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AR5 & A7S III Now shipping!



Canon EOS R5 features:

- ✦ 45MP Full-Frame CMOS Sensor
- ✦ 8K30 Raw and 4K120 10-Bit Video
- ✦ DIGIC X Image Processor
- ✦ Sensor-Shift 5-Axis Image Stabilization
- ✦ Subject Tracking with Deep Learning
- ✦ CFexpress & SD UHS-II Memory Card Slots

AR5: \$3,199 USD

Sony Alpha a7S III features:

- ✦ 12MP Full-Frame Exmor R BSI CMOS Sensor
- ✦ Extended ISO 40-409600, 10 fps Shooting
- ✦ 5-Axis SteadyShot Image Stabilization
- ✦ 759-Point Fast Hybrid AF
- ✦ Updated 61 point auto focus
- ✦ Dual CFexpress Type A/SD Card Slots

A7S III: \$2,949 USD



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Underwater Photography

A web magazine UWP120 May/June 2021

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Underwater Photography 2001 - 2021

© PR Productions

Publisher/Editor Peter Rowlands

www.pr-productions.co.uk

peter@uwpmag.com

Cover shot by
Barry McGill

Editorial

The haves and have nots

Phil Rudin's excellent review of the Sony A1 camera is, as always, thorough and informative and as I was reading it I found myself getting an increasing level of equipment envy.

A 50.1mp sensor producing pin sharp 8640 x 5760 px stills and 8k 30p and 4k 120p video up to ISO 102400 had me salivating or, to use another word, measurebating. Fortunately I was given a car crash, cold shower reality check when Phil slipped in that the Sony A1 body alone is \$6500.

Personally, that was it for me but I am sure that it won't stop the rush of orders for cameras and housings so there is becoming a bit of a gulf between the haves and the have nots and I am acutely aware that UwP is too top heavy in this department.

I have said this before but I mean it more so now, we need more reviews of more affordable cameras and housings. My guess is that SLR/Full frame mirrorless aspiring readers are

about 10% of the readership so that leaves 90% out in the cold.

As a result I am asking manufacturers and users of more reasonably priced cameras and housings to use UwP as a platform to promote the capabilities and benefits of such systems.

My Backyard again and again

Once again I make no apologies for banging on about this but in this issue we have three excellent, quality articles produced without the need for an aeroplane.

Alex Tattersall's superb images raise the bar, Grant Thomas' show we have world class subjects and Alasdair O'Dell's highlights the amazingly untapped source that is Scotland.

Visually all three compete to an international standard and confirm, once again, that we don't have to pollute our atmosphere as much

and yet still have an enjoyable time and produce quality output. True, it involves dry suits, lower water temperatures and variable weather but look at the visual rewards.

The sad thing is that it took a pandemic to make us look inwardly but in doing so we were able spend more and repeated time getting to know our subjects and capturing them so beautifully.

The equally sad thing is that when the handbrake is released and the restrictions are removed, there will be an inevitable stampede to the airport.

The Underwater Bathtub Competition 2021

You will no doubt have noticed that this issue's front cover is not your usual underwater image. It is almost entirely artificial yet has a warmth and a light touch which hides the lengths

to which the photographer went to achieve it.

I am grateful to Henley Spiers, the creator of Shot Chat, for bringing this to my attention but, in truth, I was obviously well aware of the Bathtub Competition and I did contact the organisers to be kept in the loop results-wise but I got no direct response nor updates so Henley's intervention was timely and is why it's featured here.

This lack of response from the organisers got me to thinking that conventional publicity from time based publications is now becoming less and less important; Tweets, Twitters, Instagrams etc etc can relay the message instantly and globally as well as being propagated exponentially with 'likes'. The image brand is kept totally under control and the whole process is incredibly efficient.

Maybe it's time to roll over.

Peter Rowlands
peter@uwpmag.com

News, Travel & Events

Garden Of The Queens, Cuba Jardines Avalon II - Feb 5-12, 2022



Join Berkley White for an underwater photo adventure in the famous Jardines de la Reina (Gardens of the Queen) Cuba.

We had such an amazing trip in 2020 that we immediately started planning a return trip in 2021 and 2022. Cuba has become one of our favorite places to go to shoot silky sharks, saltwater crocodiles, and the abundant marine life on the healthiest reefs we've ever seen in the Caribbean.

Just over 60 miles from Cuba's southern coast lie a series of small islands that have been protected from development, tourism, and fishing. Christopher Columbus named the area Jardines de la Reina, or Gardens of the Queen, and it's one of the most

pristine coral reef and mangrove ecosystems in the world.

This year we have selected a larger ship but we are bringing fewer divers. This will provide all photographers ample room for cameras and extra space to spread out. Solo cabins are available as well.

www.backscatter.com

A large, detailed underwater scene. A large, silvery fish with a yellow eye swims towards the left. On the right, a diver in full gear is visible, holding a camera and a light. The background is a deep blue ocean with a rocky seabed. Overlaid on the image is a logo for the '4th World Championship of Underwater Video' and '4º Campeonato do Mundo de Vídeo Subaquático'.

4TH WORLD CHAMPIONSHIP
4.º CAMPEONATO DO MUNDO
OF UNDERWATER | DE VÍDEO
VÍDEO | SUBAQUÁTICO

4º CAMPEONATO DO MUNDO
DE VÍDEO SUBAQUÁTICO

4 a 9 de Outubro 2021

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- Scientific Research Programme

Galapagos with Amos Nachoum August 16th - September 1st 2021



Trips to Galapagos usually force you to choose between land and sea, but if you join us on this unique Big Animals expedition to one of the most significant UNESCO World Heritage Sites on Earth, then you will get to experience the best of both worlds.

We make this possible for you through a strong collaborative relationship with the most knowledgeable team on the islands guided by the steady and innovative leadership of the incomparable Fiddi Angermeyer. His family members were some of the first colonizers of the islands, and he has lived on Galapagos his entire life.

When you join me in the Galapagos, it will be my 21st visit

there since 1982. The only other locations in the world I have visited as many times are Antarctica and the High Arctic. Considering I find these two places to be the most exciting, dynamic and rewarding for diving and exploration, this says all you need to know about my opinion of Galapagos. Diving there is like attending the Oscars underwater.

This archipelago and its many volcanic islands traversing both sides of the equator are all impacted by three powerful and opposing currents creating the unique and wondrous laboratory of life both on land and underwater that is Galapagos.

www.biganimals.com

www.uwpmag.com

α 1
 α 7 S III



ONE FOR α ALL
ALL FOR 1

200DL Underwater Housing for Sony Alpha 1 and a7S III with optional M24 port. [Read more...](#)

Micro Underwater Photography Guide

ikelite

New Products

Ikelite housing for Sony Alpha 1 and a7S III



Sony's new flagship full frame camera is a marriage of speed and image quality. A huge 50 megapixel stacked CMOS sensor with a secret new 'high speed processing circuit' are now packed into what still looks and feels like any other Sony Alpha camera to date.

The Ikelite housing is a full featured and durable waterproof housing for Sony Alpha 1 and a7S III full frame mirrorless digital cameras. It is suitable for scuba, snorkel, surf, pool, and any application in or around the water. It is rated to 60 metres.

Controls are provided for all camera functions except: Diopter adjustment, Focus mode dial (a1); Joystick up/down/left/right (Joystick can be depressed), Control wheel; Control wheel functions may be

accessed using the Front and Rear Dials.

Good ergonomics are critical when you need to concentrate on composition, focus, and proper exposure. Large, curved control levers put the most important controls right where you need them: shutter and autofocus (via the AF-ON button). This combination allows you to shoot with or without back button focus, an advanced technique that is useful for tack sharp focus of super macro and fast moving subjects. Each lever can be extended using the optional Trigger Extension # 4077.95 for perfect spacing when using a right-hand handle.

www.ikelite.com

Nauticam NA-C70 for Canon EOS C70 Cinema



The Canon EOS C70 packs a lot of the features we love about cinema cameras into a small mirrorless style body. With a Super35 sensor using Canon's next generation Dual Gain Output, the C70 also includes Dual Pixel CMOS AF autofocus, a built in ND filter and is the first EOS cinema camera to use Canon's new RF lens mount. When you combine that with the "Canon Color" we have come to love underwater, this makes for one of the most compact and capable cinema cameras to date.

Utilizing the small form factor of the C70, the Nauticam NA-C70 is ultra-portable yet offers full access to the camera's critical functions. Regardless of where a button or control dial may lie on the camera body, Nauticam engineers obsess over making sure that access to that control on the housing be intuitively placed for ease of use to insure no shot is missed while searching for

a button or dial. To take this a step further, Nauticam has also integrated the Nauticam to Canon SDK Control Board in the rear door of the housing which places a variety of electronic control functions at your finger tips. This connects to the camera through pogo pins between the rear housing door and the front camera tray eliminating the risk of straining any cables while opening the housing for media or battery changes.


Model Number: 16507
US\$ Retail Price: \$5861
Port Opening: N120
Depth Rating: 100m

www.nauticam.com

www.uwpmag.com

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OLYMPUS E-PL10 UNDERWATER CAMERA REVIEW

Universal GIO Housing compatible with Canon, Nikon, Pentax & Sony cameras



Italian manufacturer Gio make housings for SLR cameras which are customized for each type of camera and carefully studied for perfect and functional use in water.

All compatible cameras can be inserted with the flash open to make it possible to use optical fibers for external flashes, essential for good colourful results.

All controls are on the outside and the housing is sealed by 3 stainless steel catches that allow a perfect closing of the lid onto the O ring .



The housing is depth rated to 100 metres.

All materials are specially selected and all the technical details are extremely accurate and reliable. The various available ports are integrated with a bayonet system on an aluminum flange with automatic lock / unlock.

The ergonomic handles are very stable and easy to insert in addition to having an outer part of rubber for a better hand grip.

www.gio-sim.com



Nauticam NA-A7RIV for Sony a7R IV



"Resolution Rethought"

Sony, has come up with yet another addition to their a7 line that is sure to impress. This fourth edition of the a7R sees the inclusion of an updated 61MP

Exmor R BSI CMOS sensor and enhanced BIONZ X image processor. Despite its high resolution, it can shoot at up to 10 frames per second with full autofocus and shoot 4K video either from the full width of its sensor or from

a Super 35 crop. The NA-A7RIV underwater housing provides fingertip access to all key camera controls in a rugged and reliable aluminum underwater housing. Ergonomic camera control access is one of the defining strengths of a Nauticam housing, and the NA-7RIV continues this tradition.

www.reefphoto.com

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WE ARE UNDERWATER PHOTOGRAPHERS... JUST LIKE YOU

Nauticam NA-A1 housing for Sony A1



Aimed squarely at professional image makers, the Sony Alpha 1 provides a 50MP sensor capable of 30fps burst shooting and 8K video. It features Sony's latest autofocus system, an incredible 9.44M-dot EVF and a 1/400 sec flash sync speed with the mechanical shutter. Whether you are interested in still photos or video, this camera can do just about anything you need it to.

Nauticam has supported the Sony Alpha full-frame line since the original a7 with professional grade aluminum housings that offer intuitive access to all the controls and functions of the cameras. As the cameras have evolved, so have the Nauticam housings. The NA- α 1 underwater housing provides fingertip access to all key camera controls in a rugged and reliable aluminum underwater housing. Ergonomic camera control access is one of the defining strengths of a Nauticam housing, and the NA- α 1 continues this tradition.

The NA- α 1 has both an M24 port at the front of the housing for both HDMI 1.4 and HDMI 2.0 connectivity (see sidebar for recommendations) as well as an M14 at the rear for the optional Vacuum Valve (25624). The housing comes with electronics pre-installed for Nauticam's Vacuum Check and Leak Detection system.

Depth Rating 100m
Weight in air 2.7kg
Weight in water 0.6kg includes camera and battery
Dimensions 340mm (W) \times 169mm (H) \times 125mm (D)
Port Opening N100

www.nauticam.com



Nauticam NA-A6600 for Sony Alpha a6600



"The Best APS-C Sony Ever"

Sony has hit a home run with best-in-class AF, huge battery life, rugged build and amazing all-around performance. This is a mirrorless DSLR shooters can love; in a travel friendly size. Installed in the new Nauticam NA-A6600, it allows ultimate versatility, lens compatibility, ergonomics and superior wet lens compatibility.

www.reefphoto.com

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ALL MAJOR BRANDS



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€60,-



UWCAMERASTORE
FLIP SNOOT PRO
€129,-



UWCAMERASTORE
FIBER SNOOT PRO DUAL
€399,-

FOR INON, SEA&SEA, IKELITE,
RETRA FLASH PRO & BACKSCATTER MF-1



WE ARE UNDERWATER PHOTOGRAPHERS... JUST LIKE YOU.



