

THE FACTS AND VIEWPOINTS IN THIS SECTION ARE NOT NECESSARILY THE VIEWS OF X-RAY MAG. EQUIPMENT PRESENTED IN THIS SECTION HAVE NOT BEEN TESTED BY X-RAY MAG STAFF, NOR ARE THE ITEMS WARRANTED. INFORMATION PROVIDED IS CONDENSED FROM MANUFACTURERS' DESCRIPTIONS. TEXTS ARE USUALLY EDITED FOR LENGTH, CLARITY AND STYLE. LINKS ARE ACTIVE AT THE TIME OF PUBLICATION

POINT & CLICK
ON BOLD LINKS

Crackalackin' Equipment



Creme de la Cressi

Pairing Cressi's second stage Ellipse Titanium with the first stage hyper-balanced MC9 combines the best of this Italian market. The small size of the second stage, combined with the use of sophisticated technopolymers and various titanium parts allow the weight to be kept to an exceptional minimum. Advanced research on the passage of internal air and a special assistance chamber in the first stage have enabled the drop of pressure upon inhalation to be kept to a minimum, thus guaranteeing high performance in any situation. Cressi-sub.com



Fishtail

The Fishtail Side-mount Retainer is ideal for Rebreather divers, Open Circuit Technical divers, Cave divers or other exploration divers. It supports side-mount cylinders and holds them securely at their rear in position along the line of the diver's body without either flapping together or drifting outwards. It also offers additional stowage points for other kit such as, lift-bags or buoys, etc. Two elastic cords allow attachment of a surface marker buoy (SMB) or lift bag. www.apdivingdirect.com



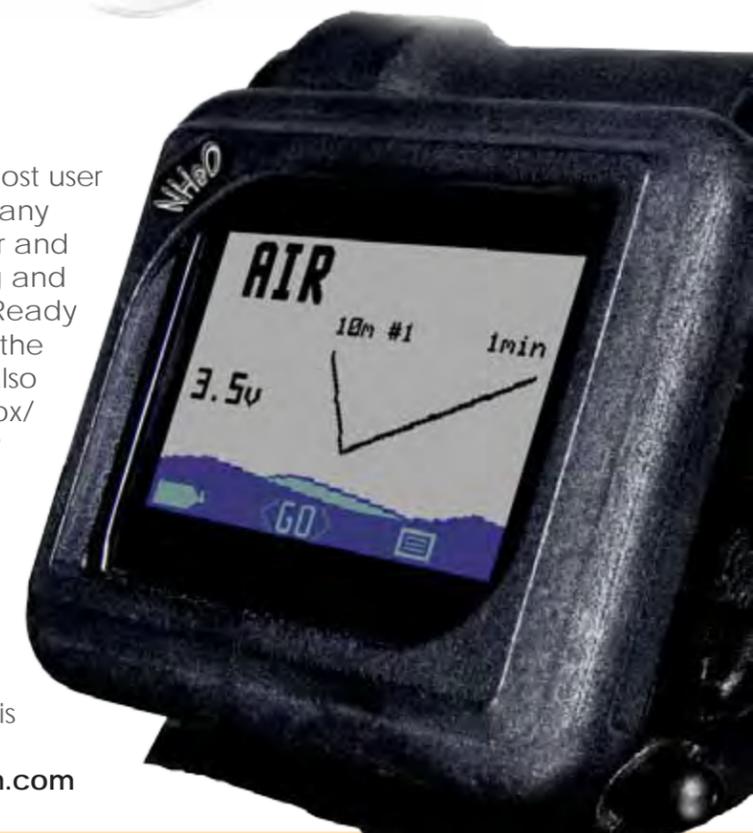
lena

Clear simplicity from SeacSub. Two-button buckles on the skirt of hypoallergenic liquid silicone makes it easier to adjust the strap, the possibility of assembling corrective lenses, make it look modern and appealing on most faces. www.seacsub.com



NHeO

The NHeO from VR Technology is the most user friendly interface of any mixed gas computer and makes programming and diving more simple. Ready to use straight out of the box, the NHeO can also be bought as Air/Nitrox/Trimix or upgraded by pin. The multi-profile, multi-gas algorithm has full decompression look ahead and you can also switch or add gasses underwater at any time whilst the NHeO calculates this new profile. www.technologyindepth.com



It is a...?

It deceptively looks like just another wireless modem for your laptop, but no. This little USB-fitted thingy contains Ambient Pressure Diving's Projection Dive Planner which is said to possibly be the most powerful CC/OC dive planner available, quickly calculating the necessary decompression for all types of gasses, dives and series of dives featuring the Hahn Delayed Surface Desaturation developed for multiple dives. www.apdivingdirect.com



Edited by
Robert Sterner

These Equipment News is brought to you by Gear Check, compiled by Robert Sterner of Sterner Editorial Services. Suggest products to review and read earlier Gear Check items by product categories at www.sternereditorial.com



See if you're turned on

It's easy to see whether a tank is turned on if its valve knob has been replaced with a Vindicator tank valve handle from Scuba Stik. The replacement accessory displays a red ring when the valve knob is in the closed position and a green ring when it is open. It's even evident if the valve is partially open, since portions of both the red and the green rings will be visible. The Vindicator knob is available in various sizes that match those of valve knobs that are shipped with tanks. To install, the user simply replaces the existing knob with a Vindicator knob. The red- and green-ring model shown at DEMA is intended for use with tanks holding typical compressed air. In the wings are Vindicator knobs with green accents for use with pure oxygen tanks and yellow and green accents for use with nitrox tanks. Price breaks are available for dive shops and individuals who wish to upgrade multiple tanks in their inventories. www.scubastik.com.

Add a little zip to your dive

Innovative Scuba shrank the scooter to a packable size with the Bladefish it unveiled last month at the Diving Equipment & Marketing expo in Orlando, Fla. Its 5000 and 3000 models weigh only 10.2 pounds and 9.2 pounds respectively including their 18-volt lithium ion batteries. Besides weighing much less than lead-acid counterparts, the batteries charge quickly. Batteries are sealed to prevent flooding and are said to be capable of hundreds of charges. A full charge for the 5000 model takes four hours, while two hours provides an 80 percent charge. The 3000's battery can be topped up during a one-hour surface interval between dives. Fully

charged, the 5000 can zip a diver at up to 3.75 miles per hour during run times of 70 to 120 minutes depending on which of three speeds a diver uses the most, the company says. The single-speed 3000 goes 3 mph for up to 40 minutes on a full charge. The 5000 is slightly negatively buoyant and the 3000 is slightly positive. Both have ergonomic soft-grip handles with dead-man switches that turn off the unit if the grip is lost. The units are shipped with a handy backpack that's perfect for totting the scooter through airports. www.innovativescuba.com.



Don't be a roll model

No matter how much you love rock and roll, it can be dangerous when the rhythm is created by scuba tanks banging around in a car trunk or pick-up bed. Tank Rak is designed to stabilize from one to four cylinders, depending on the model. Single-, double-, triple- and quad-tank holders are made of aluminum and coated with a thermoset polymer that looks like it should last for decades. They are available with 7 1/4-inch wells for 80-cubic-foot aluminum tanks and 8-inch wells for 100- and 120-cf tanks. The company welcomes custom orders that would allow individuals to get Tank Raks designed to fit their specific gearing configurations. The company also produces aluminum license plates that tell everyone on the highway that you're a diver. Tankrak.com.



