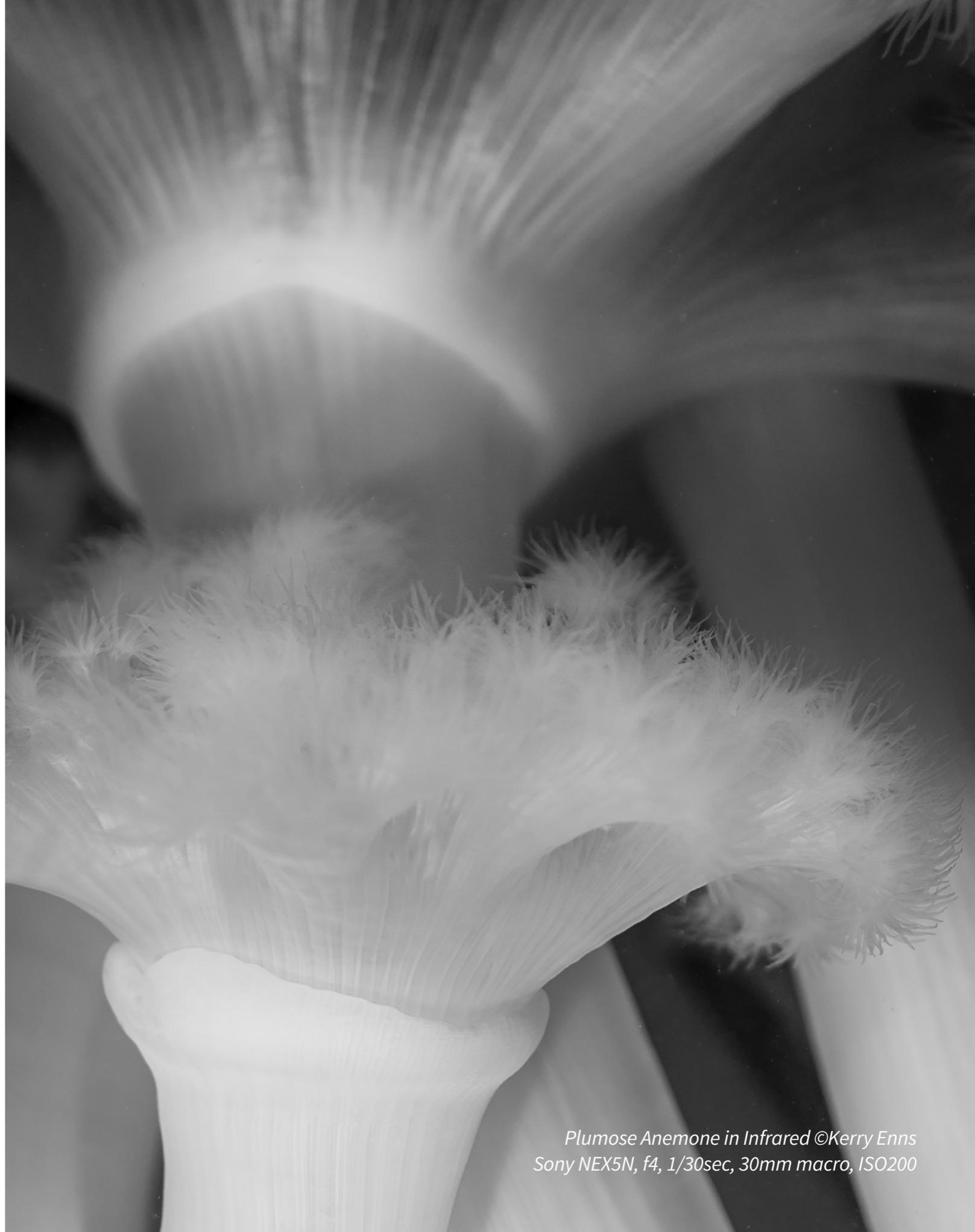
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*Plumose Anemone in Infrared ©Kerry Enns
Sony NEX5N, f4, 1/30sec, 30mm macro, ISO200*



04 From the Editor

05 Featured Photographer: Bruce Kerwin

13 Featured Photographer: Joyce Merkel

22 Featured Videographer: Jessica Alexanderson

28 4" Glass vs 6" Acrylic Dome: Kerry Enns

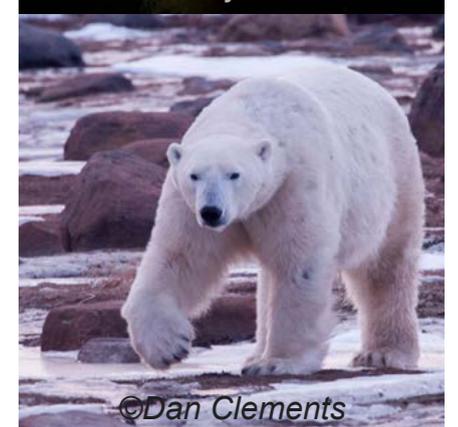
30 Photographer's Etique: Carrie Poborsa-Cox

33 Safety: Uh Oh - I'm In Deco: Bob Bailey

36 Diving Strýtan & Arnarnesstrýtan: Tiare Boyes

41 Swan Song from Dan, Kerry and Dale

47 Magazine Contributors





It is with mixed feeling that I announce that this will be the last issue of the PNW Diver Magazine. Dan Clements handed me the baton in November 2014, and this will be my 12th issue. The magazine readership has grown by leaps and bounds in the last two years to nearly 800 subscribers and many, many casual readers.

It was my intent to feature the images of our local photographers with big, bold splashes of color. I hope that these photographers, both experienced and novice, have taught you a thing or two and inspired you. I know they have for me.

But all good things must come to an end. Dan Clements, Dale Carlisle and I have written our 'Swan Songs' in this edition so that if you wish to follow our next adventures, you may. Meanwhile, I want to express my deepest gratitude to our contributors and readers. You have been a tremendous inspiration and teacher. You have introduced us to many amazing fellow divers, artists, and adventurers.

We'll see you at the water's edge!

Note: The website www.pnwdiver.com will remain active until March 14, 2017. Please feel free to download past issues of the magazine until then.

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Featured Photographer: *Bruce Kerwin*



I translate what I see to a 2-dimensional photo on a flat computer screen. My mind holds a 3-dimensional image overlaid with sound, the pull of the current, the depth of the water, the darkness, the light, and the cold creeping into my core. I want to pass along the excitement of seeing something in a new way, discovering creatures I haven't seen before, secretly observing the intricate interplay between animals mating, birthing, fighting and dying. It's a cold, beautiful world captured in a photograph.



© Bruce Kerwin

Camera: Nikon D300 camera; Subal N30 case, Sea&Sea YS-D1 strobes, f/16; 1/200; 60mm Nikon lens; ISO200
Dive Site: Sund Rock, Hood Canal, Washington

A spiraled tentacle of a Giant Pacific Octopus out hunting. I didn't find this creature, my friend Katie Morgan found it for me while we were diving at Sund Rock in the Hood Canal. I almost didn't go on the dive. During the previous dive, I flooded my drysuit because the zipper wasn't closed properly. It was the middle of summer, so while I waited for Katie to return from the first dive, I stripped my clothes, dried them on my truck with my drysuit and stood in the sun to warm up. The top 20 feet of the water column was so full of plankton and other detritus it was hard to see. While looking at some innocuous creature at the end of the dive in the fish bowl a far-off light flashed in my eye. I ignored it, but persistence paid off for Katie, and I came over to see what was up; an octopus searching through crevices, hunting for food! I only had my 60 mm lens! Perhaps I could photograph its eye, I thought. As I watched it hunt, its traveling tentacles coiled and unfurled in a perfectly choreographed ballet of movement. The painting appeared in my mind.



The name of this animal does not do its beauty justice. The Slime-Tube Feather Duster Worm. Underwater they look like a slimy brown worm. Photographed with the correct lighting and the intricate detail of their structure emerges. They are shy creatures that require stealth and vigilance to capture lest they pull back into the sandy surface. I've attempted to photograph them for some years, generally without success. In this case, it took a trifecta of lighting, depth, and background to bring its beauty forth.

© Bruce Kerwin

*Nikon D300 camera; Subal N30 case, Sea&Sea YS-D1 strobes, Settings: f/8; 1/160; 60mm Nikon lens; ISO200
Dive Site: Keystone Jetty, Whidbey Island, Washington*



I wish I could say I meant to photograph this Lion's Mane Jelly exactly as it is here, with a split shot of the dive boat. But that wouldn't be honest. I was the last one off the boat, and all I focused on was photographing the jelly. The group was waiting for me at the front of the boat so I only had time for a few shots. I looked at the photos on the camera screen and only saw the subject. It wasn't until I was home the next day that I saw what I had done.

© Bruce Kerwin

*Nikon D300 camera; Subal N30 case, Sea&Sea YS-D1 strobes, f/5.6; 1/250; 16mm Nikon fisheye lens; ISO200
Dive Site: Hood Canal, Washington*



Truly one of the stranger things I ever witnessed underwater. A Gumboot Chiton releasing eggs into the water column. The only time I've ever seen one doing this, and until that time I had never really thought about how these strange creatures reproduced. The chiton was hanging on the end of a piece of kelp in about 20 feet of water swaying back and forth with the tide. I was so fascinated I spent the whole dive, about an hour, watching the creature then spent the entire second dive doing the same thing. I've never seen one like this before, and I haven't seen one since.