Issue 120/12

Sony RX100 VA + Fantasea FRX100 housing

Sony camera with big 1 inch CMOS sensor, 4K video and a lot of manual functions! Combines with the 60 meters waterproof Fantasea housing you will have a compact but powerful underwater camera!

Meet the RX100 VA - the ultimate compact for capturing movies and stills in captivating detail. This camera inherits the RX100 series' renowned 1.0-type image sensor, and advances with blazing-fast 0.05-second autofocus, 315 AF points for the world's most comprehensive phase-detection coverage of its kind, continuous shooting up to 24 fps with AF/ AE tracking, as well as outstanding 4K movie capabilities.

The FRX100 VA Housing is manufactured to the highest professional standards of function, style and durability. It is depth rated to 60m/200 feet and is fully functional with ergonomically designed and labeled controls. The Fantasea FRX100 VA is the ultimate waterproof home for this Sony camera



The FRX100VA Housing is ideal for outdoor and underwater photography. Underwater photographers can dive or snorkel and capture all the excitement of this fascinating world, while outdoor photographers also have the option of capturing the action of activities such as white water paddle sports, sailing, boating, surfing, fishing, hunting, backpacking and camping.

BONUS! - Moisture Detector comes installed in every FRX100VA Housing at no additional cost!

www.uwcamerastore.com



Nauticam NA-R5 for Canon EOS R5 Camera



"The Professional Powerhouse"

Few cameras can provide the technical prowess, for stills and video, that the Canon R5 provides.

From 8K video to 20 FPS stills this camera shines. Paired with the innovative NA-R5 housing, there are no boundaries to the creative possibilities for pro or enthusiast. Unleash your potential with the latest technology from Canon and Nauticam.

www.reefphoto.com

www.uwpmag.com

BACKSCATTER

FLIP 8/9

PROFESSIONAL UNDERWATER GOPRO COLOR



COMPATIBLE WITH



Nauticam NA-XT4 Housing for Fujifilm X-T4



The X-T4, Fujifilm's latest APS-C mirrorless hybrid camera, adds a list of significant upgrades when compared to its predecessors. Some of the most noticeable improvements are in-body stabilization, battery life, and auto focus tracking performance. As still/video hybrids become more popular, Fuji is offering a 26MP, high-resolution electronic viewfinder camera that can record internal 10 bit 4:2:0 H.265 DCI/UHD 4K video or 4:2:2 over HDMI as well as shooting an impressive 20fps of continuous stills.

Nauticam has supported X-T1, X-T2, XH-1 and XT-3 cameras and continues to create innovative and ultra-functional housings for this line with the NA-XT4.

More than just an updated badge, the NA-XT4 is redesigned and considerably smaller than its NA-XT3 predecessor. The NA-XT4 features DSLR-style housing and port lock

mechanisms as well as integrated ergonomic handles.

The housing is designed with our Mission Control concept of placing the most important camera controls as close to the handles as possible to facilitate effortless and quick camera operation to ensure you don't miss the shot.

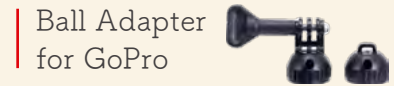
The NA-XT4 features thumb levers near both handles, with the left thumb lever actuating the playback function and the right thumb lever the AF-ON control. The housing includes two M14 and one M24 bulkhead openings to accommodate a variety of accessories such as the Nauticam Atomos Ninja V housing.

The NA-XT4 uses the N100 Port System shared with the Fujifilm XH1 and XT3 system. A selection of port options are available for a variety of lenses.

www.nauticam.com

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For Canon C70



MACRO, MID-RANGE, WIDE-ANGLE ON THE SAME DIVE



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innovation underwater

Ikelite Anti-Reflection Rings

The Ikelite Anti-Reflection Ring is a self-adhesive vinyl label which covers the white lettering and ring details on the front of the lens to reduce reflections when used behind a dome port underwater.

There are three new versions designed specifically for use with the Olympus M.Zuiko Digital ED 9-18mm f/4-5.6, Sigma 15mm Fisheye and the Canon RF 15-35mm f/2.8L lens.



www.ikelite.com

Subal NZ7 for the Nikon Z6 & Z7



The Subal NZ is a new design and engineering masterpiece.

The ergonomic Subal design and arrangement of all important elements of the housing allows easy operation of the camera without letting go of the handle.

The camera is mounted on a special sled, to mount the camera with precision in the housing, this allows a more faster and secure mounting. A 4 mm O ring and the new Subal locking system, prevents accidental crushing of the O-ring, and ensures maximum safety. Pilot lights can be attached or mounted to the top shoe.

The monitor window provides a glare-free and high-contrast insight on the camera monitor. Material selection, processing, surface protection and finish conform to the usual standard level of quality that is all the Subal products.

www.subal.com

www.uwpmag.com



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INON Quick Shoe series and Hand Grip



We are pleased to announce official release of Arca Swiss style adapters "Quick Shoe series" and "Hand Grip" to use as GoPro handle or off camera lighting.



Compact Quick Shoe with 27 mm/1.1 in. width. A set of plate and clamp to be attached on the tip of the Quick Shoe Main Base or D5 Holder to enable various arm configurations.

Ultimate base & tray system of Quick Shoe series "Grip Base D-PRO" is also available to benefit with versatile and unlimited expandability.

www.inon.jp

Hugyfot Arius 1500



The Arius 1500 video lighting system is equipped with 4 'true color' LED's producing an output of 1.500 lumen and a 5.700 Kelvin color temperature, providing an unprecedented spectacle of lifelike and true colors.

It has an extremely leveled beam of 120° without the presence of a hot spot. The Arius 1.500 video lighting system is equipped with a rechargeable Li-Ion battery that provides 1 hour of light at full power.

Dimensions (length x diameter):
140 x 72mm

Weight (with battery): 315gr

Color: black/red

Pressure rated: 200m

www.hugyfot.com



NEW - Hugyfot Vision Xs with 5" monitor for GoPro Hero 9



Nauticam NA-A7SIII housing for Sony A7 S III



NEW - Ikelite 200DL housing for Nikon Z6, Z6 II, Z7, Z7 II



250M T-housing for GoPro Hero 9 (also available for Hero 5,6,7 and 8)

EUROPE'S NR.1 UNDERWATER CAMERA STORE

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INON Split Easy for UFL-G140 SD



The Split Easy for UFL-G140 SD is a rubber ring to be attached on the camera side lens of the UFL-G140 SD to hold water between the lens and housing enabling to shoot a split shot by GoPro HERO9/HERO8.

The UFL-G140 SD underwater semi-fisheye lens comes with the Split Easy for UFL-G140 SD from April 9, 2021 shipment.

Please note that "UFL-G140 SD" lens is originally designed for underwater use only and thus cannot focus on distant objects on land (air) side when shooting a split shot.

www.inon.jp

Weefine Smart Housing



The Weefine Smart Housing is universal smart phone housing compatible with many smart phones on the market today, regardless of iOS or Android operating system. If your phone fits, it will work!

Simply ensure bluetooth is turned on in your device, connect to the Smart housing app and put the phone into the housing ! Easily confirm the housing is protected by using the vacuum sealing system.

The lock system is simple and comfortable. Just simply rotate the knob to unlock or lock the case. It is convenient and safe.

www.uwcamerastore.com

Nauticam
innovation underwater

17157 NA-XT4 Housing
for Fujifilm X-T4 Camera

www.nauticam.com

Paralenz 3rd Person Viewer



The Paralenz 3rd Person Viewer is a mount for your Vaquita Camera, so that you can record yourself in the water from a distance. The extension stick, combined with floats and an articulating head let you pose the camera away from your body, either to record yourself or get your camera closer to your subject safely or peek around obstacles.

Please Note, this mount will not fit the Original Paralenz Camera, it will only fit the Vaquita Camera.

Features:

Carbon Fibre, polycarbonate, stainless steel

Magnetic Safety Release

Extends to 1.8m

Weight 131.5g

www.simplyscuba.com

Boxfish Luna



Boxfish Research, New Zealand manufacturer of underwater remotely operated vehicles, has announced the official launch of its next-generation cinematography drone, the Boxfish Luna, for professional underwater videographers and photographers alike.

Utilising advanced imaging from the Sony A7SIII or Sony A1 and a new 200mm precision optical dome, the Boxfish Luna has been completely redesigned to allow filmmakers to perfectly capture underwater environments with brilliant clarity and ease of use.

“This new drone was specifically designed for underwater film production,” says Craig Anderson, Co-Founder, Boxfish Research. “The Luna gives the user full creative freedom to capture the incredible

diversity of the undersea world.”

The Boxfish Luna is rated to 1000 metres underwater and with the latest Sony camera integration, filmmakers can record in full-frame up to 8K 10-bit video with precision zoom control — as well as shutter speed, aperture, focus, white balance, ISO and exposure mode directly from the control station.

We are defining the next generation of underwater cinematography for natural history and research filmmakers,” says Ben King, Co-Founder, Boxfish Research.

The Boxfish Luna is available now, serving various industries worldwide, including cinematography and natural history filmmakers.

www.boxfish.nz

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ANILAO
MAY 1-8 2021



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+
VIDEO

BLUE HERON
BRIDGE
Dates Vary

PALM BEACH



PHOTO
/
INTENSIVE



REEF

PHOTO & VIDEO

www.reefphoto.com

Sea & Sea housing for Nikon Z6 II and Z7 II



Sea&Sea is shipping their MDX housing for the Nikon Z7 II and Z6 II. It offers compatibility with both Z and F mount lenses (via the FTZ adapter) and uses the MDX series lens ports. It can be fitted with the YS TTL optical converter and the camera's top control panel can be viewed via a dedicated window in the housing.

Ports and gears for the MDX series SLR housings can be used. The MDX-Z7II/Z6II is compatible with the system chart for the MDX series SLR housings. You can utilize F-mount lenses with the mount adapter FTZ and ports/gears for the MDX series housings.

Compatible with Optical YS Converter/N1. TTL strobe photography possible.

An optional Optical YS Converter that converts the camera's hot-shoe TTL signal into an LED light signal is compatible with the housing. Manual strobe photography is also

possible.

Designed for both F mount lenses with the mount adapter FTZ and Z mount lenses.

The Focus/Zoom dial has two gears, one for F-mount lenses with the mount adapter FTZ and the other for Z mount lenses. The MDX-Z7 has been designed to take into consideration various Z mount lenses which will soon be available.

The camera's upper control panel can be seen.

A window for the camera's upper control panel is also incorporated. As brightness of the camera's upper control panel has increased, the visibility is now greatly improved.

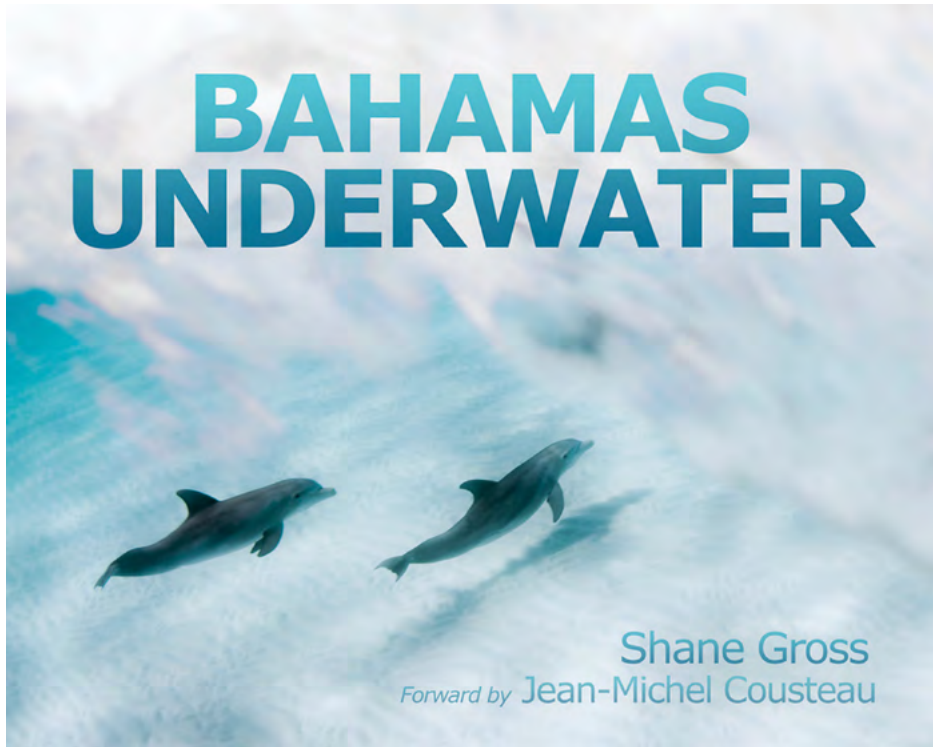
The MDX-Z7II housing is shipping now. Please consult your local dealer for pricing information.

www.sea-sea.com

www.wetpixel.com

www.uwpmag.com

Bahamas Underwater Book By Shane Gross



I have spent thousands of hours exploring the world under the waves in The Bahamas, trying to capture her beauty with my camera, as impossible as that is. The result is this book, Bahamas Underwater - a collection of compelling images and personal stories.