Whuzzup buddy?

Keeping a finger on your buddy can be easier than ever with Buddy-Links from Affinity Devices. The finger-sized modules attach to a corner of a dive mask, just within peripheral-vision sight. When you see something you want to share, just tap the device to activate a four-color LED display in your mate's Buddy-Link. A flash of light and an electronic chirp from your Buddy-Link will let you know the message was received. A series of taps will create an "I need help now" light pattern in your buddy's unit. Distance between buddies is indicated by different colors of light, and the units are designed to alert each diver if the team is drifting beyond the range of its ultrasonic signals. The units are said to work well in confines of wrecks or caverns and through vision-obstructing kelp or soft corals. Units can be synchronized on any of 500 frequencies, so multiple teams can use the devices without activating others' units. Synchronizing multiple units to one frequency can allow a dive master to call his guppies together. Batteries sealed into the units are warranted for five years or 3,000 hours of usage. Buddy-Links are shipped in a mini-Pelican case with a charging station, an AA battery charger and lanyards for each unit. www.buddy-link.com.

The ONE

Text by Fredrik Isakson

Photo by Stefan Hogeborn

review

During one of my research trips for a new article, I got the chance to try out a new Scandinavian drysuit. The name of the suit is ONE, and the development of it was a collaboration between The Oceanic Tech dive shop in Stockholm, Sweden, their staff and instructors, and the companies, Arctic Diving and Ursuk. Ursuk is one of the biggest and best selling suit makers in Scandinavia.

The goal of Arctic Diving, who made the design, is to achieve the perfect mix between function and price. The development team made a lot of changes to the original design and reworked many of the panels that make up the suit.

So, what did I find out when I used it? I found a suit that felt a lot like the DUI suits, but at the same time, had a lot of the similarities to my own suit—a Diverite 905—but slimmer and tighter-fitting on the body.

“Our goal has been to get the maximum amount of ‘mobility’ in the suit,” Mattias Vendlegård from the company Arctic Diving told us, “Without making the suit bulky and too big in some areas. We choose the material with three goals in mind: toughness, mobility and weight. From that standpoint, we reached the conclusion that it should be made out of a trilaminate; first a layer of nylon, then rubber, and then, nylon again fused together.”

The weight issue

“We added weight as an important factor for us, since many divers today travel with their suit, and then weight is a big issue,” said Vendlegård.

The suit is considerable lighter than my own, which was a pleasant aspect when I was packing. Those among you that have been on dive trips abroad know there are a lot of things to bring, so you want to keep the weight down. The suit comes in standard “tekkie” black, which is no surprise, since they want this to be the suit for technical divers to choose. The idea is to produce a suit that delivers all the stuff technical divers want but with a slightly lower price tag than for other similar suits.

The suit comes with a lot of neat extra features. There are the big pockets that are easy to handle, because of a bit of bungee cord that’s been sewn into the lid. There are Cordura enhancements in sensitive areas like the butt, crotch and the front of the legs, shoulders and arms. Arms and legs are made to measure and the turbo soles come in different sizes. The hood is separate, and there is a warm neck on the suit. When you buy it, you can add extra features to the standard package.

You can get the overlay (the top part of the suit) in two different colors, blue and red. You can get a ring glove system, and/or a pee valve, fitted before delivery, and the suit can be delivered totally made to measure.

Try out time

It was time to try it out. Putting it on, I found that I really liked the tighter fit, but I still thought they could make it even a bit more tighter on the upper body. Arm movement is really good in this suit, and there is no problem reaching the manifold or tank handlers. The latex seals on the arms are glued onto the arms in a smart way, and they are not of the bottle neck variety, which I find important for easy donning of dry gloves.

The boots don’t feel that good at first; they are of the soft type. I have never really liked the turbo soles of DUI suits, but these have a little more stability and are more boot-like than the ones on the DUI.

After a week, I have gotten used to it and think nothing of it. But be advised: if you want to buy one of these suits, your fins will feel big. You might even want a smaller size of fins. So, be sure to check that out properly.

Into the water

When I finally got into the water, it felt really good, no large air wanderings or anything like that, just a snug fit. At first, I had a bit of a problem finding the inlet valve, which is very low-placed, below the drysuit zipper. That felt really strange at first, but one gets used to it. The outlet is very well placed on the side of one of the suit’s arms, which makes it easy to empty the suit. On some suits that can be a

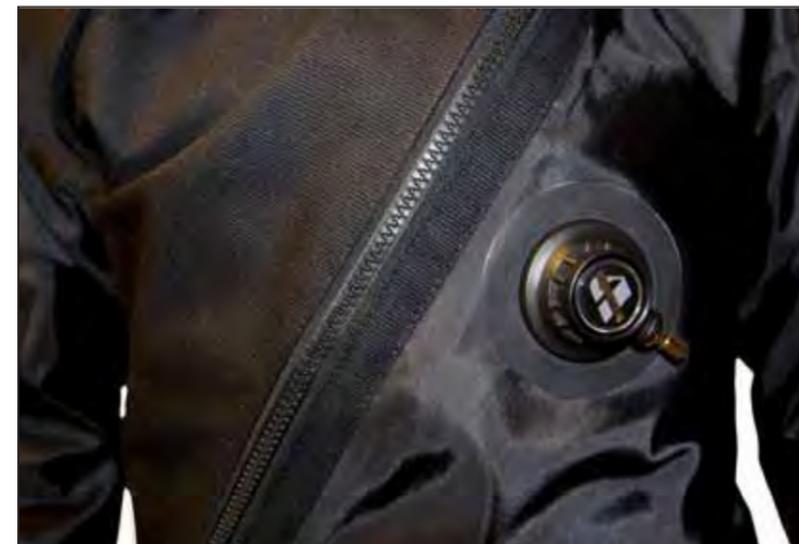
big problem. As the test week progressed, it turns out that I really liked this suit.

Getting up out of the water, I found one thing that was a little annoying. In the corners of the Cordura reinforcements, there are gaps in the stitching to let water escape more easily from under it, and that’s a good idea, if you want the suit to dry up fast. But back on the dive boat when you remove your dry gloves, the water that’s been trapped under the reinforcements tends to end up on your inner gloves resulting in wet gloves.

All in all, there are few things I really can criticize about the suit, this is a good buy. If you can’t afford the DUI and want to have that snuggier fit, the ONE suit is a candidate. The suit is sold through Arctic Diving.

SUMMARY

- Snuggier fit
- Really good mobility
- Lightweight material
- Strange placement of inlet valve
- Water drains on your inner gloves ■



Buoyancy Control Device Guide

The latest on new BCD styles straight from the manufacturers

Edited by Arnold Weisz

Regardless of what style BCD you choose, make sure to look for these five features:

- It must hold enough air to give you and your equipment ample buoyancy at the surface.
- It must have a large-diameter inflation/deflation hose, so air can be released easily.
- It should have a low-pressure inflation system to make it possible to slowly fill your BCD with air directly from your tank. In addition the low-pressure inflation system should be easy to locate and operate.
- It must have an over-pressure relief valve to prevent the BCD from rupturing if it is accidentally overfilled.
- It should have a configuration and harness that makes wearing the BCD comfortable and keeps it from riding up around your neck when inflated.