© Bruce Kerwin

*Nikon D300 camera; Subal N30 case, Sea&Sea YS-D1 strobes, f/8; 1/200; 60mm Nikon lens; ISO200
Dive Site: Point Hudson, Port Townsend, Washington*



Nudibranchs are one of my most favorite subjects to photograph, and the Cockerell's nudibranch is no exception. I've tried to shoot a decent photo of them for years and living in Seattle we don't have too many chances as we don't see too many down this way. In fact, from 2010 until this year I could count on one hand how many I've seen. But this year they seemed to appear on many dives in Port Townsend and at Keystone

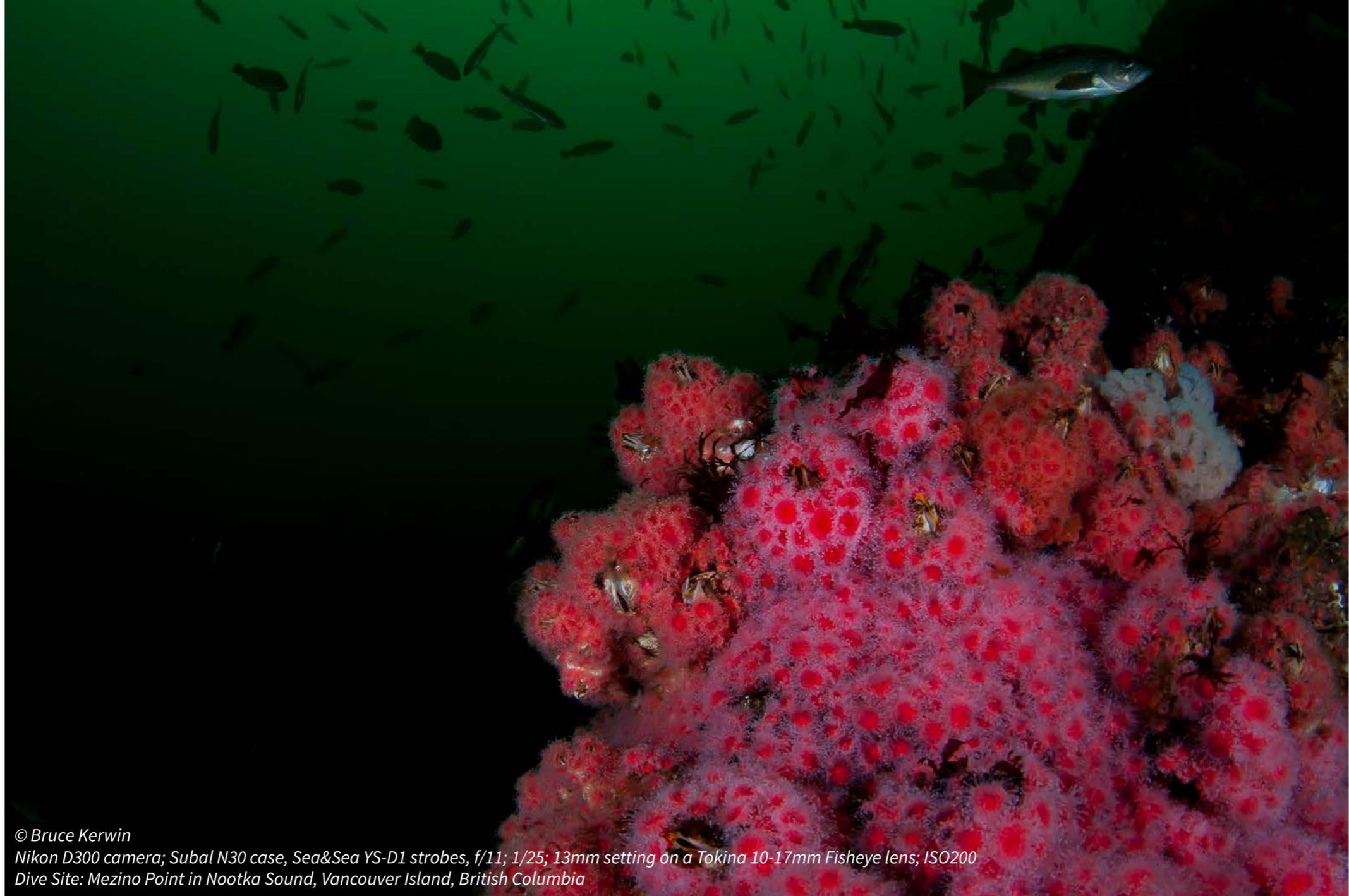
Jetty on Whidbey Island. I usually find them around rocks where it's not possible to get a proper angle with the camera. This is one of the very few times, perhaps the only time where I've had a clear view from the side of the subject pointing in the proper direction to photograph its rhinophores. The Green Sea Urchin next to it providing a reference for its size and framing the shot was unexpected but welcome.

This may have been the one and only time in my life I would see a stubby squid with its eggs it just laid. Once a stubby squid lays its eggs, it tends them for a few hours then leaves, never to return. The eggs incubate for approximately 7 months before hatching. We found these at about 110 feet while diving on Dead Man's Wall in Tacoma. And I didn't find them, my buddy Ben Hannuksela and his dad, Steve, found them. I was above

them about 5 feet taking photographs of the hundreds and thousands of gunnels that inhabit the wall when two lights began madly flashing at me disturbing my solitude and peace. Luckily, Ben enjoys diving deeper, hunting for exotic creatures for us to photograph. I originally had no intention of going deeper than I was, but once I saw the eggs, I had no intention of leaving until my deco time ran out and my alarm sounded.



© Bruce Kerwin
Nikon D300 camera; Subal N30 case, Sea&Sea YS-D1 strobes, f/8; 1/100; 16mm Nikon fisheye lens; ISO200
Dive Site: Dead Man's Wall, Tacoma, Washington



© Bruce Kerwin

Nikon D300 camera; Subal N30 case, Sea&Sea YS-D1 strobes, f/11; 1/25; 13mm setting on a Tokina 10-17mm Fisheye lens; ISO200
Dive Site: Mezano Point in Nootka Sound, Vancouver Island, British Columbia

The Strawberry Anemones cover every inch of the rocks off Mezano Point. The brilliant colors and thick and lush anemones made me want to roll in them under the emerald green waters.

More of my images can be found here:

<https://www.facebook.com/Kerwinunderwater/>

<https://goo.gl/photos/pw1tpfqKN1FdYsTV7>

Featured Photographer: Joyce Merkel



Although I've been diving since 1995, it wasn't until I won a camera setup at the 2008 Marker Buoy Dive Club Banquet, that I even considered taking photos on a regular basis. Jack Connick of Optical Oceans Sales donated the camera. 2008 was near the point in time when digital photography was just beginning to take over film. It was also when Jack, who was a friend before he started his camera business, was just starting out in the business and running it out of his house. The setup I won consisted of a housing, tray, small focus light, and a nano strobe. I supplied the compact camera of my choice. I took Jack's recommendation and bought a top of the line Nikon P5100 costing about \$200. Armed with

all this, I headed off with friends to Bonaire to learn what I could about taking underwater photos.

Growing up Seattle, I've been an active outdoors person my whole adult life doing everything from mountain climbing, hiking, bicycling, downhill skiing to running. Throughout all those younger years I never once considered diving. The dark waters of Puget Sound held no allure for me except to float on top of once in a while. I had, however, on a trip with a group of my girlfriends to Hawaii in the late 80's, not only snorkeled but taken one of those "discover diving" one-day exposure classes.



©Joyce Merkel
Skyline, Olympus EPL-1, f/7.1, 1/160, ISO 400, 60.0 mm, SEA&SEA YS-02 strobe

No, I didn't run off and immerse myself right away after that, but the experience stuck with me. Enough so that in 1995 when a good friend of mine suggested that my husband, Fritz, and I join her and her husband for a trip to the Caribbean and possibly learn to dive, I didn't hesitate. Fritz wasn't too sure. So we picked a spot where he could go windsurfing if he chose. It turned out to be a place I'd never heard of before, Bonaire. However, when I started searching for a class to take before we went, Fritz decided he might as well learn. The rest, as they say, is history. He went windsurfing once, and the rest of time we could barely get him out of the water for meals.

As for me, thanks to a very calm and determined dive assistant at the checkout dives for my open water class, I am still diving today. It was one of those days in Cove 2 at Alki with zero visibility. My dive buddy disappeared in front of my eyes immediately upon descending. After what I felt was an incredible amount of courage on my part trying to overcome my disorientation and building panic, I still wasn't able to descend. Finally, I bolted to the surface sure I would never return. I had probably not gone more than 5ft under. On surfacing, I meet the class assistant who calmly held my BC strap and talked me back down. Still, I debated about coming back for the second day. Despite all that, while on "tour" after the practices were done on day two, I saw some perch swim by. That's all it took. My addicted-to-diving was activated. Bonaire sealed it for me and as it turned out for Fritz as well.

When we came back from that first trip, I still remembered those perch and had to know what else was in my back yard. I found it was much harder than tropical diving but so worth it. I have since done most of my diving in Puget Sound. Much of it with Fritz and the Marker Buoy Dive Club. It's been about 21 years now. I credit the friendships in the dive club and photography for helping keep it fresh and exciting even after all that time.

I dove with that P5100 compact camera for six years. Obviously, I'm not one that has to have the latest shiny thing. I didn't even use a focus light until the final year of using the P5100. My only lighting was my old UK400R dive light. Before Fritz started taking photos, he would often assist with his UK800. I was convinced, like many people, that I didn't want to make it any more complicated. I wanted to keep the setup light so that diving still took priority over photos. I was pretty happy with many of the photos I took with this simple rig. Here is an example of one of the last photos I took.

©Joyce Merkel . Port Hudson, Olympus EPL-1, f/3.8, 1/125, 7.5 mm, ISO 200





Eventually, the camera housing started to leak. I decided it was telling me it was time to consider a new camera. I still wanted to stay small and I knew that camera sensors had improved. I chose a setup that Optical Oceans Sales had assembled that seemed to meet my needs. It was another high-end compact, an XZ-1 Olympus, but with a bigger sensor and faster focus. This time I added a strobe, Sea&Sea YS-02 (fully manual). It was a significant change to use a strobe, but I finally was getting the knack of it when I pinched the housing o-ring one day and had my first full flood. I had the camera less than six months. Here's an example of a photo taken with this great little camera.

© Joyce Merkel
Port Hudson, Olympus EPL-1, f/1.8, 1/60, 6.0mm, ISO 200, SEA&SEA YS-02 strobe

Even before I had flooded that XZ-1, Fritz had found a fantastic deal on a 4/3's Olympus EPL-1 and housing. It was so good that I told him to get me one too, but then I decided to keep using the XZ-1. I was just starting to get results I was excited about. Also, the compact had the advantage of being able to get closer to a subject than the EPL-1 because of the smaller sensor size. But now the decision was made for me. It was time once again to adjust to something new.

The EPL-1 came with a 14-24 zoom lens. It took some time to adapt to what distance worked to obtain optimal focus. However, I had to admit the photos were sharper and the focus time was even better than before. The whole setup was only slightly larger than the XZ-1 had been. Size creep was starting to happen. My main point of demarcation has been to stay with one strobe. Since I am shooting mid to macro shots, I find I like the dynamic effect that one strobe gives. It doesn't hurt that it is also lighter and less equipment to adjust.



©Joyce Merkel
Skyline, Olympus EPL-1, f/7.1, 1/160, ISO 160, 42.0 mm (cropped), SEA&SEA YS-02 strobe



© Joyce Merkel

Redondo, Olympus EPL-1, f/6.3, 1/160, 60.0 mm, ISO 200, SEA&SEA YS-02 strobe

The most recent purchase I made was last year before going to the Philippines. I bought an M.Zuiko 60mm macro lens. The sharpness of this lens is hard to ignore. I now dive using this lens more often than not.