Over 200 pages and eleven chapters on topics ranging from Sharks and Rays to Marine Mammals to Conch to Science and Conservation, we explore the animals

and habitats that make The Bahamas so special.

I am honored to collaborate with Bahamas Reef Environment Educational Foundation (BREEF) to make this book available in virtually every school in The Bahamas. Sales from this book go directly to BREEF to fund in-water experiences for Bahamian youth to see this beauty for themselves. I believe this type of learning will help lead to an even brighter future for The Bahamas.

www.shanegross.com/portfolio/G0000N1O2V2I4BaM/I0000d28Jl2H0n0w

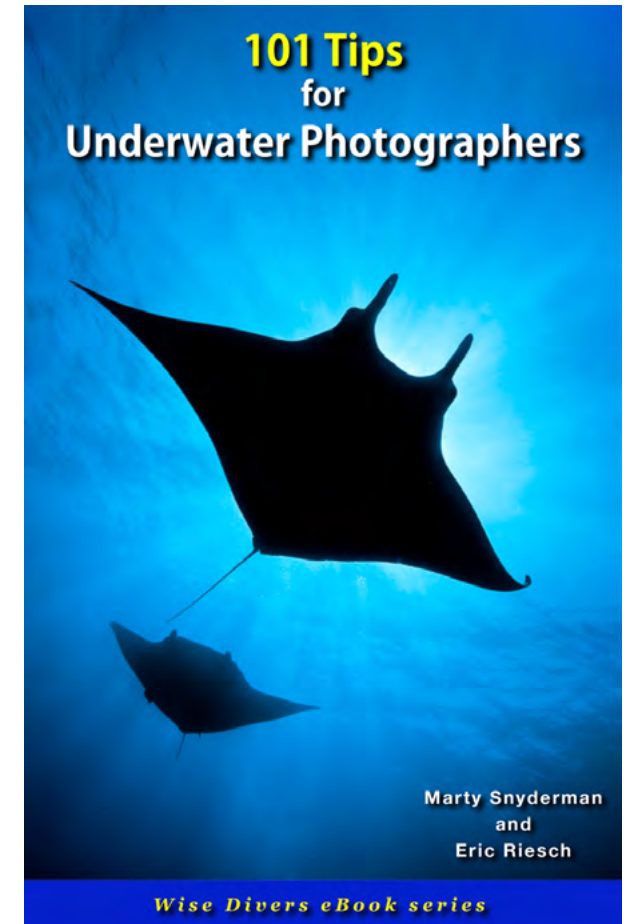
101 Tips for Underwater Photographers

Announcing a new series of eBooks made by divers for divers. Presented in an easy to read, educational style, each eBook focuses on a specific diving-related activity or topics that will increase your knowledge and help you gain the most from your own underwater adventures.

The first book in the Wise Divers eBook series, 101 Tips for Underwater Photographers is written and photographed by longtime, professional underwater photographer, Marty Snyderman, and designed and edited by Eric Riesch.

The tips provide suggestions for underwater photographers of all experience levels and offer valuable reminders and guidance regarding a variety of concepts and techniques.

Illustrated with Marty's photography, the text is written in an easygoing yet educational style. The tips cover a wide variety of topics ranging from pre-dive preparation, handling and care of equipment, the use of lighting and strobes, working with models, to post-capture processing.



You will learn ways to create photographic opportunities, how to "get your shot", and how to handle camera equipment, both above and below water.

Apple Books Preview:
<http://apple.co/37xGlEW>

Preview at amazon.com US store:
<https://amzn.to/3s9xv4s>

Sony A1 & Nauticam NA-A1

by Phil Rudin

Sony has recently introduced its first true Flagship camera, the 50.1 megapixel Sony A1 full frame mirrorless camera. This is a completely new level of camera which has received the highest rating ever awarded by testing site DPReview an impressive 93%. Before I go further I would like to strongly suggest that anyone interested in the future of photography read at least the camera portion of this review. It describes where the camera industry will be going over the next five years.

In my 2017 review of the A7R III I said that Sony had made it quite clear that they intend to surpass Canon and Nikon in the Pro/Prosumer market by focusing heavily on full-frame mirrorless cameras and high quality lenses. Sony's advanced innovation over the past six years has paid off with the A7R IV at the top of the DPReviews Semi-Professional Full-Frame category and the A1 at the top of the Professional camera category.

The Sony A1 is an extremely robust camera which covers a broad range of user needs. Sony is now the largest manufacturer of mirrorless full frame lenses with seventy native full frame lenses like the new 12-24mm

F/2.8, 20mm F/1.8 and 200-600mm tele lens. The newly announced 14mm F/1.8 GM is less than half the weight of the Sigma 14mm F/1.8 and about two-thirds the size.

The new Sony FE 28-60mm "kit" zoom will work with Nauticam's WACP-1 and WWL-1/1B water contact optics as well as Nauticam CMC 1 & 2 closeup lenses. After market manufacturers like Rokinon/Samsung, Sigma, Tamron, Tokina, Venus Optics, Zeiss and more have also jumped on the Sony bandwagon. Providing Sony FE full frame direct mount lenses brings the total of available auto focus lenses to over 250 and additional 180 manual focus lenses. Sony has still not added a fisheye or fisheye zoom lens to its lens lineup. I have used the adapted Canon 8-15mm fisheye zoom for close to five years now and it work well but Sony needs to step up and offer a fisheye.

Sony Alpha A1 Camera

Sony's A1 full frame mirrorless camera includes excellent 5-axis sensor based in-body image-stabilization with a CIPA rating of 5.5 stops of stabilization. Resolution is a maximum of 8640 x 5760 from

the 50.1MP sensor in the native 3:2 format. The hybrid auto focus system now has 759 phase detection points and 425 contrast detection points which offer advanced real-time eye AF subject tracking with human, animal and bird modes along with advanced subject tracking.

At the heart of the Alpha 1 or A1 is Sony's newly designed 50.1 MP "Stacked" full-frame Exmor CMOS BSI sensor and Bionz XR processing engine. This new "Stacked" sensor design optimizes processing speeds allowing the camera to shoot up to 30 FPS in continuous shooting at full frame. While most underwater photographers don't shoot at such high speed they can still benefit from this advanced sensor design.

The hybrid AF system covers 92% of the image area and enables up to 120 AF and AE calculations to be performed per second for exceptionally fast subject tracking and accuracy. The stacked sensor and Bionz XR processed allow information to move so quickly that the camera can sync in flash mode at up to 1/400th of a second and at 1/500th sec. in APS-C mode.

In the APS-C the AF system covers 100% of the frame rendering respectable 5616 X 3744 21MP files. This added speed also allows video at 8K 30p without overheating and at 4k 120p 10-bit with sensitivity in low



light shooting as high as ISO 102400.

The new stacked sensor makes the A1 an excellent video camera with 8K and 4K recording resolution full pixel readouts, internal 4:2:2 10-bit sampling and 16-bit raw output via a full-size HDMI. The A1 has no recording limits and S-Cinetome support for smooth skin tones and well-controlled highlights along with soft colors.

Like Sony's A7s III the A1 has the 9.44m-dot OLED EVF that can

refresh at up to 240 FPS. Sports shooters will love this EVF which greatly reduces blackout while shooting at high continues speeds up to 30 frames per second. The A1 also has Bluetooth and WiFi connectivity with 2x2 MIMO, wireless remote control and high speed file transfer making the A1 an ideal camera for fast action sports shooters.

Nature photographers will also appreciate the high frame rates, stellar auto focus speed and accuracy, 15-stop dynamic range and the new lossless compressed RAW files. At the 30 FPS high frame rate the camera is using the electronic shutter and the A1 because of the stacked sensor is the only camera that can shoot at up to 30 FPS with flash sync speeds up to 1/200th of a second. This is a whole new ball game for high speed shooting in the studio and sports venues and much more.

The A1 also sports the much requested newly reorganized menu system first released with the A7s III. This system is much more intuitive and much easier to navigate. The new auto focus system is quick and precise focusing in a variety of lighting conditions with sensitivity down to -6 EV.

The camera now supports both high speed high speed SD cards and Sony's new CFExpress type A super high speed media cards. Be

aware that the new Type A cards are expensive at this time because of lack of competition and they require a dedicated CFExpress Type A card reader. If you are not shooting at high speeds the SD cards will work well however the transfer rates with the new cards are much faster given a proper high speed storage device.

The new A1 imaging processor and autofocus algorithms work so well that I have abandoned back button focusing and AF-S relying instead on the Lock-on AF Expanded Flexible Spot in AF-C mode. This combination allows me to lock focus with a half press of the shutter and then drag the focus point around the frame while maintaining the original focus area. This means I can focus on an animals eye in the center of the frame then drag the eye around the frame for the best composition without losing the tack sharp focus on the eye.

Lock-on expanded flexible spot also allows you to adjust the speed that you drag the focused point around the frame. I have changed the factory default setting and sped up the movement to meet my needs.

Subtle but very useful is the A1's focus area box which can be reduced or enlarged in size and can also be set to white or red for ease of use. For those who have used earlier versions of the A7 cameras and tried to locate



the flat gray focus box underwater or in bright light I feel your pain. I have the A1 focus box set to RED and it is now near imposible not to see as soon as you look into the LCD or electronic viewfinder.

On the subject of the electronic viewfinder the 9.44 million dot panel has an adjustable refresh rate goes as high as 240 FPS with little blackout giving a life like view of the scene through the viewfinder. Once you have mastered using this EVF you will never want to go back to an optical DSLR viewfinder. The new viewfinder also covers 100% of the frame with a 25mm eye point and has a diopter adjustments from -4 to + 3. I have had the A1 camera and Nauticam housing for a limited time so I will be experimenting with all of the focus settings and will report my findings in future reviews with this camera.

The LCD screen on the A1 is unchanged at 1.44M dots and three inches with touch sensitivity control.

This was a mistake on a \$6500.00 Flagship camera that Sony should have addressed. The lions share of both EVF and LCD panels used for all camera brands are made by Sony. To add insult to injury as soon as the A1 was released Sony announced that they were updating the Sony A7R III and A7R IV LED panels and replace the old 1.44m dot screens with 2.35M dot screens. Even the \$3900.00 Canon EOS R5 and \$3000.00 Nikon Z7 II have 3.2 inch 2.1M dot LCD's.

As a blackwater photographer I find the LDC screen invaluable for locating very small subjects in near zero light. A better LCD panel would enhance the ability to see smaller subjects and finer detail.

Many readers have asked me about implementation of the animal eye autofocus feature on Sony cameras. With my limited testing I have found the animal eye AF is more than a bit hit and miss underwater while human eye AF works well.

Eye AF does not work in conjunction with lock-on expanded flexible spot because the idea with eye AF is to find the animal/human eye regardless of where it is in the frame and lock onto it. You can even choose between the right or left eye and select one person's eye out of a group of people in the frame. I have used the human eye AF shooting models both underwater and while doing splits and it is spot on.

For pets like cats and dogs animal eye AF works very well. I had great success using animal eye AF for horses, dogs, and a cow but it is still not reliable for marine life. The A1 has added bird eye AF but I have not had the camera long enough to test that feature.

The A1 has a larger more ergonomic grip which makes the camera more user friendly. Unlike the A7R series of cameras the A1 has the shooting speed and focus selection dial on the left top of the camera like the Sony A9 II high speed sports camera bodies. This is a double dial with the shooting speed options on top, single, high speed and so on with a center locking button while focus selection, AF-S, AF-C and so on is on the bottom dial with a lock on rear of the dial.

On the right top is a rear dial with a lock for the exposure compensation, a programmable dial for shutter speed and a locking dial

for choosing shooting styles like M,S,A,P, video, three programmable settings and more.

The AF-ON and multi-selector buttons are large and designed to make them easy to find without taking your eye away from the viewfinder while shooting above water. This is important for using the AF-ON button to magnify an image in the viewfinder without having to take your eye away. The magnified image enlarges to cover the focus point so that you can immediately see if focus is correct.

I have been able to review and enlarge the image in the Nauticam housing without removing my eye from the 45 degree optical viewfinder as well. This feature definitely speeds up workflow and the new EVF panel lets you see that your images are tack sharp. The EVF & LCD panels also allow you to see a live histogram and/or a four color histograms in image review.

The memory card door has a locking device which is push to open and close. The new arrangement improves weather-sealing and prevents the card door from opening accidentally which has happened to me several times with past A7 models. Both top and bottom card slots accept the SD and CFExpress type A cards, the #1 slot is at the top and the #2 slot is at the bottom unlike some older models.