Prestige MRS Plus

Mares' new Prestige MRS Plus uses Cordura 1000 as both the internal and external material for the air cell of the BC. There are two big pockets and two trim weight pockets, plus four stainless steel D-rings and four heavy duty technopolymer D-rings. Sizes range from XXS to XL. The lift capacity of the XL is 235 N or 24kg / 52.9lbs. Weighs 4.4 kg. There are two exhaust valves and an ERGO integrated weight system of two back leather trim weight pockets with velcro and buckle closure that hold 2.5kg max. plus two MRS+ optimal ballast with a mechanical release system that holds 6kg max. Two year warranty.

AVID BC

Sherwood Scuba's AVID BC air cell materials has an exterior of 1000 Denier Nylon TPU and an interior of 420 Denier Nylon TPU. Other materials include Silver Ripstop Nylon TPU, Thermal Polyurethane (TPU) fabric, multi material pockets and shoulders. There are two main pockets have zipper closures, one specialty storage pocket on the right side for optional folding snorkel or flashlight. There are six stainless steel D-rings, four Nylon, and one Nylon accessory clip on the left side. Sizes range from XS to 3XL. Lift capacity ranges from 20lbs on the XS to 36lbs on the 3XL. Weighs 8.6lbs. There are three exhaust valves—two pull dump OPV's upper/lower and one pull to dump airway.

There is an integrated weight system of two removable pouches that can hold 10lbs maximum and two rear non-dump pockets which can hold 5lbs each. The Pro-Kit is ready to add optional accessories such as retractor, devices, flashlight and knife for additional cost.



Pro QD

Aqua Lung's Pro QD is the new, proprietary backpack that has a built in traction pad to reduce tank slippage and a built in carrying handle. There is depth compensation on the waistband that compresses at depth along with your wetsui. Positioning strap allows you to set the Pro QD at the perfect height each time. Large pull bobs on dump valves are easy to locate and grip with thick gloves. The exterior is fade resistant and abrasion resistant. The outer bladder is made of 500D Amor™ Cordura®. The inner bladder is made of 420D urethane coated nylon. Other materials of the BC include Tough Tec on the high wear areas and assorted fade-resistant polyesters. There are three pockets in total including two large lobe pockets secured with heavy-duty zippers and an octo-pocket inside the right lobe which prevents dangling octopuses. There are six stainless steel D-rings to which one can attach accessories. Sizes range from XS to XXL. Weighs up to 32lbs or 14.5 kg. There are three exhaust valves and an integrated weight system; the SureLock™ II (patented) weight pockets align themselves and lock into place without even looking. Just insert the pocket until it "clicks". A simple, single-pull release is all that is needed to jettison the weights in an emergency. Includes a limited lifetime warranty and 30-day satisfaction guarantee.

Infinity

The Halcyon Infinity offer single-tank divers the performance of a back mounted harness and the easy adjustability of a jacket BC. Halcyon's Cinch Quick-adjust provides rapid adjustment of the diving harness. The also new deluxe Harness Pads are specially designed to allow extra comfort without sacrificing any of the technical features and comes with a Storage Pak for convenient stowage of lift devices. The Infinity BC features Halcyon's popular Eclipse wing; the long, narrow profile supports a diver's tank along his or her entire length, preventing unnecessary drag and minimizing in-water effort. The Stainless steel Single-Tank Adapter with two cam straps accommodates a weighted insert



Commando

Buddy's Commando BCD has an anti-bacterial-coated high-frequency welded polyurethane inner bladder. Other materials include fade, fray, abrasion and puncture resistant Endura FX100 (1000 denier double-coated nylon) — a unique, bespoke material developed specifically for the A.P.Valves/BUDDY outer jacket. It has two zippered main pockets, two velcro, and one stowage pouch at rear for SMBs or lift bags. There are eight steel 50mm D-rings—two pre-bent to stand-off at the shoulders—and two 25mm D-rings inside the main zippered pockets. Sizes

range from S to XXL with lift capacity up to 33kg. Weighs 5.12kg. It has two exhaust/over-pressure valves—the shoulder dump-knob sinks and the lower-rear knob floats for easy location—and a third exhaust/over-pressure valve built into the inflator/hose assembly operated by pulling on the valve. Integrated weight system is optional; The quick-release mechanism is fitted with Cargo Clips as standard (for stowage of SMB, torch etc if integrated weights are not desired). The pouches hold 5kg each (hard or soft lead). There is a Lifetime Warranty on the inner bladder and three year warranty on other materials and workmanship. Other interesting upgrades and custom fitting available.



Blac Jac XP

Seemann's Blac Jac XP is made of 500 Denier Cordura. The BC has two large pockets with zipper and a small one at the cummerband. Comes with stainless steel D-rings and ranges in size from XS to XL with a lift capacity up to 25.5kg. Weighs 4.2kg. Has three exhaust valves and an integrated weight system including dumpable and counter weight. Two year warranty. Additional features include a Scuba buckle at the shoulders, special air cell (wraps around the tank for high lift), and a padded back plate with carrying handle

DIVE GEAR EXPRESS™

Where techies get their gear. Expert knowledgeable staff & service



GOOD LUCK FINDING TECH GEAR AT THE LOCAL DIVE SHOP.
OR ANYONE WHO KNOWS HOW TO USE IT.



- FAST FREE SHIPPING
- NO-HASSLE RETURNS
- INTERNATIONAL AND USA

Is shopping for tech gear leaving you high and dry?

We understand. Dive Gear Express™ caters to the experienced diver. You won't find snorkels or beach towels on our website. Instead you'll find a vast selection of technical gear from a variety of top manufacturers; **in-stock and ready to ship the same day.** Plus we have all the accessories, hardware and practical expertise you'd expect from a tech shop.

www.DIVEGEAREXPRESS.com



Dive Rite's Travel EXP BC weighs a mere 7 lbs (3.2kg), yet has 27lbs/12kg of lift and a streamlined profile. Built like a mountaineer's backpack, it reduces unnecessary strain by dispersing weight across the back and hips. Donut-style inflation helps keep divers steady and trim underwater and never cause face-down flotation at the surface. Includes two cam straps and a removable crotch strap. The black outer bag is made of abrasion- and tear-resistant 1680 Denier ballistic Nylon. The inner bladder is made of strong, thick 15-mil polyether aromatic polyurethane, which is resistant to abrasion and chemicals and resists the growth of microorganisms. The TransPac® Harness is also constructed of 1000 Denier ballistic Nylon fabric. Shoulder straps and waistband are made of two-inch

Travel EXP

(50mm) nylon webbing rated at 7,000 lbs breaking strength. Optional Daisy Chain

Pockets come in horizontal or vertical bellows, horizontal two-zip or thigh pocket. It has four adjustable two-inch D-rings on each shoulder strap of the TransPac, slightly bent for improved access and placement. Attachment points for light canisters, pony bottles, lift bags and other equipment are provided by six one-inch D-rings on each side of the harness. All hardware is marine-grade stainless steel. Sizes range from XS to XXL, and tall sizes, M to XXL. Divers have a choice of 16lb or 32lb QLR weight pockets and a choice of 16-inch rapid exhaust (pull dump), 16-inch or 12-inch elbow exhaust hose along with either 15-inch, 22-inch or 27-inch low pressure inflation hose. A standard over pressurization valve is located on the inside, lower left of the wing. Limited lifetime warranty. Made in the U.S.A.