That brings us to today. Photography, as I mentioned, started slowly but persistently. At first, my emphasis was taking snapshots to help me identify critters and to show what I saw to friends. Even so, I just naturally tried to frame my shots in a pleasing way. As time went on, I realized I was drifting into taking photos mostly for the aesthetics of the shot. I'm still a complete amateur, but I have fun, and every once in a while I get a shot that I am not the only one who enjoys. That always makes happy.



© Joyce Merkel
Deception Pass, Olympus EPL-1, f/7.1, 1/160, 60.0 mm, ISO 160,
SEA&SEA YS-02 strobe

© Joyce Merkel
Nanaimo, Olympus EPL-1, f/7.1, 1/160, 60.0 mm, ISO 160, SEA&SEA YS-
02 strobe



© Joyce Merkel

Day Island, Olympus EPL-1, f/5.6, 1/160, 18.0 mm, ISO 200, SEA&SEA YS-02 strobe



© Joyce Merkel
Skyline, f/7.1, Olympus EPL-1, 1/160, 15.0 mm, ISO 160, SEA&SEA YS-02 strobe

© Joyce Merkel
Salt Water State Park, Olympus EPL-1, f/6.3, 1/160, 32.0 mm, ISO 200
SEA&SEA YS-02 strobe



Featured Photographer: *Jessica Alexanderson*



I started diving in 2014 and have enjoyed over 360 dives. I'm a huge Star Trek fan so I always feel like my dives are away missions, where I get to make contact with new alien life forms. I really love shrimp, Squat Lobsters, Rock Fish, Pacific Spiny Lump Suckers (Lumpies), Warbonnets, sculpins, jellyfish, Octos, Stubby Squid and so many other cool alien life forms.

After my 100th my dive buddy let me use his camera and I got hooked on taking photos of the fascinating sea creatures that live in our cold waters.

You can find me nearly every Thursday night diving with a group of fellow underwater photographers at Redondo or Three Tree. On weekends, I hit other sites, particularly Keystone and the San Juans.

I enjoy meeting the community, so if you frequent those sites, I'd love to meet you. I really enjoy learning from everyone and working on improving my photo taking skills.

I'm also a huge coffee fan! I have a map available of great coffee shops near all the Washington dive sites. If you want a copy, or know of a good shop, let me know.

I'd love to be able to help protect our oceans. I think the more non-divers realize how much amazing life is in our waters they will start to think about treating our planet better. We all need to work together to make sure our sea creatures can live long and prosper!



Green Surf Anemones © Jessica Alexanderson



Topshell among Orange Cup Coral © Jessica Alexanderson



Pygmy Rock Crab on Red Soft Coral © Jessica Alexanderson



Coonstripe Shrimp © Jessica Alexanderson



Mosshead Warbonnet ©Jessica Alexanderson



Scalyhead Sculpin ©Jessica Alexanderson



*Maroon Hermit in a topsnail ©Jessica Alexanderson
Nikon D300, 60mm, f11*

Dome Debate

Some Thoughts About Domes

by Kerry Enns



OR



Images from Zen Underwater

I'm thinking about switching away from my big 240mm dome. My big dome is acrylic and quite sensitive to scratches, but the main reason I'm thinking of switching to a smaller glass dome is the sheer size of the thing. Most of my diving is from shore, and I've been finding it awkward to lug the beast in and out of the water. I've also been using my fisheye lens successfully while freediving, but pushing that huge dome through the water on breath hold diving means less time underwater. The forums are full of threads suggesting one type of dome over another. The debate rages on clarity between acrylic and glass, but there are other factors to consider. Here's my thinking.

Made by the same folks that make my housing, Sea & Sea, my current dome weighs 2.8lbs (1.3kg). A glass version of the same is over double the weight and almost triple the cost. I find it unwieldy when entering and exiting the water, and the buoyancy incredibly awkward. I've resorted to slinging an ankle weight around the extension port (behind the dome) to keep it from pulling 'belly up.' A glass version might solve some of the problems of buoyancy, but I'm quite confident the glass will be scratched readily given my style of diving. Acrylic can be repaired - glass can't. So I eliminated the option of a similar sized glass dome.

Sea & Sea also makes a compact dome port that is about 7". Being acrylic, it will be easy to repair and weighs only about 1lb. Now we're talking! The over/under shots will be a bit more challenging with this smaller size dome, but not impossible. The price lists at \$500US, so the price is reasonable as ports go. An equivalent glass dome is about double the price and weight. The positive, **and this is big**, is that glass is reported to stay wet longer than acrylic. No more droplets ruining my images would be very nice. I have tried some products on my dome to bead water and nothing works. Eiko Jones, known for his amazing over-unders, concurs. Still, I'm feeling like the dome is bigger than I want for freediving.



Frog sitting on a 4" glass dome using a Tokina 10-17 proving close focus is possible! Image courtesy of Eiko Jones

A good friend, who understands my dilemma, drew my attention to a glass 100mm (4") dome made by Zen. Made for Nauticam, Sea & Sea, Subal, Ikelite, and Aquatica housings, it covers most of the major brands. Zen has an excellent reputation, too. The price is \$900US. Ouch! But the size is perfect. Small. And only 1.44lbs!

This is what Zen has to say about their domes on their [website](#). "The heavy duty aluminum shade is designed to offer a lifetime of service and extends far enough to protect the dome when placed face down. The DP-100 [that's the 4" Fisheye Dome] is constructed from handcrafted materials with an optically coated BK7 glass dome at its

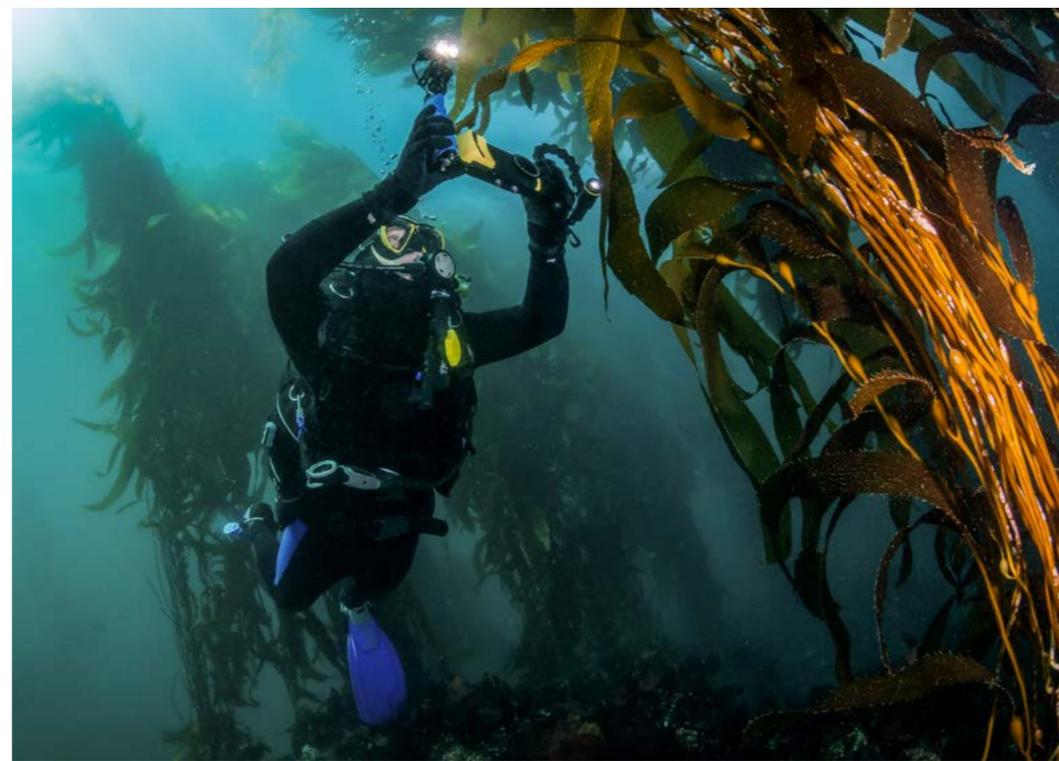
core. The surface of the dome element is coated with a magnesium fluoride broadband anti-reflective coating to minimize internal reflections from camera lenses, lettering on cameras, etc. which can be a problem in a bright ambient light situation [I've ruined a lot of images due to this!]. The exterior is treated with a proprietary scratch resistant coating to control lens flare. This coating yields an amazing 99.7%+ transmissive value for true distortion free images."

I think I've got my solution. As a Canadian, I've got a lot of saving to do!

Etiquette for the Underwater Photographer:

A Divemaster's Point of View

by Carrie Poborsa-Cox



Decide the purpose before the dive.

Image by Kerry Enns

Whether you're going out for a Sunday charter with your local dive boat or you're on a two-week underwater excursion in paradise, you want to get the most out of your dives. For more and more divers that means getting the best photographs or videos.

As a dive master, I help people get those shots. I also witness some irresponsible and often disrespectful behaviour on the part of divers. Getting the perfect angle and lighting doesn't give you permission to disregard the general rules of diving, so here are some helpful tips for making sure all divers, new and experienced, have great dives and remains friends afterward.

Plan Dives With Your Camera in Mind

It's always important to thoroughly plan a dive for the sake of safety and communication but don't forget to take your camera into deliberation. If photography is the focus of your

dive, then some special considerations need to be made. I've met plenty of divers who refer to their camera as their buddy, jokingly making the point that they prefer to dive alone.

Solo diving might be okay with your local club, but most dive boats require everyone to have a

buddy. Is your buddy bringing a camera as well? Are you looking to photograph the same critters or scenes? Discuss this ahead of time to avoid bumping each other around trying to shoot the same anemone.

If the site is conducive to both wide angle and macro shots, I suggest you each use a different lens. This way you can point out something small to your macro buddy and move on to find the giant octopus that's waiting around the corner. You'll naturally spread out and give each other space if you're not hunting the same critter. Just don't go too far, you are buddies after all.

Pay Attention to the Captain

While you're planning, listen to what the boat captain and dive master have to say about the site. Here in the Pacific Northwest, the determining factor for most dive sites is our strong tidal currents and this can change your approach to filming and photographing. If you're not an experienced current diver, your first big drift might not be an appropriate dive to experiment with your new camera.

Pay Attention to the Divemaster

As Divemasters, we often have tips on where to find certain critters. I love to describe the hunting display of *Dendronotus iris* to someone who has never seen it before. I love it, even more, when they come back to the boat grinning with excitement to show me the video they shot.