The A1 has over 100 menu features to select from and many of those features have multiple subsets. I have selected the menu features that I use most and moved them into the super menu accessed via the Fn function button. I can open that small subset of items underwater and easily change them using the arrow pad and OK button.

If I am shooting in TTL with the S-Turtle flash adapter I can just go into the super menu and easily change +/-flash compensation.

Another A1 feature is that stills and movies have separate super menus so you can set up to twelve menu functions for each. I have also assigned custom key functions which are useful for me like the C3 button to boost the image brightness. The red video button is assigned so that I can quickly toggle between the EVF and LCD. I have the AEL button assigned to quickly toggle between full frame and the very useful APS-C mode.

The A1 uses the same NP-FZ100 battery and also has very robust new



weather sealing which is expected with a camera of professional quality.

The 50.1MP A1 provides exceptional image quality with plenty of dynamic range and an ability to do large crops. In APS-C mode the focus points cover the entire frame and renders excellent 21MP image. This matters to me because I get a faster work flow and additional options when shooting.

The Sony FE 90mm F/2.8 macro lens is a must-have for underwater macro shooters and one push of the AEL button toggles to APS-C giving an equivalent FOV of a 135mm macro lens extending my lens range. I have already found this to be quite useful with the Sony FE 90mm and FE 50mm macro lenses. I am aware that I can just crop the FF image to achieve APS-C or other format sizes. However what I see in the viewfinder in APS-C mode is exactly what I get giving me two cameras in one with all of the additional features of the A1 system.

The Sony A1 is the best full

frame camera available in today's market for overall performance. The difference between the A7R IV and the A1 in regard to image quality is negligible while overall speed and feature set is improved in all areas.

The rollout price of Sony A1 is \$6500.00, certainly not cheap. However the price is in line with other manufacturer's Flagship camera models for high speed sports shooting. The difference is that the A1 excels in all areas of photography, excellent for high resolution still imaging, with equally impressive high end video specs and the fastest sports camera on the planet.

The A1 uses the same vertical battery grip as the A7r IV for added battery life for sports shooters. Canon and Nikon have both announced intentions to release similar high speed mirrorless sports cameras this year but with very little substance as to the specs. Canon has announced that they have developed their own stacked sensor and Nikon will surely purchase the same if they intend to remain competitive over the next five or so years.

It is clear that mirrorless cameras will be moving away from mechanical shutters and embracing electronic shutters. Many sports shooters will probably never get anywhere near the 500,000 activation rating of the Sony A1 mechanical shutter opting instead

for the electronic shutter the majority of the time. The next big leap from the stacked sensors in the next five or ten years will be to global shutters which eliminate mechanical shutters and the need for DSLR's all together.

Nauticam NA-A1 Housing and Ports

The Nauticam NA-A1 is a next generation of housings for the Sony full frame line of mirrorless cameras. Nauticam has always continued to improve with age because as their mission statement says they "Think beyond what has been done before and never rest on past accomplishments".

My first Nauticam housing review for uwpmag.com the NA-NEX5 dates back to 2010 and I am always amazed to see the subtle improvements introduced with each new generation of housings and accessories. The latest N100-N120 35.5MM port adapter II (for A7RIV and after) is one example. The new housing extends further to accept the larger battery grip on the new A1 so the prior N100-N120 adapter for Sony A7 II & III cameras no longer fits.

In addition to the redesign which retains the same 35.5mm length the port locking device has been moved to the top of the adapter making it easier to align and lock ports. The adapter also has a new redesigned gearbox



with an increased zoom/focus gear ratio which means a faster and more precise control of lenses for video. This new gearbox is also found in the new NA-A1 housing zoom/focus control wheel.

The new NA-A1 housing now features M14 & M24 mounting points with the M14 on the rear housing plate for the vacuum valve or flash sync port. An M24 accessory port is added to the front left side of the housing for HDMI output connectivity.

Other new features include a new O-ring sealing design for the LCD window and new handle brackets designed to enhance stability

underwater.

The most noticeable difference for me was when I removed the housing from the box. I immediately noticed that the carrying case appeared smaller than the one for the NA-A7RIV housing. When I removed the housing from the case I could see that the size of the housing was smaller than the NA-A7RIV housing I had been using but very close in size the NA-2020 and NA-A7sIII housings. My Sony A7R IV camera is actually very similar in size to the A1 and fit directly on the A1 tray and into the A1 housing.

In manual mode all of the basic

controls also worked like the on/off switch, aperture and shutter controls and the playback control. Other controls did not align but in a pinch I could use the A7R IV in the housing. The A7s III can also be adapted to the housing with complete control using an optional Nauticam A7s III camera tray. All of these subtle improvements help the user to focus less on the equipment and more on the creative process.

The NA-A1 housing has the same excellent twin locking system used on all of the Nauticam DSLR and full frame mirrorless housings. This secures the front half of the housing to the rear by turning the locking device 90 degrees. To unlock push in the two red safety locking buttons and turn the locks.

The housing has corresponding levers, push buttons and control dials for every function on the camera body. These controls are very well placed and should be easy to use even with heavy gloves. The rear half of the housing has a large LCD window and a quality optical glass pickup finder for the outstanding EVF. I always replace the Nauticam pickup finder with Nauticam's excellent 45 degree optical viewfinder. This is at least the eighth Nauticam housing I have used with the same 45 degree optical viewfinder. Switching between the pickup finder and the 45 degree

viewfinder takes me less than a minute and does not require any tools. Once installed the larger viewfinder really helps those of use with aging eyes who are seeking better critical focus and composition. Nauticam also offers an optional 180 degree optical viewfinder which works very well for wide angle and motion shots. Both of the viewfinders have a plus & minus diopter control which can be adjusted underwater.

Another subtle improvement on the NA-A1 housing is the slightly deeper housing back. Many of the land camera reviewers complained that the A1 did not ship with a 180 degree forward facing LCD screen, think selfies. The A1 LCD instead tilts straight out towards the inside rear of the A1 housing. The deeper housing back allows you to tilt the LCD screen further from the camera. As a result it is easier to see the entire screen.



Even with the 45 degree accessory viewfinder installed if I want to see the entire LCD screen all I need do is turn the viewfinder 45 degrees out of the way. This is a huge improvement that gives you the best of both worlds EVF and LCD.

The signature Nauticam red port locking lever is on the front lefthand side of the housing and the lens release button is on the right viewed from the front of the housing. This allows you to remove the port or port adapter and install or remove a lens without removing the camera or even opening the housing.

The housing even has a blue reset switch for the vacuum system if you change ports without opening the housing. This is a very useful feature because larger lenses like the Sony FE 12-24mm F/4 zoom must be mounted from the front of the housing.

The switch to turn on the vacuum

system electronics is located in the rear half of the housing along with the audible alarm, LED warning light and battery mount. The vacuum system is an accessory I highly recommend since the housing already comes with all of the electronics and a flood alarm built in. The M14 vacuum valve kit with the vacuum pump and tool for user installation cost around \$260.00.

I average over 100 dives a year and I change the alarm system battery once a year as a routine. I also recommend carrying spare batteries for all your needs when traveling just to be on the safe side.

The rubberized handgrips are removable and include the redesigned stainless mounting plates to reinforce the stability of the handgrips. The handgrips are very comfortable, they adjust depending on your hand size and the thickness of the gloves you may be wearing.

The grips include standard ball head mounts for strobe and video support arms as well as other accessories. Additional ball mounts can be added to the housing over the support brackets for things like focusing lights, additional strobes, video lights and more.

The top of the housing also features two threaded fiber optic ports with caps for optical sync cords. Compatible strobes are triggered using the optional Nauticam Mini flash trigger for Sony Alpha-series cameras and Nauticam universal fiber optic cables. The Nauticam Mini flash for Sony (\$267.00 USD) triggers a verity of strobes with fiber optic compatibility including Inon Z-330, Z-240 type4, S-2000, D-2000 type4, D-200 as well as Sea & Sea YS-250, YS-D1 and YS-01 strobes (will not trigger S&S YS-D2) with more being added.

The Mini is a manual flash trigger and has NO TTL function. The Mini flash trigger is sold with two batteries that provide thousands of flashes and reduces drain on the camera battery associated with on-board flash recycling. The Mini flash trigger also recycles much faster than an on-board camera flash allowing you to shoot between six and ten frames a second if your external strobes recycle times can keep up. After market flash triggers like



the S-Turtle flash trigger and UW Technics can add TTL flash operation using fiber optic sync cords.

The Sony A1 will sync up to 1/400th sec in full frame and up to 1/500th sec, in APS-C mode. BE AWARE that to reach these sync speeds you need a proprietary type flash trigger like the S-turtle or UW Technics. These two flash triggers have the same sync configuration to hot shoe as Sony land flashes this is how they are able to do TTL.

The Nauticam flash trigger has a single pin to hot shoe connection to fire in manual. I have attached a photo of both triggers so that readers can see the difference. With the proprietary flash triggers you can shoot the higher sync speeds in manual or TTL with the Nauticam flash trigger top sync is 1/250th of a second.

All current ports and port extensions are compatibly with the Nauticam N100 to N120 by 35.5 mm port adapter II for A1. All of your additional accessories can also



SunFish, Florida Springs, Sony A1, Sony FE 90mm F/2.8 macro, Nauticam NA-A1 housing, two Backscatter MF-1 Flashes, ISO-500, F/14, 1/500th sec, in APS-C crop mode

be carried over with no problems. Nauticam and Zen Underwater have a verity of port options for the NA-A1 housing using both the N100 mm and N120 mm DSLR port mount options. This will allow owners moving over from Nauticam DSLR housings to use some of their ports and to migrate some DSLR lenses by using the Metabones EF or Sigma MC-11 lens adapters.

The Nauticam NA-A1 housing retails for \$3534.00 USD and the N100-N120 port adapter II for NA-A1 (part #37305) retails for \$543.00.

Field Testing the Sony A1 & Nauticam NA-A1

For this review I selected the Sony FE 90mm F/2.8 macro G OSS lens which easily handles the larger A1's 50MP files and is without question has the best image quality of macro lens I have ever used. The 90mm macro was paired with the dedicated Nauticam N100 macro port with 67 mm threads. This allows you add a flip adapter and closeup lenses like the Nauticam SMC-1 while shooting in full frame or APS-C formats.

I also used Sony FE 28-60mm “kit” lens with the new Nauticam WWL-1B reviewed in this issue. The FE 28-60 can also be used with Nauticam CMC-1 & 2 closeup lenses. I use two Inon Z-330 flashes and two Backscatter MF-1 flashes for the stills in this review. With the two Z-330’s I also attached the 4600K color dome diffusers.

I configure the 90mm macro lens with the focus limiter set from 1:1 to infinity in auto focus. On past Sony A7 cameras I set the focus limiter from 1:1 to 0.5 meters which renders everything from life size, 1:1 to about 1:10 in focus. I find that most of the macro/closeup subjects I want to photograph fall well within that shooting range.

As I have said in past reviews it takes a few dives to get the hang of shooting within this rather short focusing range. By using the focus limiter I find that the lens is less likely to hunt and that the lens acquires focus more quickly than when it is set from 1:1 to infinity.

With the A1 and A7R IV set to AF-C with tracking flexible spot the camera does not hunt like it did with prior versions set to infinity. I have also moved away from using a manual focus gear for the SMC-1 even at greater magnification than life size. The AF has become so good that I just wasn’t using the gear much at all.

With the WWL-1B all of the images were taken with autofocus and limited use of the zoom gear. This lens has a zoom range from 130 to 68 degrees coverage. If you switch to APS-C you can get even greater magnification in the 45 degree range. The WWL-1B also works very well as a CFWA lens with the ability to shoot down to the port glass.

I used the Backscatter and Inon Z-330 flashes with two 50 mm X 250 mm Nauticam float arms



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Spadefish, Blue Heron Bridge, Florida, Sony A1, Sony FE 28-60 Zoom At 33mm, Nauticam NA-A1 housing, Nauticam WWL-1B, two Inon Z330 Flashes, ISO-100, F/8, 1/400th sec

and two 200 mm double ball arms. The float arms and the WWL-1B which has a built-in float collar balance well and are easy to control in the water. I use the same arm configuration with the macro port.

For those of you thinking about moving from a sub-full frame system to a full frame system the reduced depth of field at any given F/stop over



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White Tubercled Crayfish, Florida Springs, Sony A1, Sony FE 90mm F/2.8 macro, Nauticam NA-A1 housing, two Backscatter MF-1 Flashes, ISO-500, F/14, 1/250th sec

sub-full frame can present a few issues. First high megapixel cameras including the A1 and especially the A7R IV tend to highlight flaws associated with many lenses, so chose wisely when making lens purchases. Second the shallower DOF associated with full frame cameras requires more critical focus so taking a machine-gun approach to shooting may



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Hermit Crab, Blue Heron Bridge, Florida, Sony A1, Sony FE 28-60 Zoom At 60mm, Nauticam NA-A1 housing, Nauticam WWL-1B, two Inon Z330 Flashes, ISO-100, F/16, 1/400th sec

result in high numbers of poorly focused images.