www.diverite.com

Equator

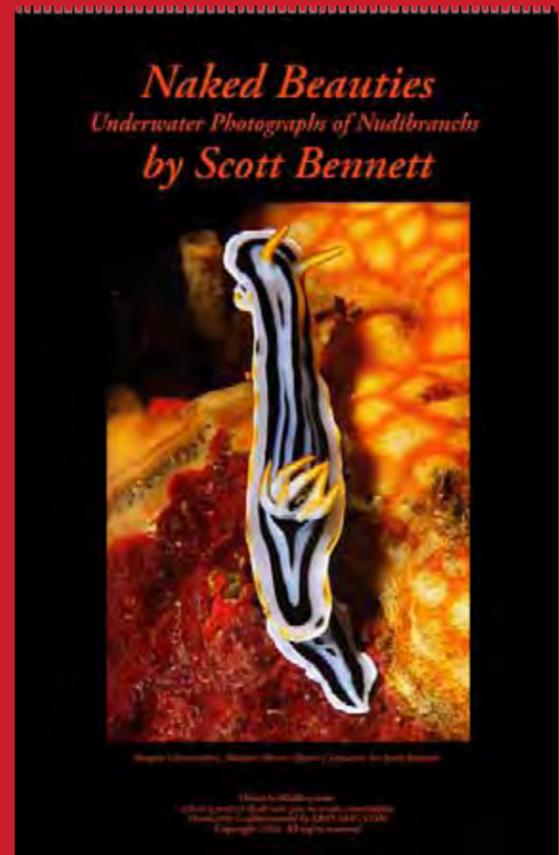
Scubapro's Equator is made of 420 Denier Nyl and tough Duck material. It has two zippered cargo pockets, two large and two small metal D-rings on pockets for added accessories and convenience. Sizes range from XS to XL with a lift capacity up to 170 N. Weighs 3.26kg or 7.2lbs. Its perfect for circling the world where ever divers' adventures lead. Its lightweight design is clean and lean without compromising comfort or performance. Has a release front adjustable design with rotating quick-release shoulder buckles and fully adjustable cummerbund for custom fit. Smaller back-pack allows BC to fold easily. Includes a proprietary quick-release integrated weight system, soft neck trim and padded backpack. Features a five-point deflation system with three dump valves. SCUBAPRO's Balanced Power Inflator included.



Resort

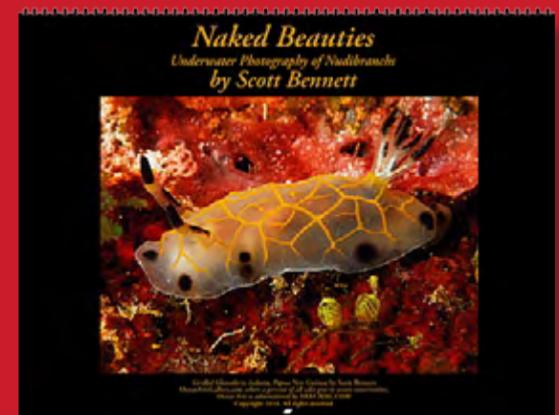


Preformed jacket with an anatomic cut, studied and designed for a mainly recreational user who prefers simplicity and comfort but is beginning to demand a bit more. Made in PU-coated Nylon 420 D and designed to meet the needs of a wide range of users thanks to smaller sizes. It is particularly well-suited for young divers just starting out. Equipped with three dump valves and total of six D-rings. www.seacsub.com



Merry Christmas & Happy Nudibranch

Get a new 2010 nudibranch calendar for your dive buddy this year. A great gift that keeps giving all year 'round!



The X-RAY MAG Store
www.cafepress.com/xraymag

The 8th Continent: In Search of the Great Pacific Garbage Patch

Text by Bonnie McKennah
Image courtesy of NOAA

— Part 2 in a two-part series on the Great Pacific Garbage Patch. See previous issue for Part 1: Plastic Soup, by McKennah.

Marine litter is a global concern affecting all the oceans of the world. The scale of contamination of the marine environment is enormous. The United Nations Environmental Program (UNEP) recently published two papers, *Marine Litter: A global challenge* and *Out in the Pacific Plastic is Getting Drastic* drawing together scientific research on the distribution of marine debris and its impacts on wildlife. To further highlight the ever increasing problem of marine debris, Indonesia hosted the World Ocean Conference and Coral Triangle Initiative Summit in Manado with delegates from 87 countries in an effort to address, among other concerns, the increasing problem of litter in the marine environment.

The seriousness of the situation concerning the world's oceans has been graphically illustrated this summer by three intensive and exhaustive research expeditions to the Northern Pacific Subtropical Gyre, or as it is more commonly known, the Great Pacific Garbage Patch, to examine and study the rubbish collecting there.

The three expeditions: Algalita Marine Research Foundation, SEAPLEX (Scripps Environmental Accumulation of Plastic Expedition), and Project Kaisei (Japanese for 'ocean planet'), although working independently, each focused on the accumulation of rubbish in the NPSG, its effect on marine life, the health of the ocean and what, if anything, can be done to cleanup the collection of plastic rubbish.

Charles Moore, founder of the Algalita

Marine Research Foundation, ten years ago accidentally sailed into the gyre. Although not the first to site the rubbish patch, Moore was the first to start bringing information to the public on what was happening in this area of the Pacific Ocean. The Algalita research team was also the first to develop a standard methodology for sampling and processing the samples of the ocean surface for micro-plastic.

Algalita has just concluded a three part, four-month journey to the NPSG. The first leg of the expedition focused on the collection and quantification of surface water and fish tissue samples. The second leg was a major media initiative with Peligro Pictures and Prickett Films in conjunction with Billabong and ScubaDrew Video to help bring public awareness to the growing problem of plastic pollution in the ocean.

The third leg, the return trip from Hawaii to California, will resample the same transects as Algalita's original 1999 summertime gyre crossing. The collected data will be then be compared to the levels found ten years ago.

For additional information on the Algalita Marine Research Foundation, go to www.algalita.org.

Research expeditions

The SEAPLEX expedition aboard the Scripps



research vessel New Horizons carried a host of scientists and graduate students from the University of California at San Diego, each from various scientific disciplines.

"During the SEAPLEX cruise, we are going to try to target the highest plastic areas we see to begin to understand the scope of the problem," said Miriam Goldstein, chief scientist of the expedition. "The team of graduate students will be studying everything from phytoplankton to zooplankton to small midwater fish."

Darcy Taniguchi, a third-year Ph.D. oceanography student at Scripps said the thing that amazed her most while on the expedition was, "How much impact humans have on the ocean so far away from areas of where people are living."

During the expedition the researchers not only collected samples of plastic debris, but also encountered free floating fishing nets and tangled ropes with various marine organisms trapped within the net and attached to the lines.

For additional information on SEAPLEX, go to <http://sio.ucsd.edu/Expeditions/Seaplex>.