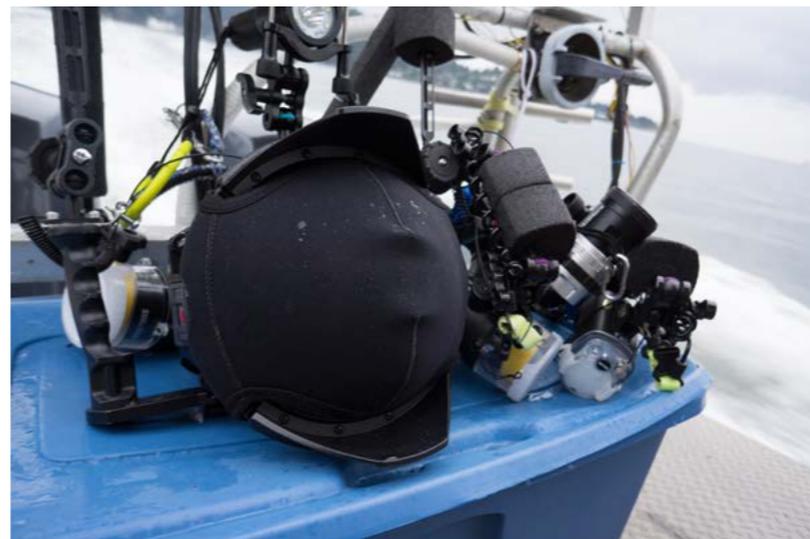
Divemasters can be especially helpful when you travel to unfamiliar seas. It's amazing how hard it is to find critters we're not accustomed to finding. It can be beneficial to hire a private guide if you don't want to find yourself trailing behind a group of flailing amateurs and missing out on the spectacular oddities that flee to safety before you can even set your exposure.

Which Camera is Yours?

Another important part of planning for your dives is prepping your camera. I don't mean charging batteries and lubing o-rings, that's obvious and you probably know more about it than I do. Are you familiar with the

boat you'll be on? Are there many other photographers onboard? Cameras with long arms and big domes take up space, are awkward to carry and to pass down into the water. In the interest of keeping your camera safe and helping out the divemasters, put a handle on it. A double ended clip holding the arms together or a sturdy rope-handle in a clear place for grabbing your camera quickly will make everyone happier.

In a hurry, to divemasters, your cameras all look the same. If you're going to be on a charter boat with a group of photographers who all need their cameras passed down to the water after striding off the boat, then make your camera stand out. When we're grabbing and handing 12 cameras into the water as efficiently as possible, not only does a simple handle makes a big difference, but something identifiable to make your camera stand out helps as well. "Mine's the big one!" doesn't usually work as a description! If you don't have a unique handle or the only RED cam onboard, put a sticker on it. If you're not



familiar with the boat or know it doesn't have space for people to keep their cameras with the rest of their gear, bring a bin or bag to stow your rig while you're above water. Make sure your camera fits into it easily, so the divemaster isn't awkwardly wrestling with strobes while another diver is waiting to be helped out of the water.

Paparazzi Syndrome

Once you've got a reasonable dive plan and your camera is all ready to go, it's time to jump in! Divers sometimes forget their manners when they're focused on getting the shot. I'm guilty, too, of getting excited about an animal encounter from time to time, and I don't even have a camera! As much as we plan ahead, we never know what we will find underwater and it is one the reasons we all keep going back.

Critters, like our resident Wolfeels, are often kind enough to stay in one place; they let us crowd around the entrance to their dens so we can admire their gorgeous smiles. I say crowd because I can't tell you how many times I've seen groups of divers all squish up next to each other trying to get their stunning portrait of one animal. Wolfeels are wonderful; they stay in one place, giving people time to get their shot and move out of the way. Since Wolfeels are fairly common, if you're a seasoned Pacific Northwest underwater photographer and you find yourself in such a cluster, consider moving on. Let a diver who hasn't had a close-up experience with such a creature enjoy it while you use your well-trained eye to find something else exciting.

Be Kind and Patient with the New Divers

On every dive boat, there is an array of experience and interests among divers. More experienced divers can become impatient. Remember that you too only had five dives under your belt at one point! Some divers take more time or require most assistance gearing up, getting in and executing their dives. If you're not the divemaster or their buddy, then that's not your problem so don't let it frustrate you.

Newbie divers are always interested in whatever you're shooting with your space-ship like camera. Take a second to point that 'something' out and it will make their dive. New photographers are usually appreciative of receiving helpful tips from more experienced people. Encouraging critique can make a big difference to someone finding their own photographic style, but a casual dive trip isn't always the place for uninvited criticism. Not everyone with a camera is competing for the best shot; some divers are simply collecting memories.

Don't Touch

Arguably the most important piece to remember when adhering to proper underwater photography etiquette is respecting the marine life. Most dive operators have a strict "No touching!" policy. I agree with them. In the

Pacific Northwest we don't have to worry too much about accidentally brushing against venomous creatures because of our thick exposure suits and head-to-toe coverage. However, I do find that divers wearing gloves are more inclined to touch things. Things aren't usually inclined to like being touched. Respecting the creatures we are visiting is reason enough not to touch them.

A broad overall awareness is necessary to make as little impact as possible as you move through an underwater environment. Feeding and touching bigger animals is now regarded as an out of date, misinformed practice. Sea creatures, like our beloved wolfeels, have a delicate coat of slime on their bodies that acts like an immune system. When we touch these animals, especially with our rubber and neoprene gloves, we interfere with this layer of protection and put the animal at risk of developing health problems.



Buoyancy Control for the Little One's Sake

Even the most respectful Wolfeel photographers can often be spotted disturbing a plethora of other creatures. You might not even be aware you're doing it, but we've all done it. We've all been guilty of resting our knees, fins, elbows or dangling gear on the surrounding substrate while we try to get the perfect shot of a sea monster. Stationary and slow-moving invertebrates are often victims of this kind of accidental disturbance because they simply can't escape. The easiest way to remain respectful of the surrounding environment is to remember your buoyancy. I'm the diver hovering in the background watching the sea cucumbers take flight and anemones implode. Please try to leave the bottom dwellers on the bottom and let the filter feeders filter feed.

One last very important piece of advice from me to you is to keep in mind all the reasons why you began diving in the first place. Every dive has the potential to be an extraordinary experience, don't forget how lucky you are to be under the sea. Whether you end up getting the award-winning shot or not, you can at least enjoy your dive.

Uh Oh ... I'm in Deco

By Bob Bailey

One of the things we learned in our Open Water training is that sport diving is supposed to be within no-decompression limits (NDL). Back in the “old days” divers used tables to keep track of nitrogen buildup during their dives, and to determine how much no-decompression time they could plan for on their next dive. These days almost everyone uses a dive computer which monitors the dive profile and tells you on a continual basis how much no-decompression time you have left at a given depth. Keeping track of your NDL is a simple matter of watching the display on your dive computer.

But what if you neglect to watch your computer as carefully as you should, and suddenly notice it's blinking and giving you numbers that you're not used to seeing. Depending on the model, and whether or not you have read the manual that came with it, you might be able to determine what to do as a result. But that's not always the case.

So I'd like to talk about what "deco" actually means to a sport diver, and what you can do if you should find yourself with a deco obligation. I'll begin by emphasizing that decompression is far from an exact science and that divers who plan to do decompression diving should not do so without first getting proper training from a qualified dive instructor. This discussion is for the sport diver who inadvertently finds him or herself with a deco obligation that was not intended.

To understand what deco means, let's first look at what causes it. We all know from our basic Open Water training that the cause is nitrogen in the air that we breathe. Because it's an inert gas, nitrogen doesn't get metabolized by our body processes; it just "sits" there. When we dive, our tissues gradually absorb and finally maintain higher than normal levels of nitrogen. The rate at which nitrogen gets absorbed and the level at which it is maintained depend on how quickly we descend and how deep we go.

The process is reversed when we ascend. As the pressure of the water on our bodies decreases, the nitrogen absorbed into our tissues will come out. We call this process "off-gassing." The rate at which we off-gas nitrogen depends on our ascent rate. Decompression is the term we use to describe what happens to nitrogen that is off-gassed from our body tissues into our bloodstream.

Two things factor into decompression. First, as we ascend, the pressure exerted on our bodies becomes less than the pressure of the nitrogen gas absorbed within our tissues. The accumulated nitrogen in our tissues begins to come out in the form of tiny,

microscopic bubbles. These bubbles get dissolved into our bloodstream and eventually make their way to our lungs, where the excess nitrogen is expelled when we breathe.

The second thing that happens is that as we ascend, the nitrogen bubbles in our bloodstream get larger. Remember the example of the balloon in your Open Water class? As the balloon got pulled down deeper, it got smaller, but as it came back up, it got larger. Think of the nitrogen bubbles in our blood as millions of tiny balloons. We want

to expel them through our lungs before they get too big. We achieve this by coming up slowly.

Now that we've looked at the basics of decompression let's talk about how we can deal with an unintended deco obligation.

Firstly, it's important to understand what your computer is telling you. Typically, the NDL number you're used to seeing on your screen will be replaced by the number of minutes of deco obligation you've incurred.



Diver at Browning Wall - an easy place to get yourself into deco!

Image by Kerry Enns

The number “10”, for example, appears where you’re used to seeing your maximum depth. That “10” isn’t telling you to go to 10 feet, it’s telling you do not go shallower than 10 feet until you’ve completed your decompression obligation. Think of this 10-foot depth as a “ceiling”, above which you cannot go. Note that some dive computers will also give you “intermediate” ceiling depths as you ascend. Be careful not to go above the ceiling depth until your dive computer indicates that it is safe to do so.

Ascend to your ceiling depth slowly to give the nitrogen bubbles a chance to be expelled from your body before they’re allowed to grow too numerous or too large. It is usually a good idea to stop 2 to 5 feet below the ceiling so that any slight variations in your buoyancy control will not cause you to exceed it.

Since decompression is affected by a lot of variables, most of which are unique to our individual bodies and the circumstances of our dive profile, it is impossible to provide a “formula” that works best for all cases. Therefore some rules of thumb can be adopted to help you make a safe ascent:

1. Ascend to half your deepest depth at the normal rate of 30 feet per minute.
2. Remain at that depth for one minute.
3. Proceed with your ascent at a slower than normal rate; I prefer an ascent rate of no more than 10 feet per minute.
4. Make a short (1 to 2 minute) stop at 30 feet.

5. Proceed at 10 feet per minute to just below your ceiling depth.
6. Remain at that depth until you’ve “cleared” the deco obligation from your dive computer.
7. Take a full minute to go from there to the surface.

In many cases of inadvertent deco obligation, making a slow ascent and short stops at the halfway and 30-foot depths will clear your computer before you even reach your safety stop. In this case you can end the dive by simply following your normal safety stop routine.