In the water the NA-A1 housing is very well balanced and a dream to use. All of the controls fall easily at your finger tips and after a few dives I did not find myself having to look away from the viewfinder to change any of camera my settings.

Stay tuned for followup reviews with the Sony A1. My limited use of this system has only allowed me to hit on the most basic features of this camera system.

If the Sony Alpha 1 and

Nauticam NA-A1 are within your budget and you are seeking the very best in image quality, focus speed and overall performance for both stills and video in a full frame camera the A1 may be for you. With a large selection of quality lenses this package should be at or near the top of your wish list.

Thanks once again to the Nauticam USA (nauticam.com) team for assistance with equipment used for this review.

Phil Rudin
Instagram

THE SOURCE



Z Cam E2 at the Georgia Aquarium

by The Backscatter Team

Our friends at Georgia Aquarium reached out to us about their needs for a new underwater video system as part of their new immersive underwater shark experience. After discussing the needs of the project and narrowing down the choices of professional-quality compact video cameras currently available, the decision was made to perform a field test of the Z Cam E2. Backscatter supplied the camera, Nauticam USA provided the Nauticam NA-E2 housing, and Chris Miller of Georgia Aquarium Dive Program jumped in the tank to start capturing some sample footage. We spoke with Chris about the testing experience and equipment decisions, and what it's like to dive almost every day with some of the most charismatic megafauna found in one place anywhere in the world.

There are many different compact professional quality video cameras on the market right now. Why did Georgia Aquarium choose the Z Cam E2 as the next primary video rig?

Chris: Georgia Aquarium is offering an opportunity for guests to don dive gear and get in

an underwater cage as it travels throughout our new “Sharks, Predators of the Deep” habitat. We always want to capture our guest's experiences, so we reached out to the Backscatter team for some ideas about how best to capture this. The Z Cam E2 was suggested, and we immediately loved it. It offers us the opportunity to have a videographer shoot with the camera, or we can mount it on the side of the habitat and control the camera remotely. The new habitat carries some limitations about getting videographers in the water, so the ability to control the camera remotely is a huge plus for us.

How did you get to be involved with the videography at the Aquarium?

Chris: A few years after I started at the Aquarium I was tasked with upgrading our video system. At the time there were so many options and I had no idea where to start. I reached out to Backscatter to describe what we do, what environment we are working in, and what we were looking to achieve. You guys were very helpful in the decision and helping us pick the best cameras for our situation, and



helping us learn the system. We were very fortunate to attend the Digital Shootout in 2018 and learn so much from the team.

What are some of the unique challenges or experiences you face as a videographer in the aquarium?

Chris: It's amazing being able to dive in an environment with animals from all around the world. We are so fortunate to always have perfect conditions and a multitude of subjects just outside the office. One of the challenges of having so many subjects to shoot is having to pick just one and stick with it. You always feel like you want to get in and capture everything in one shot, but with thousands of animals, it's almost impossible. Multiple dives happen daily, so these animals are very comfortable with divers in the water. You can easily just park yourself in one spot of the habitat and get amazing shots in just one dive.



Your camera gear must spend a lot more time in the water than the average rig. What's it like to manage and maintain the gear?

Chris: We definitely run our gear through the wringer. We have a staff of about 30 videographers with a variety of backgrounds using this gear on a daily basis for hours at a time. Most of the housings and cameras in our equipment locker get close to 300 hours of underwater time logged in their first year of use. For example, the Z Cam E2 will be used to capture multiple cage dives daily and the plan is to have 4 cameras with housings in the water during all experiences. We put a lot of time and energy into training our team to properly maintain and care for these housings, as well



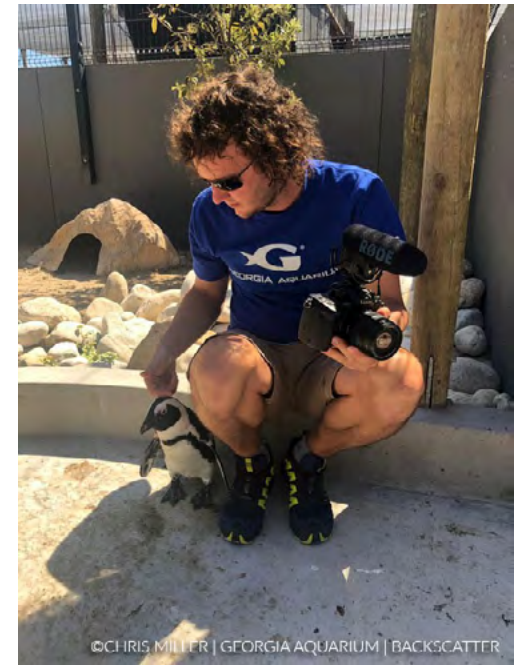
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With perfect conditions and a multitude of subjects, the habitats of Georgia Aquarium can seem like a dream come true for an underwater videographer.

Whether topside or underwater, at home base in Atlanta or doing research abroad, the video team is always ready to capture media for everything from Instagram to Animal Planet.



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as the optics, lighting, monitors, and everything else involved in the camera systems.

Most housing manufacturers recommend a full overhaul at about 200 hours of use or every 200 dives, so we really go the extra mile in taking care of our gear to make those service intervals stretch out as long as possible. When the inevitable time comes to send in the housings for routine maintenance, it's always easy working with the Backscatter Service team to facilitate the necessary repairs.

What are the requirements of video production for the Aquarium, and what other cameras do you use?

Chris: Our other primary cameras are the Panasonic GH5 and Panasonic LX10. We love the Panasonic GH5 because it's a camera new videographers can easily learn on, but it can also help seasoned videographers grow their skills. Both the Panasonic GH5 and Panasonic LX10 are used daily for our guest programs like the Dive and Swim program in our Ocean Voyager habitat, as well as PR needs.

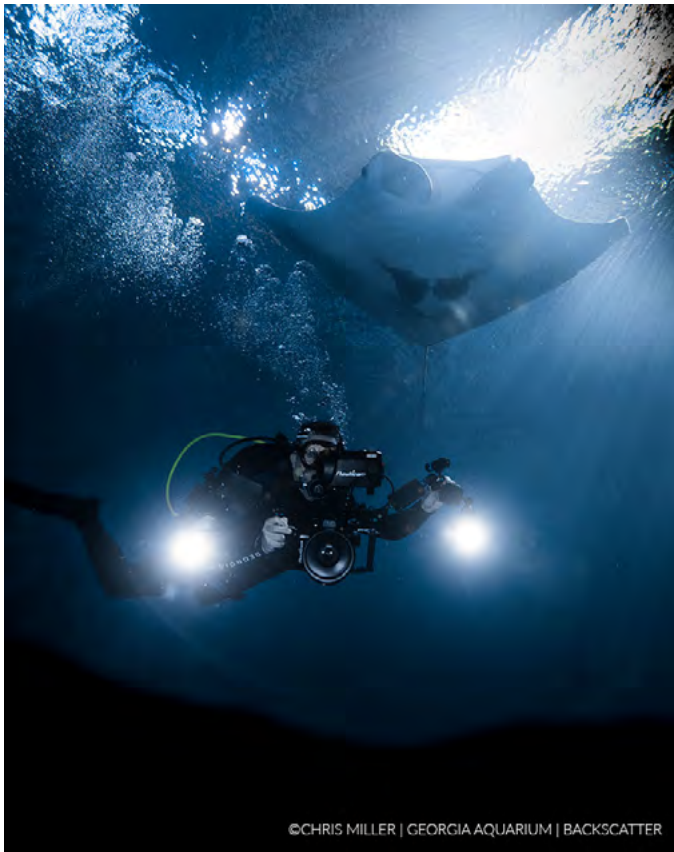
The Aquarium has been fortunate enough to be featured in

a variety of movies, TV shows, and documentaries. Currently, we don't allow any outside videographers to shoot in the water, so in-house staff members shoot most of the underwater footage in these productions with our own gear. We've used this gear to shoot for The Aquarium on Animal planet, we did an underwater live shoot with Good Morning America, we have used it to film a variety of Shark Week spots over the years and tons of local news station spots. We also produce all of our social media and online content in-house as well.

How do you utilize your imaging gear in the field for research and conservation work?

Chris: We do a fair amount of research and conservation trips throughout the year, and this video gear will play a huge part in capturing and documenting those trips so we can highlight the work we do outside our facility.

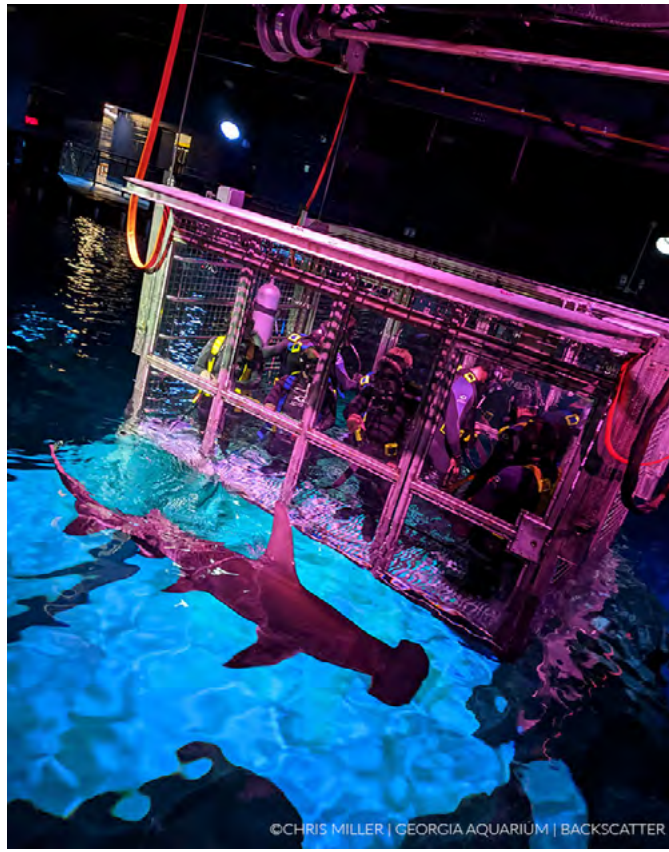
We have a fairly large Research and Conservation team that travels around the world for various research trips. We travel to places like Florida for manta, coral, & dolphin conservation. We travel up the coast of North Carolina for various shark



The video team spends plenty of time learning how to maintain the gear as well as how to use it.

research. Teams have been sent to the Bahamas and other locations in the Caribbean for shark and coral conservation.

The larger, more extensive trips involve St. Helena, Indonesia, & the Galapagos for whale sharks. Each trip has a unique set of goals, capturing footage and assets from these trips is usually on the list. There is usually a videographer sent on these trips to capture as much underwater and topside assets as we can. This footage is important for the Research team to review, and to showcase



The Z Cam E2 proved to be the right tool for the job when it comes to capturing the guest experience in the new Sharks, Predators of the Deep habitat.

the important research and conservation work we do globally to promote the preservation of aquatic species.

It was a blast hosting you at the Digital Shootout in 2018 and watching your skills develop. What was that experience like?

Chris: My colleague Chris Duncan and I had both been shooting for a while, but we were still very new into shooting in the grand scheme of things. We both were wanting to take our abilities

to the next level, both for ourselves and to train the shooters we have at Georgia Aquarium.

While following the Digital Shootout for years before, I knew this was the best opportunity to learn in real environments from Industry professionals.

Duncan and I had no idea what to expect but showed up ready to take every opportunity we could to learn from the pros. It did not disappoint. The ability to go out and shoot in the morning, then sit in seminars in the afternoon to review footage and learn how to hone in our skills was amazing.

Each evening, everyone got together to review and critique videos and images. Getting so much feedback from so many established shooters was priceless. The Digital Shootout helped step up our knowledge and abilities as well as build relationships with this crew. We've continued to build off these skills and these friendships for years.

What other exciting things are going on right now with Georgia Aquarium?

Chris: Our latest gallery and expansion, Sharks! Predators of the Deep is now open! Guests can see sharks like hammerheads and sand tiger sharks in one of the largest shark exhibits in the world. Guests can even participate in two different animal interactions in the new gallery.

Our shark and ray immersion experience gets guests in the water with zebra sharks and stingrays while you learn about these amazing animals. For the more daring, our shark cage dive takes guests underwater with the hammerheads, sand tigers, and other sharks in the main exhibit. No scuba certification required!