Project Kaisei, in support of SEAPLEX, was, at the same time, sailing in the region examining the gyre, collecting and studying plastic debris to showcase new technologies that are designed to figure out the best way to clean up and

GUNILD SYMES

SEAPLEX science:

- Survey of plastic distribution and abundance along a 2,200 km (1,360 mile) cruise track.
- Investigation of floating plastics as a transport mechanism for invasive species.
- Assessment of the impacts of plastic debris on phytoplankton, zooplankton and mesopelagic fishes.
- Study of persistent organic pollutant (POP) on plastic particles.
- Observations of the distribution of microplastic debris in the water column.

Project Kaisei science:

- Study and document the marine debris found in this area of the Pacific Ocean.
- Test catch methods for removing the debris.
- Conduct research on the chemical interaction of marine debris in the gyre and select fishes and wildlife related to persistent organic pollutants (POPs).
- Understand the needs required to undertake an eventual large scale cleanup of the waste material.
- Test technologies for the conversion into an economically viable by-product: diesel fuel.

recycle the plastic, which are converging in the Pacific Ocean forming an 'eighth continent'.

If Kaisei's research expedition is successful, they are planning to return to the gyre within 18 months with a full clean-up operational plan.

Project Kaisei was founded in 1979 by a group of international sailors, educators, and conservationists with a mission of teaching maritime arts and sciences and researching and preserving the world's oceans.

For additional information on Project Kaisei, go to www.projectkaisei.org. ■



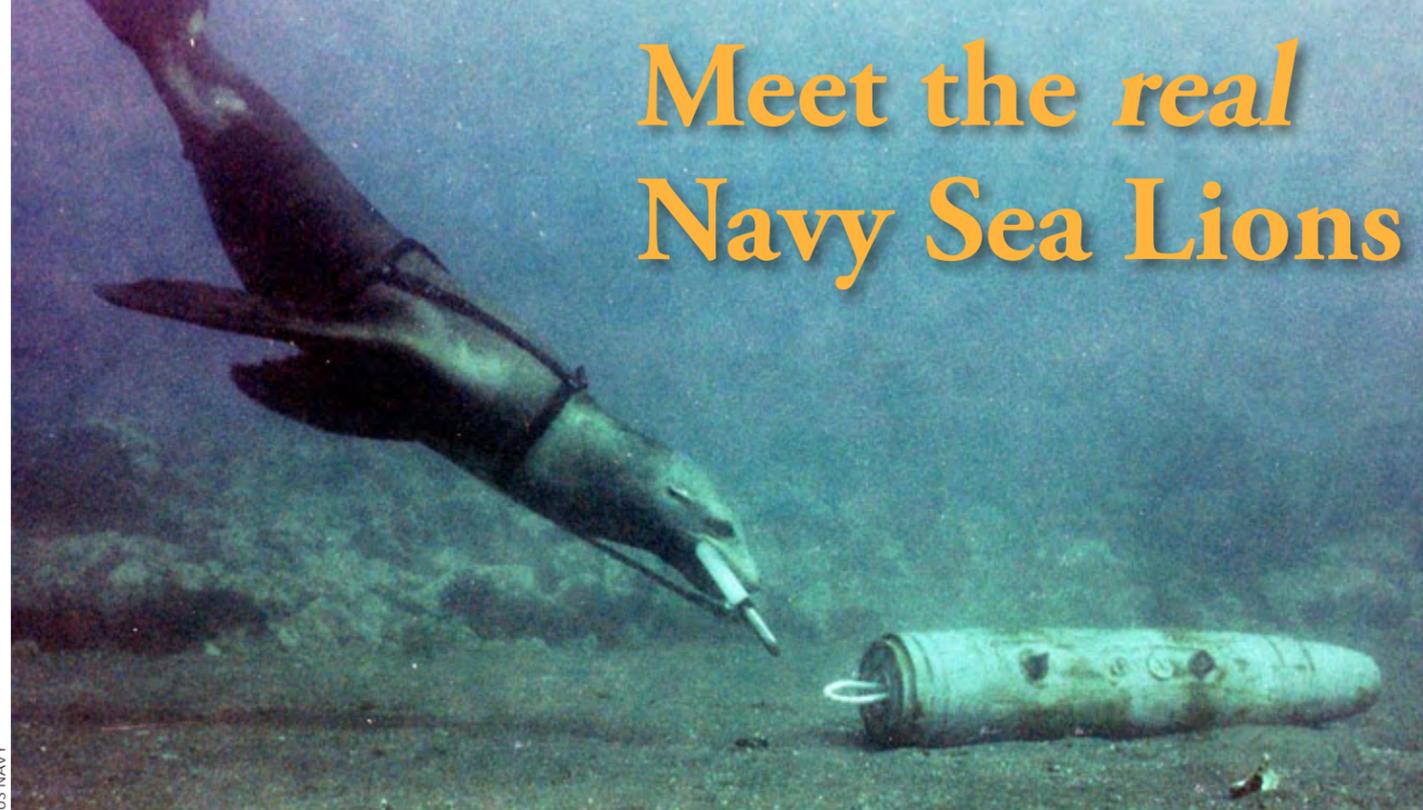
ILLUSTRATION

The Great Pacific Garbage Patch has been estimated to be roughly twice the size of Texas and has been referred to as the 'eighth continent'.



sea mammals

Edited by Scott Bennett



US NAVY

Meet the real Navy Sea Lions

While the U.S. Navy SEALs have a reputation for being amongst the bravest of servicemen, their exploits pale when compared with the newest recruits who are able to swim between live mines and detain terrorist divers underwater. However, these are no ordinary sailors: they are sea lions, specially trained to assist the Navy.

Their natural maneuverability and speed make them ideally suited for the work. Also, marine mammals can tolerate colder temperatures and dive to great depths repeatedly without getting 'the bends', unlike human divers.

"We have trained sea lions to attach a leg cuff, just like hand cuffs, but fitted on a diver's thigh," said Tom LaPuzza from the Biosciences Division of SSC

Pacific. "The device works in the same way as hand-cuffs. Once they are on, they cannot come off." In addition, they are taught to recognize various shapes of water mines.

When they are not helping to find explosives, sea lions patrol harbours to stop enemy divers trying to sneak into friendly waters undetected. The American forces first began training marine mammals in the early 1960s, being put to use between 1970-71 during the Vietnam War where they were brought in to protect the US Army ammunition pier in Cam Ranh Bay. The U.S. Navy currently has 28 California Sea Lions, 80 Atlantic and Pacific Bottlenose Dolphins and one Beluga whale in service. ■

In a jaw-dropping feat, the US Navy's fleet of trained California sea lions is even able to detain intruder divers whilst underwater.

Clash of the Titans

For the first time, nature's greatest animal battle has been caught on camera.

For the first time ever, a BBC natural history crew has filmed the "humpback whale heat run", where 15m long, 40 tonne male whales fight for mating rights with even larger females. The footage was recorded for the BBC natural history series, *Life*. Male humpbacks swim at high speed behind the female, vio-

lently jostling for access. Up to 40 males swim behind a single female at speeds of up to ten knots, each jostling to obtain a dominant position. Up to 40 males swim behind a single female at speeds of up to ten knots, each jostling to obtain a dominant position. The collisions between the males can be violent enough to kill.