Obviously, other factors need to be taken into account such as how much breathing gas you have remaining. It is important to realize that following a deco obligation into an out-of-air situation is simply not the right choice. Although clearing the deco obligation is important, making sure you have adequate gas to do so is always the top priority. Monitor your air supply carefully and make sure you and your dive buddy know how much gas each of you has remaining.

There may be other circumstances that would require you to surface with a deco obligation, such as a flooded drysuit or simply being too cold to remain in the water. Make sure to evaluate all risk factors when deciding what to do. However, if all other factors are within safe limits, following the rules of thumb listed above will reduce the risks associated with exceeding deco limits and help you end the dive safely.

If you must get out of the water before clearing your deco obligation, then monitor yourself for signs of decompression sickness (DCS). If any signs of DCS become evident, begin O₂ treatment and seek medical help immediately.

Remember that the best solution is to monitor your depth and time so as to avoid exceeding your NDL. But mistakes happen, especially on days when you are doing multiple dives. If you should find yourself in a deco situation, then begin your ascent immediately monitoring both your ascent rate and air supply. Remember that as you get closer to the surface, slower is better.



Divers can accidentally exceed NDL when distracted.

Image by Kerry Enns

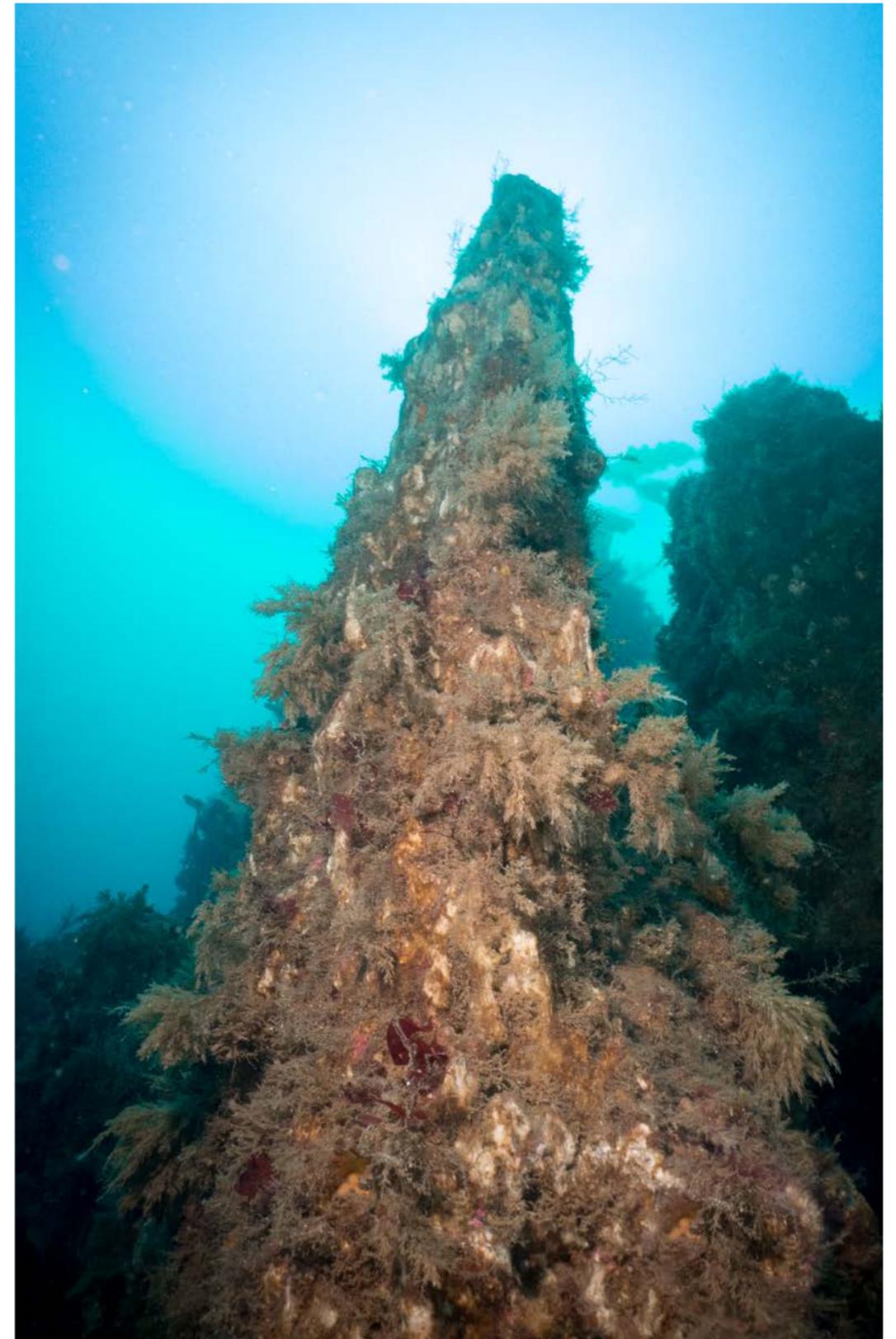
Diving Strýtan and Arnarnesstrýtan

Images and Text By Tiare Boyes

Iceland is a place like no other, full of places like no others. While most people come here looking for the stunning landscapes, powerful waterfalls and dancing Aurora Borealis, few venture under the chilly Atlantic waves. If you are prepared to get your feet wet (and the rest of your body) there are amazing adventures to be had and new worlds to discover.

In the North of Iceland is a wide-open fjord called Eyjafjörður. This area has been settled at least since the 9th century and the ice-free bay has been a traditional fishing ground for many generations. The local fishermen in the beginning of the century knew of a place where the water sometimes lay peculiarly smooth at the surface and where their cod hand-lines encountered something shallow in relatively deep area. A country of intense geothermal activity, this valley has many hotpots and steaming rivers which follow a common fault line. It was suspected that this hot water activity continued into the icy waters but was never thoroughly researched. Older charts of the area indicated a sharp shallow area but marine charts in the 80's showed no such feature. Finally in 1990, the research vessel Bjarni Sæmundsson conducted a survey of the fjord and confirmed there were unique, shallow water hydrothermal chimneys in the area.

A newspaper article citing the discovery of the chimneys piqued the interest of local commercial diver, Erlendur Bogason, who decided to go down for himself to check it out in the late 90's. Erlendur and his dive buddies were the first to see the hydrothermal chimneys with their own eyes and he hasn't stopped diving in the area since.



This is one of the older vents at Arnarnesstrytan, covered in encrusting life and emitting very little hot water.

Most hydrothermal vents are found in very deep waters (around 3000m or deeper), outside recreational diving limits, so these formations are incredibly special. Iceland protected this unique area by establishing it as the nation's very first underwater National Monument. Fishing and anchoring is prohibited in the area, but diving is allowed, with permission from Erlendur who has been contracted by the Environmental Agency of Iceland (Umhverfisstofnun) as the official protector of the formations.

Like Erlendur, I decided I needed to see this place with my own eyes. We met up with Erlendur on an incredibly clear, sunny day (which is incredibly lucky in Iceland for this time of year). His company, Strýtan Divecenter, is housed in an old herring rendering factory which ceased its fishy business in the 70's but is now home to a variety of artists, galleries and the divecentre. The grey cement buildings have been repurposed but it still retains a very industrial-chic aura.

Within the walls of the Divecentre, Erlendur has created his own personal museum and research centre. In his collection are artefacts from his dives all around Iceland. An impressive amount of push-pins representing his dives are stuck into the coastline and freshwater features of a chart of Iceland mounted on the wall. The collection includes a Polar Bear paw print his neighbour made for him (Polar Bears sometimes drift from Greenland on ice flows and end up in Iceland where they are terminated, relocation being difficult and very costly), shells, barnacle encrusted bottles, bits of hydrothermal vents, beautiful larger than life underwater photos (taken by Erlendur) and the smallest taxidermy rug ever (made from a mouse and mounted by the same neighbour). There are all sorts

of shells, including a species that has been identified as the longest-lived animal in the world, the Ocean Quahog (*Arctica islandica*) which has been aged at over 400 years old (and commonly eaten in chowder). Erlendur has a story for each and every piece in his collection. He lectures his divers on the fragility of the hydrothermal vents, demonstrating by crumbling a small sample between his thumb and finger and warns us that if he does not find us adequate divers after the first dive, he will not take us to the Strýtan chimney which could be irreversibly damaged by an errant fin or bad buoyancy. This approach illustrates his protective stance of the area and is refreshing in a time of mass tourism where in many places recreational divers are accepted for their money and not for their buoyancy control or spatial awareness underwater.

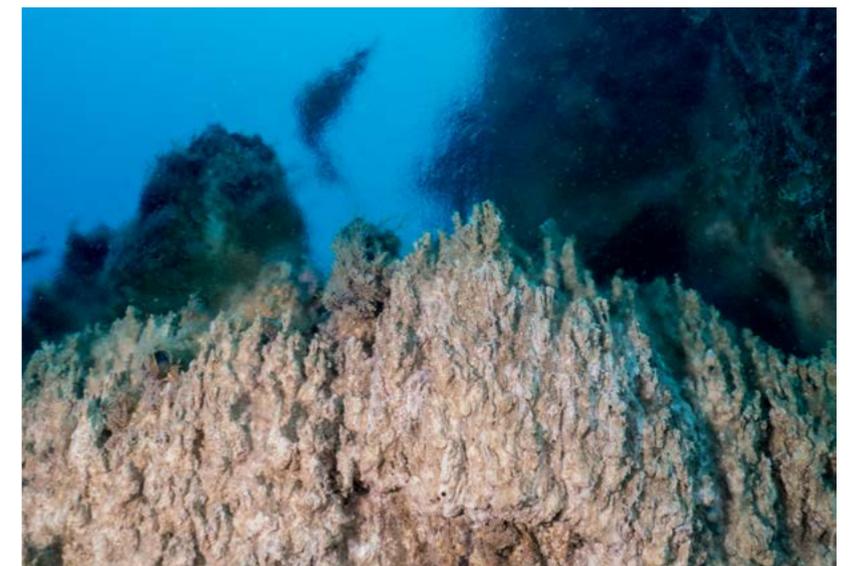
After a dive briefing, we gear up and set off in his boat with sunny skies and a slight chop. At the first site, called Arnarnesstrýtan (roughly translated as eagles chimney named after nearby Arnarnes peninsula), Erlendur ties us off on a sturdy buoy system of his own design and we splash into the water. A line connects us to the bottom and as we descend into the bluish waters. A thin grey



Stephán (previously know as Stephanie) swims out from his den to greet us as we descend.