If you can't visit us just yet, Georgia Aquarium has virtual offerings on its website like guided tours, field trips, and webcams. You can even



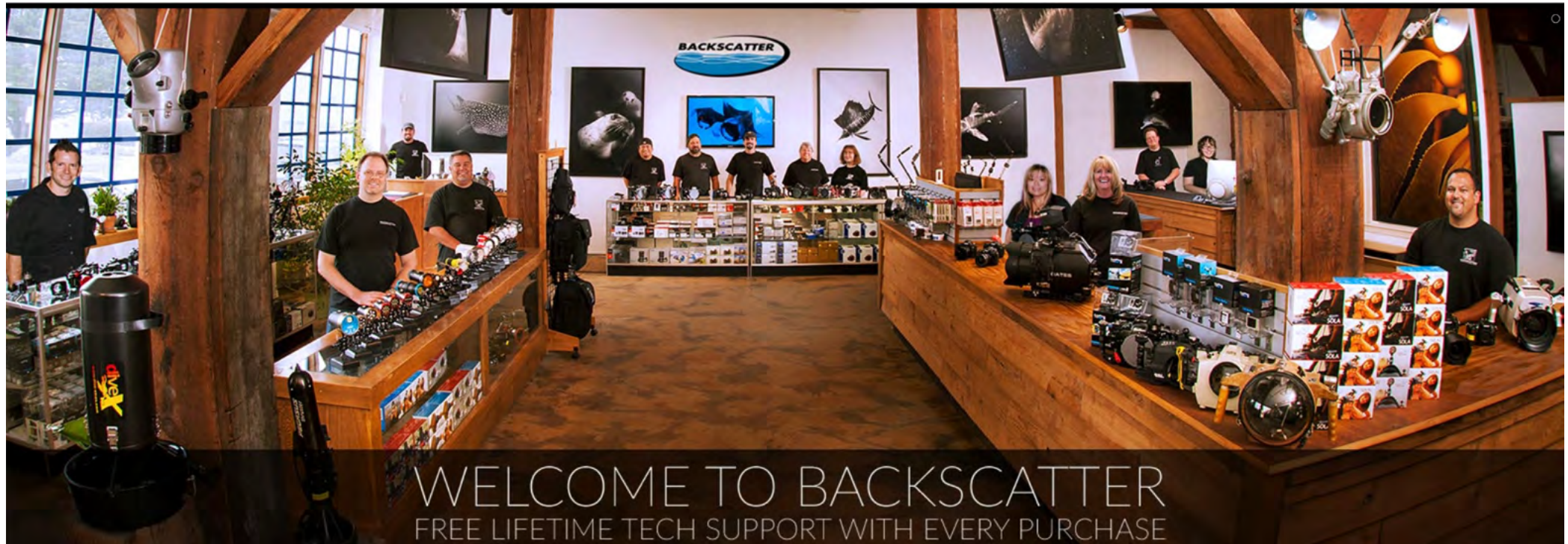
Take a look at the gorgeous Z Cam E2 test footage captured inside the habitats of Georgia Aquarium.

sign up for our virtual 5K that runs March 13-April 18 and benefits Georgia Aquarium's research and conservation efforts!

Backscatter would like to thank our friends at Georgia Aquarium for their support. Thank you to Nauticam USA for providing the Nauticam NA-E2 underwater housing and optics.

Georgia Aquarium, located in Atlanta, Georgia, non-profit organization that contains more than 11 million gallons of water. Georgia Aquarium is a scientific institution that entertains and educates, features exhibits and programs of the highest standards, and offers engaging and exciting guest experiences that promote the conservation of aquatic biodiversity throughout the world. As a leader in aquatic research and exceptional animal care, we are dedicated to fostering a deeper appreciation for our ocean and the animals that call it home.

The Backscatter Team
www.backscatter.com



Nauticam WWL-1B review

by Phil Rudin

The Nauticam WWL-1B is the second generation in a line of high quality water contact optics. Water contact lenses come in two styles; one is removable underwater like the WWL-1 and WWL-1B and non-removable like the outstanding Nauticam WACP 1&2 water contact optics. Both the WWL-1 and WWL-1B wide conversion lenses have a maximum 130 degree field of view underwater when used with a 28mm (75 degree) equivalent lenses.

The original WWL-1 was first review by Peter Rowlands in the Nov/Dec 2015 issue #87 of UWPMAG.com. At the time Peter was using WWL-1 with a Panasonic GX7, Panasonic M43 14-42mm Power zoom and Nauticam housing. At the time of Peter's review, Nauticam had not yet released a buoyancy collar to offset the weight of the lens and the lens came with a removable 67mm thread mount for attachment to whatever flat dome port supported the lens being used.

The thread-in lens attachment system also presented a second issue which was the lens sun shade not always aligning when the lens was

mounted on different ports. As a result the original WWL-1 had a sun shade that could be rotated and then secured to avoid vignetting.

My first experience was with a WWL-1 prototype lens in March of 2015 while the lens was still in development. At the time I was using the WWL-1 prototype with an Olympus EM-1, Panasonic Lumix G power zoom 14-42mm F/3.5-5.6 lens in a Nauticam housing. I think it is very important to recognize the amount of time Nauticam takes in developing these optics.

All of Nauticam's water contact optics are "clean slate" designs, engineered from the ground up as underwater corrective and conversion optics. Much like the classic Nikonos 15 and 28mm and Nikonos RS 13mm and 20-35mm film lenses the WWL-1B is designed for underwater use and is not an adaptation of an in air lens design.

I first reviewed the WWL-1 in uwpmag.com issue #114 using the full frame Sony A7R III, Sony FE 28mm F/2 lens and the Nauticam NA-A7RIII housing. With the WWL-1 and Sony FE 28mm lens the results were



exceptionally sharp, with excellent color rendition and better corner sharpness than any rectilinear lens I had used with a 230mm dome port at like for like F/numbers.

At the time of my review the Sony 28mm F/2 and WWL-1 combination was the only full frame camera line that allowed use of the WWL-1. Since most WWL-1 lenses reviews were with lower megapixel sub-full frame camera bodies mine was the first test using a 40+ megapixel camera body. As I have stated in several past reviews high megapixels tend to expose flaws in any lens when pushed to its limits.

My tests also pushed the ISO values higher than those used underwater with most sub-full frame

cameras. Even at ISO values well above 1000 images with the WWL-1 remained tack sharp with the high levels of detail you would expect from a full frame 40MP+ camera sensor. What was missing in my first review was the ability to use a zoom lens like I had with the original prototype kit I tested back in 2015.

Like the WWL-1, the WWL-1B is a full zoom through design that mates perfectly with many consumer compact cameras which have a 28mm equivalent lens. Some of the more popular compact cameras include the Five Sony Cyber-Shot DSC-RX100 cameras, three Canon PowerShot cameras and the Panasonic Lumix DMC-LX100. Be sure to review the Nauticam compatibility charts for

your compact cameras or contact your local authorized Nauticam dealer for full details about which cameras are supported. I would like to point out that although this review is specific to the Sony full frame line the WWL-1B works across a wide range of cameras and sensor sizes some of which I have listed below.

For Micro Four-Thirds cameras supported lenses include the Olympus 12-50 F/3.5-6.3 EZ, 14-42 EZ and the 14-42 II R from Panasonic 12-32, 14-42 power O.I.S, 14-42 II O.I.S. and the 14mm F/2.5 ASPH. Most of these zoom lenses offer a power zoom feature accessed by using a zoom gear.

The WWL-1B also supports a verity of APS-C cameras and lenses including Canon M cameras with EF-M 22mm F/2 and EF-M 15-45mm F/3.5-6.3 IS STM lenses. Fujifilm XC 15-45mm F/3.5-5.6 OIS PZ. Nikon Z DX 16-50mm F/3.5-6.3 VR. Sony E PZ 16-50 F/3.5-5.6 OSS and the Sigma 19mm F/2.8 DN IA for Sony E mount. Some lenses require a zoom gear and most lenses will vignette if they are used beyond 28mm's for the 35mm full frame equivalent. Check the Nauticam.com port charts for detailed information on lenses you may intend to use with the WWL-1B.

When I first tested the Nauticam prototype WWL-1 I had a hard time wrapping my head around the idea

that a \$350.00 Panasonic "kit" lens could outperform the best M43 glass and optical glass ports. I had the same initial thoughts when I tested the current WWL-1B with the \$498.00 Sony FE 28-60mm F/4-5.6 "kit" lens. This time my bench mark was the outstanding the \$2998.00 Sony FE 12-24mm F/2.8 GM lens and the stellar \$1899.00 Zen Underwater 230mm optical glass dome port.

The second benchmark I was using the Flagship Sony A1 a 50.1 megapixel camera with more than three times the resolution of the Olympus EM-1. If those of you reading this review are skeptics as I was and would like to understand the physics behind why Nauticam water contact optics out preform land lens and dome port combinations I will not reinvent the wheel. I would instead suggest you read Alex Mustard's outstanding articles on this subject in UWP back issues #99 and #100. Issue #99 "Nauticam's WACP" covers the physics of that wet lens as well as the WWL-1 and #100 "Dome Free in Mexico" covers several other water contact optics.

Sony FE 28-60mm F/4-5.6 "kit" lens

Currently Sony has two Full Frame lenses that work with WWL-1/1B; the Sony FE 28mm F/2 lens and



the newly released Sony FE 28-60mm F/4-5.6 "kit" lenses. The new Sony 28-60 zoom was released with the compact Sony Full frame 24MP A7C which I reviewed in the last issue of uwpmag.com issue #119. Included in that review were images taken with the 28-60 and WWL-1.

The 28-60mm is referred to as a "kit" lens because it can be purchased along with the A7C camera with a \$100.00 discount. This is Sony's first compact full frame camera and lens combination and in my A7C review I speculated that more compact lenses would be coming from Sony. Since that review, Sony has released three very compact high quality F/2.8

lenses; a 24mm. 40mm and 50mm. Sony has also just announced the Sony FE 14mm F/1.8 GM lens which is about two-thirds the size and less than half the weight of Sigma's 14mm F/1.8.

The reduction in size has not compromised build quality, image quality or speed, in fact the Sony FE 28-60mm F/4/5.6 outperforms Sony's FE 27-70 F/3.5-5.6 in every area. Size wise the new Sony is 66.6x45mm and 167g verses the old 28-70 which is 72.5x83mm and 295g. The new 28-60mm has a 40.5 filter thread and the smaller overall size is why it is able to work on full frame with the WWL-1/1B.

In the past Nauticam has recommended the older 28-70 for use with Sony FF and the Nauticam WACP-1 but until now only the 28mm F/2 could be used with the smaller WWL-1/1B. The new 28-60 can now be used with both the WACP-1 and WWL-1/1B. The new lens also has better weather sealing and much better overall image quality. On the new Sony A1 the lens can continuously auto focus at up to the maximum 30 frames per second.

The Nauticam WWL-1B information page describes the Sony 28mm F/2 as “Most impressive is the outstanding performance available with the full frame Sony A7 series cameras using the Sony 28mm f/2 Prime lens. In our tests, this combo out-performed all of the Sony wide angle lenses behind dome ports, and is especially well matched to the demanding 61 megapixel sensor in Sony A7R IV”. While slower at F/4 on the wide end I believe the Sony FE 28-60mm performs at the same level as the 28mm F/2 and I found the zoom range much more useful than the fixed lens. I would say that both lenses are excellent choices depending on your needs.

For this review I used the Sony A1 with V1.0 firmware. The recently released Sony A1 has a new 50.1 megapixel stacked sensor and other exceptional features that are being

covered in another review. Based on my experience with WWL-1 I would expect the WWL-1B to work equally well with the current Sony A7R IV with 61.2 MP sensor.

The Sony FE 28-60mm F/4-5.6 zoom lens when locked for storage is only 45mm long. When you turn the zoom ring the lens unlocks to the 28mm wide end of the lens. At 28mm the lens barrel extends by an additional 22mm to around 67mm. When you zoom to the 60mm long end of the lens the extension is also about same 22mm and half way through the zoom range the lens extends about 18mm. As a result the distance from the front of the lens to the rear element of the WWL-1B is the same at both ends of the lens allowing the maximum reach in both directions. On any Sony full frame camera the WWL-1B has a field of view from 130 degrees to 68 degrees and zooms fully through to cover everything in-between.

The optical design incorporates three aspherical lens elements which reduce distortion and spherical aberrations and produces greater sharpness. The lens also has a linear motor and internal focusing which quickly, accurately and quietly focuses for both stills and video.

The lens body has advanced weather sealing including a seal at the lens to camera interface.

Nauticam WWL-1B

The 130° to 68° degree field of coverage for the Sony 28-60mm zoom and WWL-1B combination is outstanding. It is wider than the widest Sony 12-24 rectilinear lens which is 122 to 84 degrees and nearly as narrow as a full frame 35mm lens which covers 63 degrees.