Even though this is one of the most common of the large whales, very little is known about its actual sexual behaviour," says *Life* producer Dr Ted Oakes. "It's the closest we're ever going to get to dinosaurs fighting. It's the largest battle in the animal kingdom and it feels like something out of Jurassic Park," says Dr Oakes. ■



This short clip from the BBC series *Life*, shows the journey of a female Humpback whale from the Antarctic to the Pacific Ocean to give birth to a calf, and how the males battle it out to be her mate

Surround yourself with the Sea

Find Coral Reef Toss Pillows by Micheline Hadjis at The X-RAY MAG Store



www.cafepress.com/xraymag

NAVY'S MARINE MAMMAL PROGRAM



Technical Diving Paradise

In the Northern Pacific

Text by Ron Akeson

Photos by Ron Akeson and Barb Roy

I often raise a few eyebrows when I exclaim, "I'll take diving in the Pacific Northwest over anyplace else in the world." And it's true. We have a great variety of diving off the northwestern coast of Washington State, USA, and British Columbia, Canada. There are fabulous walls full of thriving marine life, historic shipwrecks and huge retired Canadian Navy ships placed as artificial reefs of steel. The drift diving is unmatched, complemented with a rich diversity of unique marine life including wolf eels, giant Pacific octopus, and six-gill sharks. Although recreational diving opportunities are also unsurpassed, technical diving is equally as good throughout the Pacific Northwest.

So what makes this area one of the best technical diving hotspots in the world? I personally am partial to our deep 300-foot walls adorned with ancient sponges and populated by immense lingcod and healthy schools of rockfish. But my real passion lies in the opportunity to explore such a selection of very different deep wrecks, few have seen. Many of these wrecks often attract technical divers from around the world for exploration, research, or just the challenge of facing our temperate environment. Whatever the reason, the Pacific Northwest seems to fully accommodate a technical diver's needs.

Although many tech sites in the Pacific Northwest are easily accessible from the shore, most of the choice sites require a boat for access. Browning Wall near Port Hardy on Vancouver Island in British Columbia (BC) is a local favorite and arguably one of the best dives on the Pacific Coast for any level of certified diver! You can easily spend an entire dive trying to find a single square meter of rock not adorned with red soft corals or yellow bread-of-crumbs sponge. This current-bathed wall stretches from the surface down to 73 meters (240 feet), where we often find 20-25 centimeter (8-10 inch) tall pink and white gorgonian

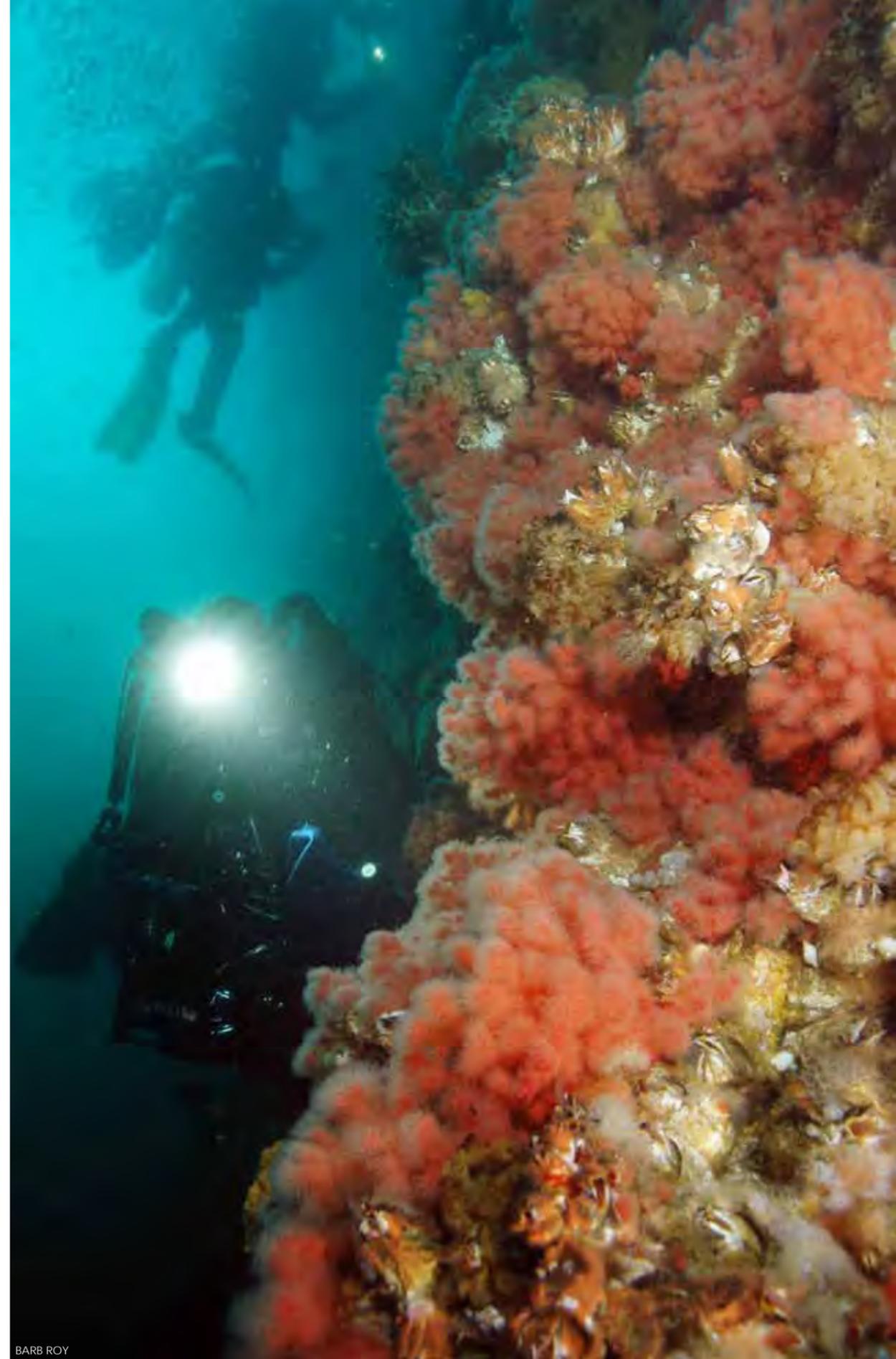
sea fans intermingled with the other soft corals, anemones, and basket sea stars.

At this point the ocean floor slopes off into deeper water with little to see. I like to dive the deepest parts of the wall with Trimix, but extended range and decompression procedure-trained divers can pick their depth based on their comfort level.

Two other popular deep walls are; beneath the power lines in Agamemnon Channel and at Whytecliff Park, both in BC. Agamemnon Channel is located on the Sunshine Coast, north of Horseshoe Bay and the town of Sechart. Here, we find huge yellow and white cloud sponges starting at 15 meters (50 feet) and 1.2 meter (4-foot) high red gorgonian sea fans at 56 meters (185 feet). The deeper you go the bigger the gorgonians get, but watch your depth, as this wall bottoms out around 182 meters (600 feet)!

Underwater photographers also enjoy this dive because it hosts an array of different rockfish. You can often find juvenile yellow-eye rockfish hiding in the cloud sponge openings and along the rocky terrain. Adult tiger rockfish are very colorful and quillback rockfish bravely hold their ground.