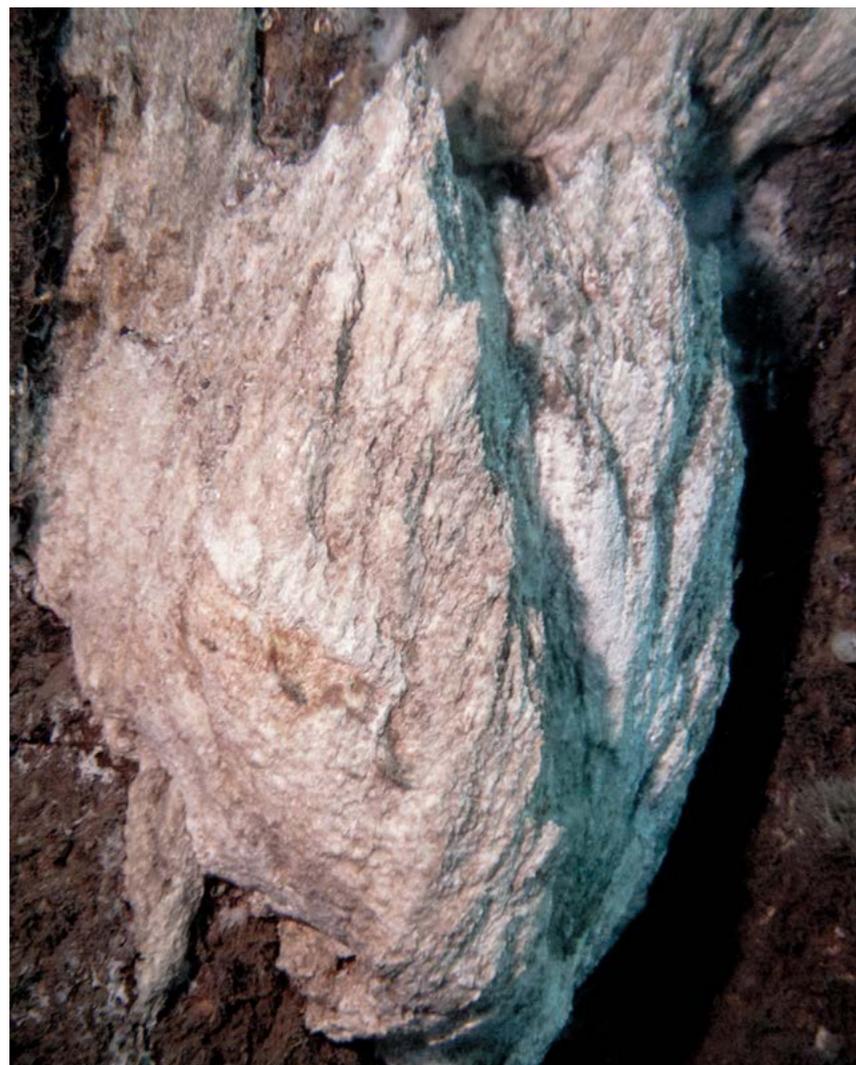
form swims out to meet us. This is Stephán the Wolffish (previously known as Stephanie before his biological gender was identified), close friend of Erlendur. These two have been swimming together over many years and have developed a unique relationship. Erlendur has been studying the biology and behaviour of the Wolffish (Steinbítur or sladd in Icelandic) in the area. There are 15 marked dens near the hydrothermal vents and at least a couple of them while we were there housed beautiful round bunches of pearlescent eggs, closely guarded.

The abundant life at Arnarnesstrytan is fascinating. There are Seastars, Kelp (*Laminaria*), Plumose Anemones (*Metridium senile*), Hermit Crabs, deep purple Coraline Algae, brilliant yellow sponges, and Nudibranchs of all colours and species. The water comes bubbling up from a multitude of vents, mixing the hot fresh water with the cold salt water creating beautiful swirling designs. The water that comes out of these vents is about 80 degrees, has a ph of 10, is about 1100 years old (according to Erlendur) and makes great hot chocolate (also according to Erlendur).



A series of small vents creates a line of mineralize chimneys.

While I was busy taking photos of the graceful Anemones, I heard my dive buddy exclaim through his regulator, I turned my head and saw a beautiful Starry Skate (Tindaskata, or tindabikkja in Icelandic, Amblyraja radiata) cruise by us through the water column, dodging the plumes of hot water. The vents range from small with mineral deposits with no encrusting life, to large and life covered. The chimneys in this area are about 10 m high and the seafloor is about 24m. We finished our dive amidst a plethora of Seacoms and Jellyfish their beautiful rainbow cilia catching the sunlight as they paddled along in the slight current.

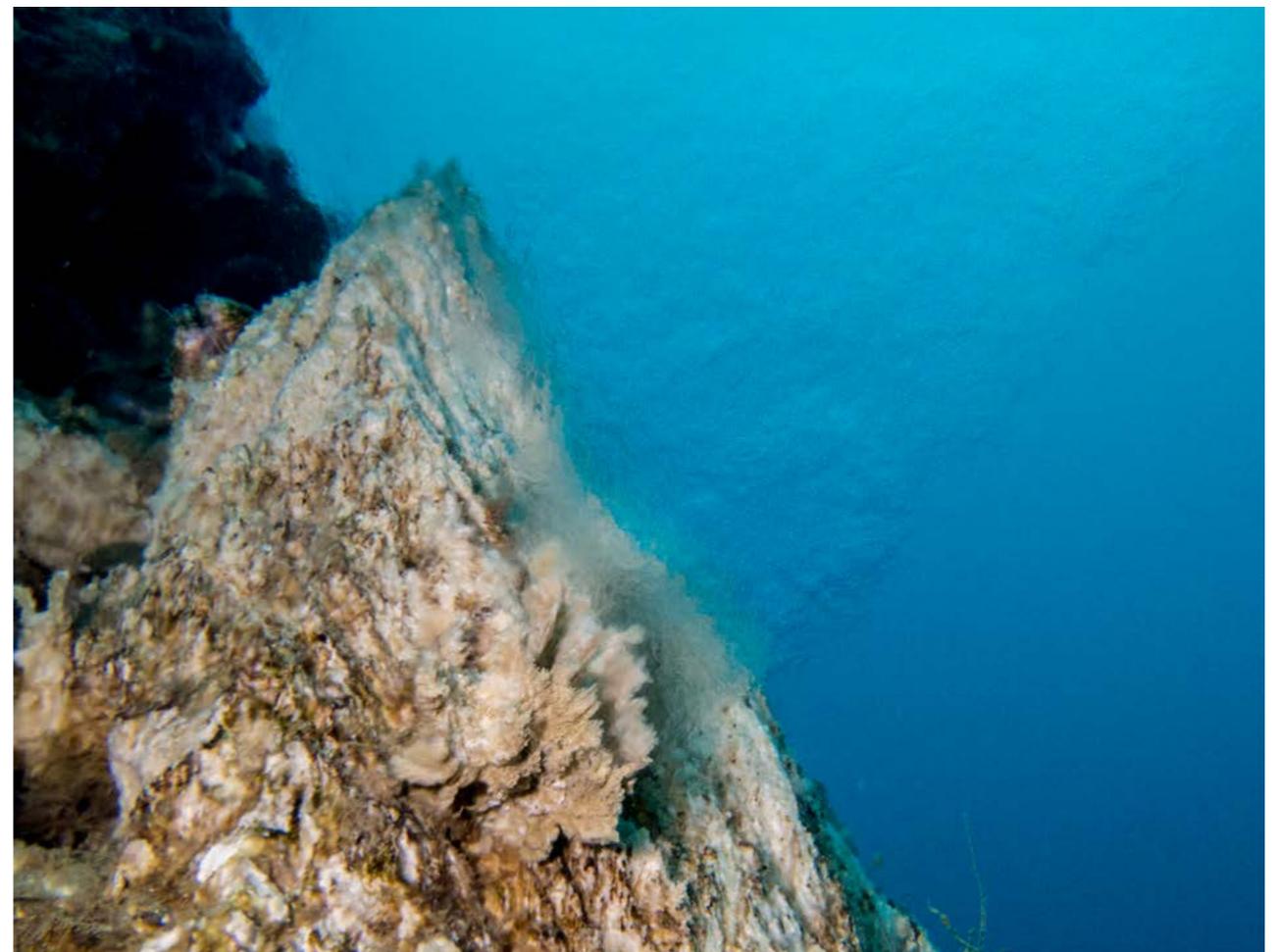


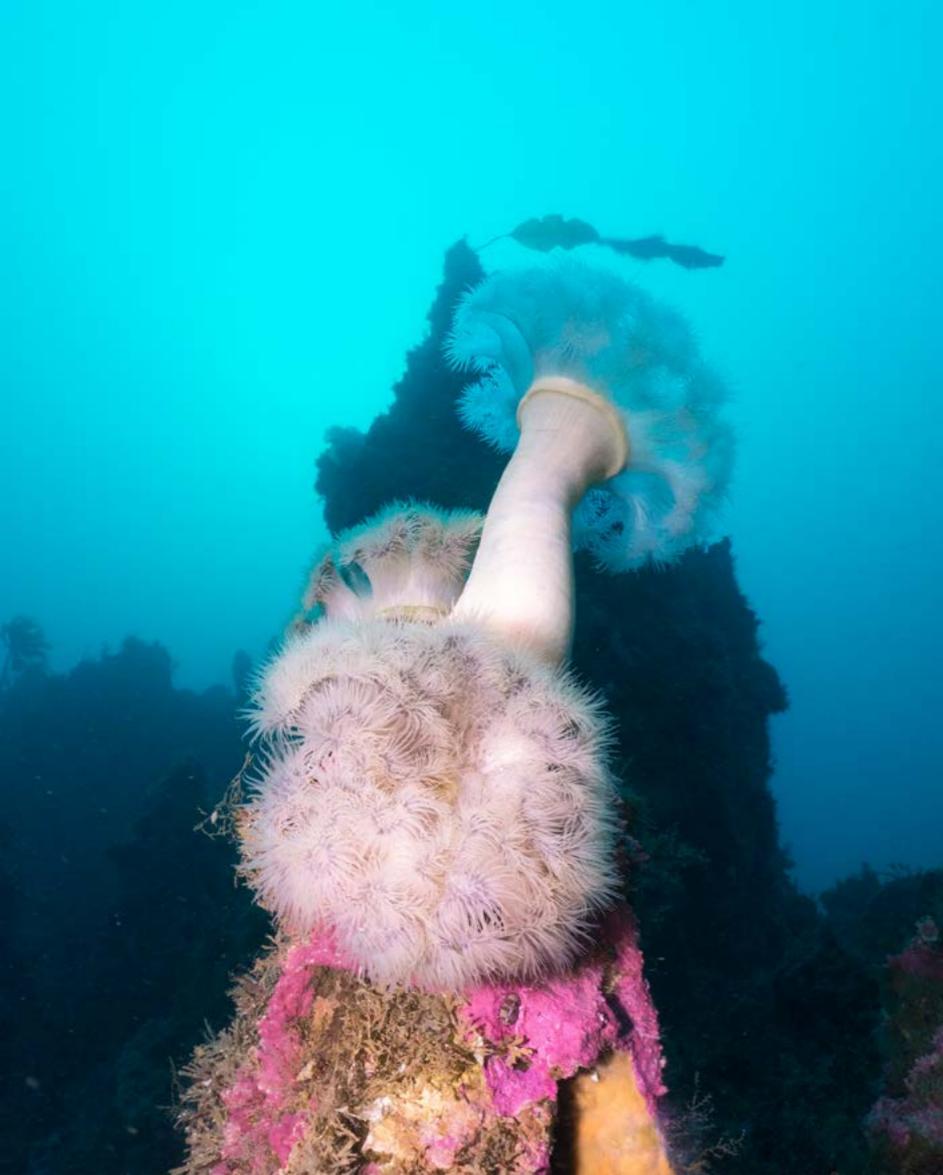
A relatively new vent cropping out from the side of the larger chimney at Strytan at about a depth of 26 meters.