The WWL-1B is constructed of 6 precisely ground elements of highly refractive optical glass. All internal elements are coated with a broadband anti reflective coating to keep flare and internal reflections to an absolute minimum.

The WWL-1B at 130 degrees sits in a sweet spot for underwater photography between the 180 degree full frame fisheyes and the narrower 107 degree 16mm end of most 16-35mm rectilinear full frame lenses.

Nauticam from the beginning of the design process targeted the 130 degree coverage area as the ideal coverage area for a verity of uses from big animals to wide reef scenes and fish portraits. The WWL-1B focuses so close to the port glass it can be used for close focus wide angle shots.

The WWL-1B's stunning field of view has extremely high overall sharpness and contrast making it very



well suited to high resolution cameras like the Sony A7r III, A7R IV and Sony A1.

The WWL-1B also eliminates the extreme distortion associated with fisheye lenses and the poor corner and edge sharpness associated with wide rectilinear lenses behind dome ports. I have repeatedly advocated in past full frame camera reviews that wide rectilinear lenses should be shot at F/13 and above to reduce blotchy distorted corners and edges. The Sony 28-60mm/WWL-1B combination is competitive at F/values as low as f/5.6 to F/8 offering the same reduction in corner sharpness found at F/13 with full frame rectilinear lenses. In the center, sharpness is outstanding even at high levels of magnification in the F/4 range.



Water Plants, Florida Springs, Sony A1, Sony FE 28-60mm at 28mm, WWL-1B, Nauticam NA-A1 housing, E-Turtle TTL trigger, two Inon Z330 flashes, ISO-500, F/6.3, 1/400th sec

While I clearly would judge the optical performance of the WWL-1 and WWL-1B to be all but identical the new 1B version has some excellent upsides over the original WWL-1. First the WWL-1B ships with the bayonet mount already permanently installed on the rear of the lens. This



CFWA shot, Florida Springs, Sony A1, Sony FE 28-60mm at 28mm, WWL-1B, Nauticam NA-A1 housing, E-Turtle TTL trigger, two Inon Z330 flashes, ISO-500, F/6.3, 1/160th sec.

eliminates the need to align the numerous Allen screws on the rear of the lens when switching from threaded to bayonet mount. It also eliminates the need to realign the screws when adding the optional foam buoyancy collar to the rear of the lens.

The WWL-1B has a built-in aluminum

buoyancy collar which reduces the overall size compared to WWL-1 with the foam buoyancy collar. The Total dimensions of the WWL-1B are 156 X 97mm, the WWL-1 is 130 X 97 without the foam collar.

The new WWL-1B is small enough that it fits into the included travel case without the need to remove the float collar and the case is only slightly larger than the original WWL-1 travel case. I found it annoying with WWL-1 that I had to remove the foam buoyancy collar for travel to fit the lens into the storage case. Traveling long distances with limited space I always had to find extra room for the foam collar in my luggage.

Lastly in the water WWL-1 with the foam collar is about 160g while the WWL-1B drops to 120g. The reduced weight of the overall system is always welcome when you are working in the water for several hours a day.

The new WWL-1B also ships with a spring mounted hard storage cover to protect the front element. While I remove the hard cover before entering the water I always replace it as soon as I can after the dive has ended.

The last comment I would make on the design of the new WWL-1B is that the aluminum buoyancy collar has a wide rubber ring around the center to help protect it from damage. It also has the same excellent finish used on the newer Nauticam housings to protect them from chipping or other cosmetic damage.

The Nauticam WWL-1B is available from your local authorized Nauticam dealer at a retail price of \$1465.00/£1195.00.



Selfie, Florida Springs, Sony A1, Sony FE 28-60mm at 28mm, WWL-1B, Nauticam NA-A1 housing, E-Turtle TTL trigger, two Inon Z330 flashes. Full Frame 50 MP 8640 X 5760 file. NO Cropping, ISO-500, F/9, 1/400th sec.



The same but with the Sony FE 28-60mm at 60mm

Field Testing the WWL-1B

My test equipment included the WWL-1B and Sony FE 28-60mm zoom with Nauticam NA-A1 housing, Nauticam N100 flat port 45 with focus knob, SEF2860F focus gear, M67 to bayonet converter II, S-Turtle TTL flash trigger and two Inon Z330 flashes.

The bayonet converter II is mounted to the 67 mm threads on the flat port 45 with the included tool. You then mount the WWL-1B by aligning

the white dot on the top of the lens with corresponding dot on the bayonet mount, the WWL-1B is then turned clockwise less than a quarter turn until it locks into place.

The WWL-1B can be removed while in the water and replaced with a bayonet mounted Nauticam CMC-1 or CMC-2 closeup lens. Both of these closeup lenses work well with the 28-60 allowing magnification in the 1:1.1 and 1:1.4 range respectively.

The WWL-1B is a breeze once in the water, trust me when I say it is

much easier to manoeuvre and swim with than the same housing with a 180 mm or 230 mm dome port all else being equal.

As a tool for video this is a much more fluid system than one with a large port and the lens is super quiet while focusing. The Sony A1 auto focus is the best money can buy both super fast and extremely accurate even in low light.

Traveling with the WWL-1B uses about a third of the space my Zen 230mm port requires and at about half

the weight. The WWL-1B easily fits into a shoulder bag or roller bag for carry-on and is much less conspicuous when luggage is inspected.

The 50.1 MP Sony A1 with WWL-1B crushed any of the lens/dome port combinations I have tested with Sony's high megapixel cameras. I have tested Sony 12-24 F/2.8, 16-35 F/4, Zeiss Batis 18mm F/2.8, Sony 24mm F/1.4, Rokinon 15mm F/2.8 and more with the Zen Underwater 230mm dome port. The Sony 28-60 zoom and WWL-1B out performed



Older WWL-1, Cenote Hicte-Ha, Yucatan, Mexico, Sony A7R III, Sony 28mm F/2, Nauticam NA-A7RIII housing, ISO-320, F/10, 1/250th sec

them all and at wider apertures. This should not be viewed as a reflection on the excellent quality of these lenses or the dome port, all are at the top of their class. The fact remains that a “kit” lens used with a very well designed water contact optic will always outperform a land lens and port. Buyer’s should be aware that not all water contact optics are created equal and in most cases you are going to get what you pay for. I have no doubt that Nauticam is the gold standard for water contact optics.

The only downside with the

WWL-1B and wet wide optics in general is that they are not well suited to over/under (split) images. The WWL-1B works above water when dry but splits are difficult at best. The main reason is that the front element is quite small but the biggest problem is that when the lens is lifted out of the water droplets of water will remain between the port glass and the back of the lens. I will include a shot I took raising the camera above water, the image is sharp but it contains spots from the water droplets trapped between the port glass and the rear



Water droplets between lens and port, Florida Springs, Sony A1, Sony FE 28-60mm at 28mm, WWL-1B, Nauticam NA-A1 housing, E-Turtle TTL trigger, two Inon Z330 flashes

of the WWL-1B. I will also include images taken with the original WWL-1 and some other cameras so you can judge the differences in the 28mm F/2 and the 28-60 zoom. The WWL-1B does an excellent job of controlling the distortion associated with ultra wide lenses. Lens flare and chromatic aberration are also well controlled when shooting towards bright sun light.

Nauticam WWL-1B allows you to use Sony high megapixel full frame cameras for extreme wide angle without the compromises of full frame

wide rectilinear lenses and dome ports. I am hoping to see compatibility with Canon and Nikon full frame mirrorless cameras soon but that will require a small lens similar to the Sony 28-60 zoom.

I would once again like to thank the folks at Nauticam USA for both equipment and technical assistance for this review, they are always extremely helpful.

Phil Rudin
Instagram

Inon GoPro Accessories

by Phil Rudin

GoPro's mission from its beginning in 2001 has been to provide the highest quality and most versatile action cameras available. GoPro cameras can be seen just about everywhere action or sports events occur around the world. The company has become one of the largest technology successes of the past decade. GoPro cameras have also become synonymous with water sports including snorkeling and diving.

Inon Accessory for Action Cameras

Inon Japan is the company that produces excellent accessories for underwater photography and videography. I have used Inon flashes for almost two decades and have dressed out many housings with Inon accessories over the years. Inon also has a complete line of useful and extremely well made accessories for action cameras from GoPro, Olympus and Sony.

For this review I equipped the Hero8 housing with the SD Front Mask for Hero8 with a Z joint (YS-type) mounting adapter. I also used the SD Selfie Set and the UFL-G140 SD Underwater Semi-fisheye conversion lens.

The Inon SD Selfie set S includes the SD front mask for a verity of GoPro housings. The SD mask mounts to the base of the GoPro housings using the housing mounting point and a threaded bolt with a simple heavy plastic thumb and finger tightening point. If you loosen the bolt a bit while in the water you can adjust the angle of the housing forward and back to fit your needs.

The SD Selfie support works much like a mono pod or terrestrial selfie stick. The difference is the SD Selfie is equipped with the common one inch ball head with O-ring on both ends so that it perfectly integrates with most current underwater support clamps and accessories.

The SD Selfie is made from carbon fiber tubing and has two locking points that allow the stick to be expanded. Fully retracted the stick measures fifteen inches including the ball mounting points on each end. On the thickest handle end of the stick is a large rubber grip that allows you to hold the stick steady even when fully extended. The grip end ball head has a durable plastic end attached to the ball and an excellent adjustable wrist strap. I used the wrist strap the entire time I was in the water with the GoPro which allowed me to also carry a second full size camera housing with strobes.

The locking points for the two expandable arm sections have a heavy rubber ring to hold the sections tightly in place. Turn clockwise to lock and counter-clockwise to loosen. With the lower carbon fiber tube section extended the stick reaches from fifteen inches to twenty-two inches. With the second section extended the stick is thirty-two inches from ball head to ball head.

With the camera mounted in the configuration I was using the overall length with the GoPro was thirty-nine inches. With the arms fully extended the SD Selfie will fill with some water as you submerge and you will see a flood of bubbles coming out at the base of the stick. This is normal and the stick is



almost neutral in the water. I found with the stick fully extended with camera and housing that the balance was quite good and easy to control.

To start a video clip you first need to push the on/off button on the housing then extend the camera towards your subject. This process needs to be reversed to turn off so you will always have a bit of awkward unusable shaky footage with each clip. While I was using the extended stick it never collapsed or loosened in any way. The arm weight is 238g/8.3oz air and 97g/3.4oz underwater.

Finally the SD Selfie can also be used for flash arms on conventional camera housings.

The SD front mask which holds the GoPro





housing also has a bayonet mounting point for other Inon accessories including the UCL-G165 SD Underwater Wide Close-up Lens and the UFL-G140 SD Underwater Semi-Fisheye Conversion Lens. Both of these lenses will adapt to the SD front masks made for GoPro Hero housings 5/6/7/8 and 9. M67 filter Adapters for Hero 8&9 are also available from Inon to mount a verity of color filters.

For my review I was using the UFL-G140 SD Semi-Fisheye lens and no additional filters. I would also note that I was filming in shallow clear water in the North Florida springs. The very wide angle of view of this accessory lens made it easy to get very close to most subjects without losing focus or depth of field. The SD Selfie allowed me to get much closer to shy subjects than would be possible with such a wide lens on a larger housing system. The wide

lens attaches to the SD front mask by inserting it into the bayonet mount and turning about a quarter turn. You will hear a snap of the locking device on the front mask when the lens is attached properly.

At first I was a bit skeptical about how well the lens would stay in place but after four hours of swimming and moving around the springs the lens remained rock solid on the front mask. I even removed and reinstalled the lens several times while in the water without any problems.

The UFL-G140 SD lens has a lens sun shade that can be moved by loosening four small Allen screws that hold it in place. The shade can shift a bit and should be realigned to prevent it from vignetting in the frame. The

Phil Rudin using the INON UFL-G140 SD Semi-Fisheye lens and SD Mask on a GoPro 8 camera



If you are online, click above to watch Phil's video footage on YouTube

shade also helps to protect the front optic from damage if it is bumped into a hard surface.

The UFL-G140 SD weights about 300g/10.6 oz on land and 153g/5.4oz underwater. The UFL-G140 SD has a maximum 140 degrees angle of view with a 94 degree Hero lens. On land the view becomes even wider to about 151 degrees. The native DOF on land of the 94 degree GoPro lens is from about 60cm/2ft to infinity. With the UFL-140SD underwater DOF extends to 4cm/1.6in to infinity making it ideal for CFWA shots, close focus wide angle. The front acrylic dome is multi coated and provides professional quality results.

The latest GoPro cameras are

quite impressive in a number of ways including broadcast quality video. These cameras are frequently used as documentary series B roll cameras on network broadcasts like Shark Week and many more.

The SD front mask retails for \$69.99, the UFL-G140 SD retails for \$389.95 and the carbon fiber telescoping arm retails for \$110.95. A shorter 272mm/10.7in total length version and 515mm/20.2in total length version are also available for \$64.95 and \$97.95.