The wall at Whytecliff Park is popular among shore divers for parking, entry/



BARB ROY

Divers explore Browning Wall at Port Hardy



RON AKESON



BARB ROY

bring the whole family. So, when diving here on weekends, make sure to arrive early for parking. The wall is a short walk down a paved road and then a relatively short swim from the shore.

Historical sites

While the marine history of the Pacific Northwest isn't as lengthy as the East Coast's, nor did our coast have the maritime military action of

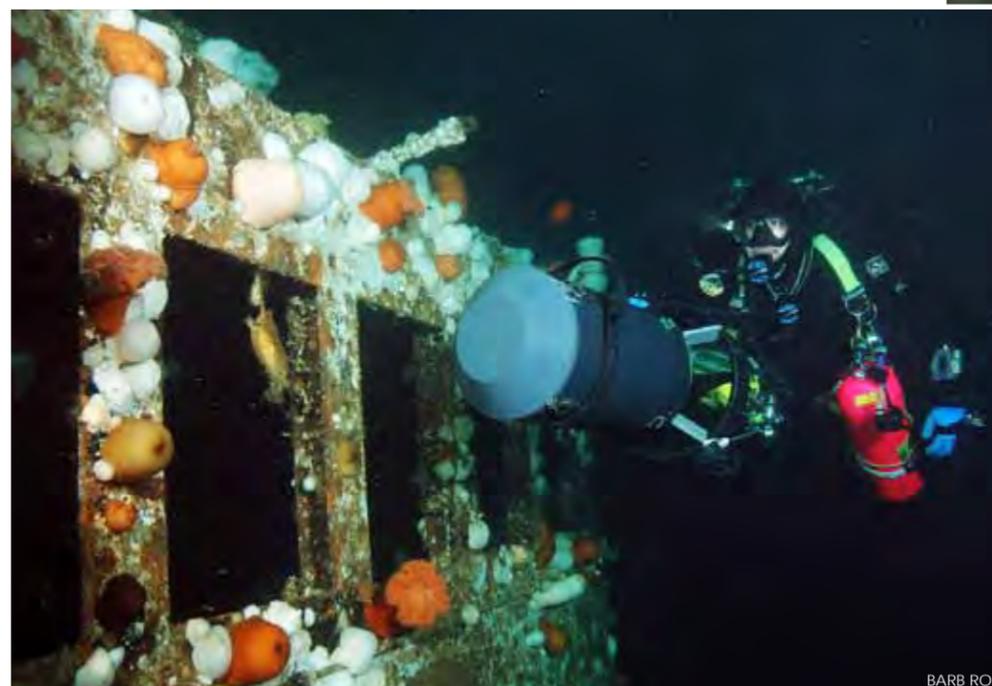
World War II, we still have a good selection of technical diving shipwrecks. But what sets us apart from the eastern US coast and the rest of the world are the extensive training sites we have.

British Columbia has four retired Canadian Destroyer Escorts (111 meters/366 feet in length) for both recreational and techni-

cal divers to enjoy. Add to this a 53-meter (175 foot) freighter, a 30-meter (100 foot) tugboat, a 122-meter (400 foot) Victoria-Class ship (equivalent to a US Liberty Class ship), and a 737 jet plane, all within recreational depths, and you have an endless playground to explore or train on!

These artificial reefs are commonly used by serious wreck divers to stage practice penetration

dives and learn in a semi-controlled environment. With outside entry to almost all deck levels, depths range from about 26 meters (85 feet) on the main decks to over 42 meters (140 feet) within the belly of the *HMCS Cape Breton*. For those looking to challenge their skills, the *HMCS Chaudiere* is located in Sechart Inlet positioned on



BARB ROY

Diver with scooter on *Cape Breton* wreck



Pacific Northwest

BARB ROY

THIS PAGE LEFT TO RIGHT: Barb Roy, with underwater camera, prepares to dive a deep wreck; Divers at *Gulf Stream* wreck; Diver on *Capilano* wreck

its side. This provides a different and often disorienting perspective when penetrating.

Unfortunately, none of the natural wrecks in Washington State or British Columbia are accessible from shore, but most are only a short boat ride from a local port of call. My favorites in BC include the wreck of

the *MV Gulf Stream*, a 44-meter (147-foot) vessel with its bow at 33 meters (110 feet) and the stern in approximately 50 meters (165 feet), near Dinner Rock off Powell River. Visibility is often excellent, particularly at depth. While the *Gulf Stream* can be done on air, a light Trimix makes the dive more enjoyable.



The *Capilano* is a 36-meter (120 foot) steamer located near Mitlenatch Island. Although this may not be a hardcore technical site at 42 meters (140 feet) of depth, it is worth a visit to see the amount of resident marine life, particularly the large lingcod and rockfish. While diving here last September we had over 30 meters (100 feet) of visibility—about as good as it can get.

A reel and lift bag is recom-



BARB ROY

mended for this dive as a back-up for safely doing decompression stops if the main ascent/descent line is not located. Be sure to check out the prop if gas permits.

Mitlenatch Island is also an enjoyable dive, especially if the curious Stellar sea lions come out to play. Across Georgia Strait near Comox is the wreckage of the *Scepter Squamish*, a 54-meter (180-foot) long barge, previously owned by the company Candive. There are many things living on the deck and various pieces of machinery for visiting divers to see.

The *Black Dragon* is a 45-meter (150-foot) freighter used as an illegal Chinese migrant ship transporting illegal people from China to British Columbia. It now lies in 45 meters (150 feet) of water near BC's capitol city of Victoria, on southern Vancouver Island. The *Black Dragon* is a great training site for some of the deeper more current laden wrecks, as there seems to always be a mild to moderate current present at some depth between the surface and the wreck.

These are just a few of the great natural shipwrecks in BC.

Depths of wrecks

Washington State shipwrecks tend to range in depth with the deepest feasible site at 106 meters (350 feet). The majority are only accessible with Trimix.

In the Straits of Juan de Fuca leading in from the Pacific Ocean, is the wreck of the 99-meter (326-foot) freighter *Diamond Knot*. The *Knot*, as local divers fondly call it, was inbound from Alaska with a full load of canned salmon when it collided with the *Fenn Victory* in a thick fog. Sitting in approximately 42 meters (140 feet) of water, the *Knot* can be quite a challenge due to strong currents and unpredictable weather. However, it is one of the wildest dives on the coast. Be sure to bring the camera on this one.

At the top of Admiralty Inlet, where the Straits of Juan de Fuca and Puget Sound meet, we have the wreck of the 125-meter (412-foot) passenger steamer *SS Governor*, in 70 meters (230 feet) of water which sank in 1921. This is often considered the toughest technical dive in the Pacific Northwest, if not in North America. It requires special US Coast Guard permission, as do most of Washington's deeper wrecks, because they are located in active shipping lanes.