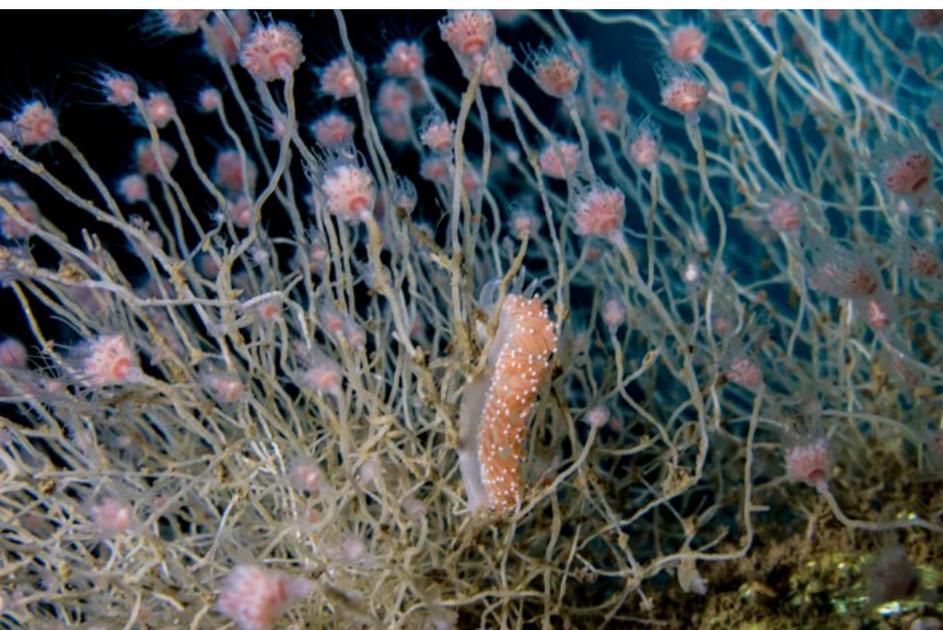
Above: A beautiful Starry Skate (in Icelandic Tindaskata or tindabikkja) cruises through the water between the vents at Arnarnesstrytan.

Below: 80 Degree water pours out of a vent near the top of the Chimney at Strytan. The hot fresh water mixes with the cooler salt water creating fabulous, swirling designs.





Above Left: Plumose anemones take advantage of the high vantage point the chimney's offer, to catch morsels floating by on the currents. Below: Of course there are tons of nudibranchs near and on the vents (or in this case on a rope beside the vent). These guys are chowing down on some Pink Hydroids, Tubular. Nudibranch (meaning naked lung) absorb their defensive system from their food (like this hydroid), adopting the nematocysts (stinging cells) for their very own prickly uses. Below Right: These vents have not yet been thoroughly studied and many species which call it home may be unclassified. I have no idea if this little fellow has a name or not but I shall call this individual Raymond.



Declared competent for the second dive, after a surface interval back at the shop, we set out again to dive on the crowning jewel of the Ystuvíkurstýtur, Strýtan. Originally when Erlendur dove this for the first time him and his buddies followed the hot water bubbles down to find the series of three chimneys; this took a couple of dives to get right. On this day, we followed a secured line down which runs beside the almost 50 m tall chimney put in place to protect the site and to avoid people setting their own lines down. At about 28 m we stopped descending and explored the surface of the chimney. Covered in encrusting life, it is home to many species of hydroids and nudibranchs. The life here and the geology of the area was studied between 1997-98 but no major research has been conducted since. I saw many species of nudibranchs big and small. Butterfish (*Pholis gunnellus*) poked their faces out from crevasses and *Flabellina* Nudibranch munched on Pink Hydroids, absorbing their defensive stinging cells for their own protection.

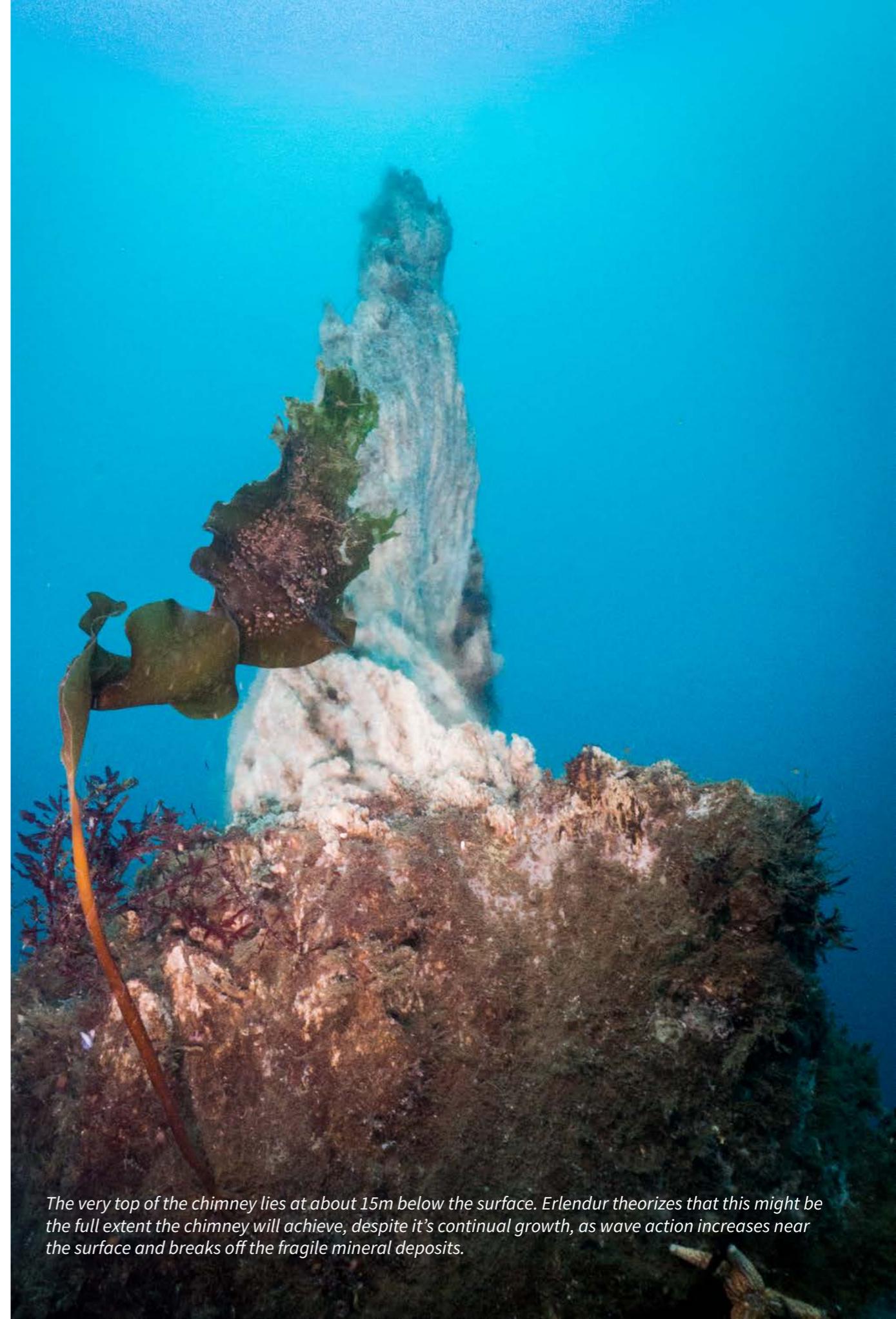
The top of the immense pinnacle is a delicate tip of mineralized clay, newly formed and un-colonized by marine species. The minerals in the hot fresh water combining with the cold seawater form the chimneys like massive stalagmites growing up from the ocean floor.

Scientists are debating clues to the origins of life on our blue planet and some believe that it all started near vents such as these. The microbiology and bacteria on these vents have been studied extensively at other sites and some researches believe that this is where we will find our common ancestors. A dive to an area such as this, might just be a visit back to the origins of life on earth.

Iceland is an incredible country to visit, both above and below the chilly waves. Sites like the hydrothermal chimneys in Eyjafjörður are just one of the many amazing geological anomalies here that are not found anywhere else in the world. It is important to remember that we have just begun to explore our world's oceans which cover 70% of our blue planet, and our actions on land and in our familiar coastal waters have repercussions in the deepest of oceanic trenches. Protection of unique sites is a step in the right direction but if we are to preserve the health of our planet we need systematic ecologically based change to take place in our global society.

Citations:

- Abele, D., Strahl, J., Brey, T., & Philipp, E. E. R. (2008). Imperceptible senescence: Ageing in the ocean quahog *Arctica islandica*. *Free Radical Research*, 42(5), 474–480. <https://doi.org/10.1080/10715760802108849>
- Atlantic catfish. (n.d.). Retrieved February 18, 2017, from <http://www.fisheries.is/main-species/other-demersal-fishes/atlantic-catfish/>
- Bogason, E. (2017, February 10). Strytan Divecentre, hydrothermal chimneys.
- Odom, I. E. (1984). Smectite clay Minerals: Properties and Uses. *Philosophical Transactions of the Royal Society of London A: Mathematical, Physical and Engineering Sciences*, 311(1517), 391–409. <https://doi.org/10.1098/rsta.1984.0036>
- Oldest animal on earth - Sea Iceland. Retrieved February 18, 2017, from <http://seaiceland.is/why/oldest-animal-on-earth/2-uncategorised>



The very top of the chimney lies at about 15m below the surface. Erlendur theorizes that this might be the full extent the chimney will achieve, despite its continual growth, as wave action increases near the surface and breaks off the fragile mineral deposits.

Our Swan Song

*What will Dan,
Dale and Kerry do now?*



On Closing Pacific Northwest Diver

By Dan Clements

In early 2011 we had an idea of creating an on-line magazine that would showcase the amazing underwater photography and videography work of Pacific Northwesterners. We also wanted to provide a forum for instruction and travel so photographers could share their knowledge and skills.

And wow! The results have been amazing. What a privilege it has been to be able to share the work of so many talented individuals, not to mention meeting and diving

with such a quality group who care as much about our environment as the aesthetics of a great photo or video.

Thanks to Kerry Enns, Pacific Northwest Diver evolved into a high-quality periodical with a substantial reader base. The good news is that we have been able to keep issues clean by not accepting advertising. The bad news is that this has been a volunteer effort funded out of our own pockets.

In the past seven years lives have changed, and priorities have shifted. Speaking with Kerry a couple of months back, we decided to shutter the magazine to free up time for other interests.

For me, the recent birth of a grandchild, combined with the recent diving deaths of two friends, brought into focus the limited amount of time we have on this planet. Given the recent change in the United States federal government's attitude towards environmental stewardship, my feeling is that those of use with cameras need to bring the beauty and major problems our planet is facing into sharper focus for a broader and more diverse audience.

With that in mind, my plans are to spend more time photographing and sharing changes that are rapidly modifying our planet. In mid-November, for example, I was privileged to take part in a series of hikes to photograph polar bear northern Canada.

This year, as happened last year, there was no sign of ice on Hudson's Bay. This past October and November Arctic Sea temperatures were 4°C/7°F warmer than average, while air temperatures were an unheard of 20°C/36°F above average! While we had some cold days, most of the time the temperature was right around freezing.

And yet the bears are adapting . . . so far. A decade ago locals started seeing polar bear prey on young beluga whales in shallow water. This past year our guide videoed two bears co-operatively hunting and killing an adult beluga in shallow water on an ebb tide. These stories and photos need to be shared to help reinforce the reality that climate change is real and taking place at an accelerating rate.

This coming year we have travel plans for BC's Great Bear Rain Forest to photograph (hopefully) Spirit Bears, and Bengal Tigers in Rajasthan, India. And I really want to spend more time in the Arctic, as it is a special place that is rapidly changing.

So, in the next few years, hopefully I can contribute to helping keep the awe-inspiring flora, fauna, and ecosystems on our planet viable. I want my grandson, and grandchildren everywhere, to have an opportunity of experiencing the Nature that I have been brought up with, and respect so much.





One of the beach dive sites at Britannia Beach.

So Long... and Thanks For All the Fish

By Dale Carlisle

Since taking it up nearly ten years ago, diving has been an incredibly rewarding experience both above and below the water for me. Even though I had been keenly interested since my youth watching the Underwater Adventures of Jacques Cousteau on Sunday evenings, something always seemed to distract me from taking the plunge until later in life.

Shortly after certification I discovered the sub-genre of Vintage Equipment diving, which matches a love I have always had for history with the adventure of swimming

underwater. I have spent many happy hours talking with others, learning about, rebuilding and using gear from the early days of diving. I count myself very fortunate to have done so because I discovered (along with the equipment) a fantastically simple but effective holistic way to dive that I might otherwise have missed. Vintage Equipment diving also makes almost any dive more exciting and it has helped me to maintain my enthusiasm for the sport.

In a funny way the old led to the new as this old dog somehow found himself learning to develop an online presence via YouTube, forums and a website called manfish.ca. I was naturally pleased when Kerry first asked me to write an article for the magazine because I always enjoy sharing my appreciation for the lessons of

the past with others. It has been an honour to be able to have done so on a regular basis since.

Along with old stuff I also have a strong interest in fish, having kept them in aquariums for many years. One reason I took up diving was to be able to understand their behaviors more to better replicate habitats for them at home in what the hobby calls Biotopes. Along the way I came across information about a small nondescript fish in a local lake that was the focus of interest by the Department of Fisheries and Oceans because so little was known about it. The Cultus Pygmy Sculpin was to become a major theme in my diving for the next five years as I began a diver-led initiative to study its environment, behaviors and reproductive habit. The “Cultus Lake Project” led personally to learning how to shoot video



Dale's light peering over the side of an old seine fishing boat at Britannia Beach. Image by Kerry Enns

and to the recruiting other diving friends with more refined photographic skills. One highlight of the project was capturing the first photographs of the fish in its natural habitat. Along the way, having conducted hundreds of dives, we learned a great deal about this little fish and Cultus Lake in general and passed our information and images along to the DFO.

With that project at an end for the most part, and the magazine now wrapping up, I find myself looking for another avenue to apply my curiosity within the world of diving. One geographic area that interests me is the region surrounding Britannia Beach on the Howe Sound which is deeply steeped in history. Of little notice to sport divers for many years due to intense pollution from the copper mine located nearby, Britannia Beach has now come back as a unique place rich with underwater life and objects of the past to be discovered. In the next few years I think I will be devoting a portion of my diving to mapping and understanding what lies beneath the surface there.

I would like to thank Kerry and Dan for allowing me the opportunity to develop my writing skills and share my passion for diving through the magazine with others and look forward to meeting and diving with them and others in the years ahead.



This is one of my all-time favourite images. I used a 105mm macro and a newly acquired 1.4 teleconverter.

One Door Closes, Another Opens

By Kerry Enns

As I mentioned at the beginning of this issue, I have mixed feelings about shuttering the magazine. I had limited experience with layout and design but a working knowledge of the Adobe products. I paired up with Talia Cohen, now the Digital Art Director at Lululemon in Vancouver, who mentored me along as I changed the design of the magazine. She graciously spent time teaching me some of the nuances of layout so that I became adept at using the software needed to make a beautiful magazine. Another friend, Cole Nicks, Senior

Graphic Designer at BC Children's Hospital, picked up where Talia left off teaching me even more. Thus was born the latest design with lots of white space. This, I learned, allowed the reader's eye to rest on the images and view them as art.

Lately, I have been rekindling my mapping skills and putting them to use in education. I realized that there was a lack of beautiful maps for students and that mapping in school is used more as a filler. Such a shame! I put my newly acquired skills in layout to use in creating saleable material, such as mapping, on a popular teacher resource store called Teachers Pay Teachers. This is a long term project - it takes at least a couple of years to

get established. I hope to put together some units on the critters of the Pacific Northwest.

Meanwhile, my family situation called me back to work full-time teaching. I am thrilled to have landed a temporary position in a local middle school working in Learning Services until June. Mainly, I work with teachers helping them to find ways of reaching students who have learning challenges, whether academically or behaviourally. It also provides me with feet-on-the-ground opportunities to develop curriculum for those students; two-birds-one-stone - you know what I mean. This job means my curriculum building must be put on hold until summer.



These are some of my images that I've taken over the last couple of years. I have met great people who have included me in their diving adventures in terrific places like Monterey, Edmonds Underwater Park, Hood Canal and Keystone, shown in these images.



My time in the water has been split between freediving and scuba diving. I enjoy the freedom of freediving and particularly the lack of weight as I trudge toward water. And there is nothing like a good game of hide-and-seek with the local Harbour Seals. I would like to play more with photography and freediving.

My love for the macro world, however, is keeping me scuba diving. I love heading to Keystone, meeting my American friends, particularly Pat Gunderson, in our inexorable hunt for the Dodo or other equally tiny nudibranch.

I also am excited to work with Dale Carlisle in mapping out the underwater history of Britannia Beach. My son-in-law, a recent doctoral graduate and professor at Kwantlen University, is designing a course on the History of Oceans. He has agreed to help us out on this project, teaching us archival research and other nuances of recording history.

In short, I am ever so grateful for the opportunity to have met many amazing people and to have been inspired by them. I am also grateful for the personal growth the magazine has provided both in photography and professionally. I am looking forward to continuing my personal education in other areas of curriculum building, photography and mapping.

I will see you at the water's edge!



Dan Clements

Washington, USA
Founder/Columnist

Dan is an adventurer who has a deep appreciation and respect for the world's natural wonders and life in its many varied forms. He has climbed, skied, sailed, SCUBA dived, and traveled throughout the world. He has made first ascents in North and South America, and run major white water rapids in Africa and the Western Hemisphere. He wrote the now sold out *Critters, Creatures, and Kelp* in 2009.

He was fortunate to have parents who exposed him to Hopi, Navajo, Seri, and Lacandon First Nations populations. Later in life he was privileged to be able to spend time among the Bushmen (San) of southern Africa, and Qechua and Aymara in the Andes. He is working to try and increase knowledge and appreciation of Pacific Northwest indigenous populations.

He holds an MBA in international finance and has sat on boards for United Way, Housing Hope, Cayenta Systems, Eden Systems, Snohomish County Public Facilities District, and Ibis Publishing.

When he is not underwater photographing he enjoys cooking, back country skiing, distance running, mountain biking, and opera. Everett, Washington is home base and where he and his wife Karen raised two sons.



Kerry Enns

British Columbia, Canada
Editor/Publisher

Kerry grew up in Brazil as a missionary's child and moved to Wisconsin at the age of 10. While her father worked on his studies, she entertained herself by cycling, swimming and fishing and earned spending money by delivering papers and babysitting. Her family moved to Winnipeg during her high school years. After graduating, she found herself heading to British Columbia to go to Trinity Western University. She married and stayed in BC raising 2 children.

She holds a degree in Geography and is certified to teach elementary and middle school students. She currently works part-time as a Teacher on Call in order to fund her diving, photography and travel.

She enjoys traveling and has had recent visits to the India, the UK/Ireland and Maui. She hopes to continue to travel as much as her finances allow it and would like to someday dive the beautiful tropical waters world wide. She particularly wants to visit Brazil, not only to dive but to work on her fluency of the Portuguese language.

She has recently taken up freediving and hopes to learn photography in that new venue.
www.celticcow.com kerry@celticcow.com



Dale Carlisle

British Columbia, Canada
Columnist

Certified in 2007, Dale is interested in several facets of diving. As a long time fishkeeper and naturalist, he loves being able to access the aquatic realm in order to better observe fish habitat and behavior. In 2010 he began a long term study of a local lake (The Cultus Lake Project) in order to learn more about an endangered species of fish that resides there.

Out of that interest, he began learning how to capture images of his subjects and continues to develop his underwater videography as both a vehicle of communication and art form.

Dale also enjoys researching the historical aspect of diving and often uses vintage era gear and techniques himself, which he shares with others at www.manfish.ca.