BARB ROY

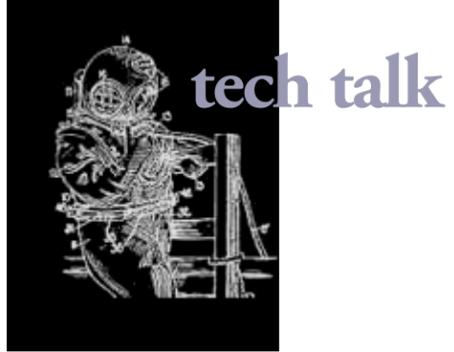


BARB ROY

Pacific Northwest

THIS PAGE LEFT TO RIGHT: Ron Akeson with camera checks out a gorgonian fan at *Agamemnon*; Divers with John deBoeck; Diver Wayne Grant at *Saskatchewan*





The complexity increases from here due to the very treacherous currents to deal with, which have been known to be moving in layers of opposite directions at the surface and on the bottom. The *Governor* is truly the 'Mount Everest' of Pacific Coast technical diving, fueling the drive even more.

The 91-meter (300-foot) wreck of the *Bunker Hill* is another challenging dive due to low visibility conditions. The oil tanker sank in two separate pieces in 86 meters (285 feet) of water after an explosion in an empty cargo hold blew the ship apart while in transit to Anacortes. This left the bow and stern sections about one and a half nautical miles apart.

I have been on the bow section numerous times and due to low visibility (typically 4.5 meters/15 feet) and currents, I have yet to identify the mid ship bridge, if it survived the explosion. This is an advanced Trimix dive not for the faint of heart.

The *SS Admiral Sampson* is at the bottom of Admiralty Inlet, in 99 meters (325 feet) of water off Point No Point near Seattle, due to a collision in the fog. This



RON AKESON

85-meter (280-foot) passenger steamer is only visited by a handful of local technical divers due to its depth and location.

The *Sampson* was commercially salvaged with the ultimate goal of retrieving the Purser's safe (still waiting to be found, as is the *SS Governor's* safe). As with the *Governor*, the *Sampson* is in the shipping lanes and not only requires permission from the Coast Guard to dive it, but permission from the individuals who own salvage rights.

Wreck alley

Elliott Bay, bordered by the Seattle waterfront, is often referred to as 'wreck alley'. Here a large number of wrecks can be found at various depths, some still waiting to be discovered.

I routinely dive a 69-meter (229-foot) long ship here with a group of fellow tech divers, on a wreck believed to be the *AJ*

Fuller. At 73 meters (240 feet), the *Fuller* is an easier technical Trimix dive because currents are not always an issue (but visibility can be). Also found in the Bay are the *Multnomah*, an old paddle wheeler



BARB ROY

that sunk in 88 meters (290 feet) with livestock still chained to the deck.

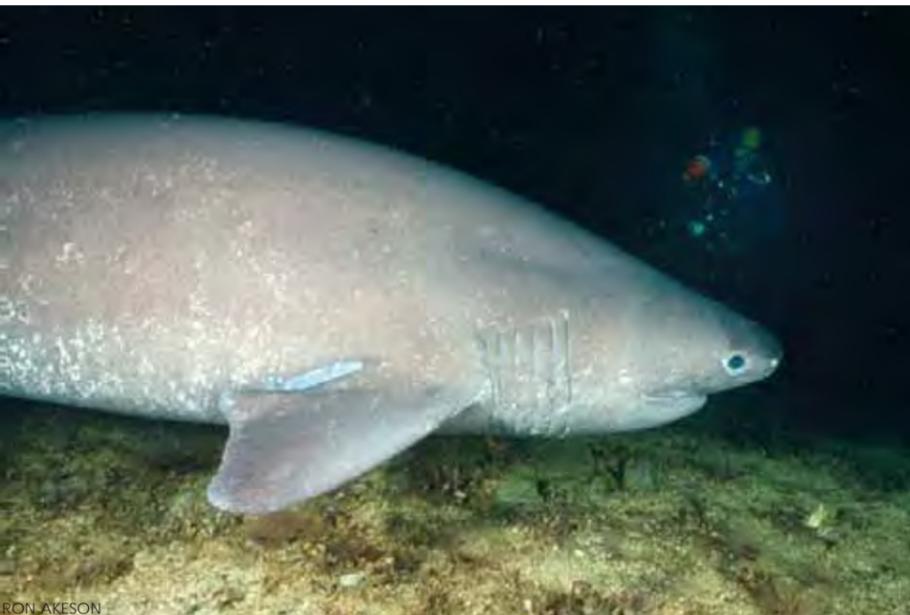
An easier training dive in this area is the *MT6* barge sitting in 61 meters (200 feet). This barge was a railway barge sunk during a collision in 1949. The *MT6* actually carried Teddy Roosevelt's personal train

Pacific Northwest

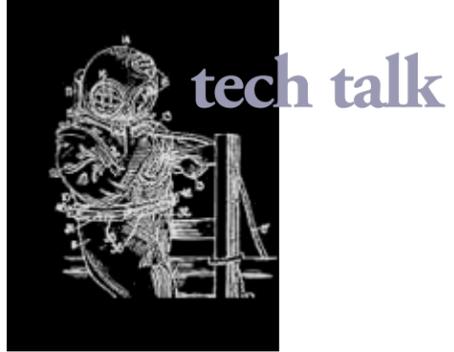


BARB ROY

CLOCKWISE FROM FAR LEFT: Six gill shark; Captains bath tub on *Governor* wreck; Browning Wall at Port Hardy; Tiger rockfish (inset)



RON AKESON



BARB ROY

across the Columbia River when he visited the Washington territory—before it was a state.

Practical information

It should be noted that while a number of dive charter operators run trips to BC's technical sites, there are not many open-boat charters offered to the wrecks within Puget Sound, Washington State, except through qualified technical dive organizers. Currently, only Adventures Down Under in Bellingham and Northwest Sport Divers in Bothell do such trips.

While many of the above sites can be done on air, many charter operators require Trimix to be used due to the complexity of currents, low visibility, and cold water. As with most

temperate locations with water temperatures ranging from 5.6-9.4°C (42-49°F), the length of time underwater suggests the use of a dry suit. Many of the dive locations also only offer a handful of suitable current diving times throughout the year.

So, no matter what type of technical diving you prefer, the Pacific Northwest has something to offer both resident and visiting technical divers. You can bring your rebreathers or doubles, scooters, and find mixed gas

fills at many shops in the Pacific Northwest. Don't forget the photography or video systems because you will not be disappointed in what you find. Limited technical rentals are available through dive stores (usually double tanks) but it is wise to check first. A bit of logistical homework ahead of time will save numerous headaches or perhaps an entire dive trip. ■

Ron Akeson is a technical diving Instructor Trainer for several training agencies and commonly organizes trips to the various technical diving sites in Washington State and British Columbia (for over six years). He can be reached by phone at 1+360-676-4177 or via email at ron@adventuresdownunder.com. Ron's technical diving experience spans over 14 years with close to 4500 cold-water dives.

Travel Links

- Adventures Down Under www.adventuresdownunder.com
- Dive Industry Association of British Columbia (DIABC) www.diveindustrybc.com
- Tourism British Columbia www.hellobc.com



BARB ROY

Mamro charter boat at Port Hardy



BARB ROY

Pacific Northwest



BARB ROY



BARB ROY

CLOCKWISE FROM TOP LEFT: Underwater descent; Porthole Charters dive boat in Washington State; Divers at Sunshine Coast; Diver Craig Linburgh diving in Washington State