I would once again like to thank inon.co.jp for the loan of the equipment for this review.

Phil Rudin
Instagram

www.uwpmag.com

Don't settle for 2nd best



Film - No Filter No
White Balance



Digital - No Filter Manual
White Balance



Magic Filter Manual
White Balance

Digital cameras have opened up new possibilities to underwater photographers. For available light photography manual white balance is an invaluable tool for restoring colours. But when you use it without a filter you are not making the most of the technique. You're doing all the hard work without reaping the full rewards. These three photos are all taken of the same wreck in the Red Sea. The left hand image was taken on slide film, which rendered the scene completely blue. The middle image is taken with a digital SLR without a filter, using manual white balance. The white balance has brought out some of the colour of the wreck, but it has also sucked all the blue out of the water behind the wreck, making it almost grey. The right hand image is taken with the same digital camera and lens, but this time using an original Magic Filter. The filter attenuates blue light meaning that the colours of the wreck are brought out and it stands out from the background water, which is recorded as an accurate blue.

Behind the Bathtub

by Henley Spiers, Shot Chat

The Underbathwater Photographer of the Year competition was conceived by Fourth Element as a way of creatively keeping camera rigs wet during the pandemic lockdowns.

Returning for its second edition in 2021, the winning images prove that this has not just been a fun exercise, but one which has given birth to some truly astounding photographic feats, even in a bath!

Barry McGill won the Underbathwater Photographer of the year Amateur category with an image that defies everything you thought you knew about bath environments. Shot Chat caught up with him to find out just how he captured such a compelling composition in the tub.

When he's not in the bath, Barry is most likely to be found over a 100m deep, exploring shipwrecks off the Irish coast.

Bringing passion, creativity, and rigorous attention to detail to all his endeavours, Barry founded In Depth Technical in 2008. An open-circuit and CCR technical dive instructor, he teaches a full range of courses, with the theoretical backed up by his wealth of experience in the harshest of underwater environments.

Amongst a litany of notable accomplishments, Barry organised and led the expeditions to the RMS Empress of Britain in 162m, and SS Transylvania in 130m.

Barry also works as a cameraman, specialising in stills and video of deep wrecks, with footage used in several documentaries and books.

Conception

The idea for the shot came from my own background in diving. Firstly, I am a very keen shipwreck diver and have spent the majority of my time since I was a teenager diving shipwrecks here in Ireland. I have also worked as a commercial diver and on various underwater archaeology projects over the years here in Ireland.

The idea of the saturation diving bell, submersible and ROV in the picture came from my commercial diving background. I wanted to capture the mood and excitement of finding something underwater that no one had seen for thousands of years, so the idea of a picture of Lego archaeologist deep diving using saturation diving equipment really got me excited about the project.



Trying to bring it to reality took a little bit of time than I really expected at the outset.

Getting the Shot

Equipment: Camera: Nikon D700 Lens: AF Fisheye-Nikkor 16mm f/2.8D, Underwater Housing: Aquatica AD700 Video Lights: Big Blue 15,000 Lumen Video Light.

Location: My Bath

Help: A big thanks must go to my two sons Cillian & Fionn as it was all their LEGO that I used for the project. Also, my wife Ciara for helping me build all the LEGO and for allowing me to wreck our bathroom... She also put up with me waking her up



multiple times during the night when I was working on the final capturing the final image.

Settings: f/5.6, 1/320, ISO: 800, Manual focus



The Story

A few days before I setup to do the shot, I played around with a few different camera setups in the bath with some LEGO toys. I normally take ambient photographs of giant shipwrecks off the coast of Ireland, and I have never done any type of micro type photography so I was a little out of my own comfort zone when it came to taking photographs in the bath and I wasn't sure my normal camera setup would work very well.

I started off with a few LEGO toys in the bottom of an empty bath and used both my Nikon D700 with my normal 16mm lens and a small Fujifilm XP140 waterproof compact camera. I wasn't really sure that the 16mm lens that I normally use for all

my normal underwater photography would work in the confines of a bath.

I also had a go with a 50mm lens to see of that would work any better with my D700. In the end I figured that my Nikon D700 with the 16mm lens was the best of what I had available. My main issue was trying to get all my LEGO figures sharp in the image, so I had to play around with the focal length till I got a feeling for what would work best once I had the bath filled with water and had my camera in an underwater housing.

We were getting our two boys some more LEGO to their upcoming birthdays, so the attic was raided and the LEGO submersible / ROV were unboxed and assembled under the

cover of darkness, so they didn't see them before their birthdays."

Once I had an idea of the camera setup would work, I spent the next night putting together the Lego models for the scene. Firstly, I had to make the LEGO diving bell that divers would be diving from. I am very lucky both my sons Cillian (5) and Fionn (2) are mad about LEGO so I had lots of bit and pieces to work with. They also had way more LEGO divers than I had even realised!

I used some left-over electrical wires from our recent house build to make the main diving bell umbilical and also for the divers umbilical's. Stripping the outer plastic sleeve of the electrical cable allowed me to have

nice colourful wires that worked great for the umbilicals. The copper wires were also really stiff so make setting up the divers on the umbilical's easier.

Once all the different LEGO elements were sorted, I had to get some time to setup the whole scene in the bath... The deadline for the competition was coming up that weekend and we had the boys' cousins coming over to our house for a sleep over which meant it was a bit of a mad house with 3 to 6 year olds running around. I had to wait till they were all in bed before I could start taking over the bathroom to avoid any chaos! As they kids were up all night talking with excitement, it was nearly 10pm before I got a chance to start.



It took many trips up and down the stairs to the bathroom to setup all the equipment for the shot. The first issue I found once I got started setting up the shot was that LEGO floats! I had hoped to hang the various part of the scene from some fishing line suspended across the bath using some pieces of wood. But all that happened was the LEGO floated on the surface. I had to rethink my approach slightly so had to run back to my dive shed and get some small 2kg diving leads to help keep the main LEGO elements of my shot in the right position.

I had to attach some fishing line to the lead blocks and then to the LEGO diving bell, submersible and ROV. By securing the LEGO from both top and bottom using the fishing line, I could keep them midwater to achieve the look I was hoping for. I was able to hide the lead blocks underneath the towels which I had placed in the bottom of the bath.

The main reason for adding

the towels was to stop most of the sand which I was going to add going down the plug hole and blocking my pipework when I was finished. I then started to add some cups of sand to cover the bottom of the bath/towel. At this point, I thought I had destroyed my chances of getting a photograph at all... All I had to hand was some builders sand and when I added it to the bath the visibility within the bath when to nearly zero. All I could do was add enough sand for my shot as carefully as possible, and then go downstairs, watch a few episodes of Suits on Netflix and wait for the water to clear.

After an hour, it had cleared a bit, but it still wasn't good enough

to capture a shot. After another hour, the water was just starting to clear up enough and I was able to start my final setup. At this stage it was nearly 2am.

The final part of my setup was to add a few divers to the bottom of the bath. Again, they floated, so I had to add some Blu Tack to the bottom of the LEGO divers to help them stand on the bottom of the bath. I also added in a manta ray onto the mound of sand and a swimming hammerhead shark (attached to the lead weight and timber strips) from the boys LEGO collection. Even the hammerhead

didn't float right, so I had to trim him out with some Blu Tack.

Once I started taking some shots, I realised I needed to add some more lighting to help with the poor visibility from the sand. I had to set up a way of hanging my 15k lumen Big Blue video lights above the bathwater to help do some top lighting on my scene. Once I added the top lighting things started to come together with the shot and I was able to get the atmosphere I was looking for in my image.

I moved the camera around within the scene and play with

different angles and moved some of the LEGO divers around to see what worked best. This part of the project was one of the most fun... As it was very similar to my own wreck diving photography where I spend lots of time figuring out the best angles to shoot a particular wreck scene and where to position the divers and lights etc.

“Once I had the photographs that I wanted, it was time to get the bathroom returned to normal before any of the kids in the room next door woke up! It was after 3 am before I had the place back to normal again and I had to park the camera until the next day to have a look at my images on my laptop.”

The next day was the final day of the entry into the competition. Once I opened the 100 + images I had taken I had to sort through all of them to find the 5 or 6 that worked best to capture my idea.

After the Shot

I played around a little in Adobe Photoshop to do some minor adjustments to the white balance / exposure and a few other sliders in Camera Raw. I then sharpened the final image in Photoshop.

To add a little more life to the image, I wanted to add some lights to the divers etc. to lift the gloom of the overall image. I didn't know how

to do this in Photoshop, so I used my trusty friend Google to find out the best way to add a light to an image. Using a filter, I was able to add some lighting effects and by playing around with a settings / sliders I was able to get the effect I was looking for.

I was happy with the overall shot in the end. But I still think it looked much better in my own mind. I think I would like to have used a coarser type of the sand which would have made the shot a little easier to capture.

I would also like to have been able to make the towel look more like rocks/seabed. I didn't really have time in the end to make the towels look more realistic. I was very lucky to have my 16 mm lens, but as the visibility was so poor in the bath, I had my housings dome port right up against the LEGO divers to get the image to work. Ideally, I think if I had been able to wait until the next day and the sand had settle a little more, I could have got a better image, but I couldn't really take over the bathroom for the entire weekend so that wasn't going to be a popular option.

Starting out, I didn't think it would take me very long to capture the image, so I added cold water to the bath... that was a big mistake.... My arms were blue by the time it was over a couple of hours later. I was nearly tempted to stick my drysuit on at one stage to make it more comfortable...



I was nearly as cold as a 3 hour dive here in Ireland too. I think playing around with the angles of the shot and positioning of the figures really reminded me of my own diving. I had more time / control over the scene than I am normally used to in a real world environment, but I still found it took ages to get it anywhere near what I was picturing in my own head.

However, not having 3 to 4 hours of decompression to do after taking the images helped make it an enjoyable process. I was nearly as excited looking at the images in the back of the camera after the shoot as I would have been after a dive capturing images on a shipwreck. Just don't tell

my wife that... I'll never get away shipwreck diving again if she thinks I can be kept happy in a bathtub!

Thank you for sharing your story with the Shot Chat!

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Corona Critters

by Dr Alex Tattersall

I am acutely aware of how lucky I am to live on the South Coast at this moment in time and with overseas trips being put on hold, I've been able to look to my own backyard to find sanctity and sanity, a brief escape from the madness of the world.

In spite of my good fortune to live so close to some choice UK shore diving, it is still a very different diving experience from that of a luxury liveboard, and it takes some careful planning and a lot more physical effort and dedication. Without local guide/spotters, you are on your own to find interesting subjects and photogenic situations, and at first sight, this seems impossible in the dark brown silt and sand. However, patience, sensitivity to the environment, and cumulative experience do bring their rewards.

I live in Bournemouth, some 45 minutes from my most visited dive site this year, Swanage Pier. A group of photo friends and I started diving



Alex Tattersall

(Top) Shanny under Swanage Pier, Nikon D850, 105mm, 2x Retra Pro Flash, F7.1, 1/160, ISO 40

(Right) Common Prawn at Kimmeridge Bay, Nikon D850, Nauticam housing, 60mm, CMC-1, 2x Retra Flash Pro, F20, 1/160, ISO 640

(Far right) Flatfish, Swanage Pier, August, Nikon D850, 24-70mm, Nauticam WACP-1, 2x Retra Flash Pro, F13, 1/160, ISO 200



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by Alex Tattersall

Alex Tattersall



Alex Tattersall



Alex Tattersall

Snakelocks anemone reflections under Swanage Pier, Nikon D850, Nauticam housing, 28-70mm, WACP1, 2x Retra Pro strobes, F13, 1/160, ISO 160.

as lockdown was lifted and have continued throughout the season and are still diving now when conditions allow. The beauty of this has been the opportunity to watch the site's flora, fauna and even topographical features change in response to weather conditions and seasonal variation. We've watched nudibranch species arrive, proliferate, lay eggs and then disappear. We've witnessed sea hares arrive in their masses, mate in huge groups and then vanish overnight. We've seen wrasse nesting, blennies laying and guarding eggs, anemone shrimp grow from teeny-tiny to almost filling their host snake locks anemone, jellyfish come and go in waves, and (shh) even the magical spiny seahorse pairing, brooding and giving birth in front of our eyes. As the nights draw in and the water cools (and for however long the South West continues to elude more serious lockdown), we are looking forward to more winter and night diving to briefly follow the lives of colder water and more nocturnally active species (although motivating ourselves in colder, damper conditions will be a challenge!).

Knowing that overseas diving is largely on hold (plus the marked slowdown in my day to day workload) has allowed me the time to take a new perspective on local UK diving. I have been able to approach each dive with



Stalked jellyfish on bootlace weed, Kimmeridge Bay, UK, Nikon D850, Nauticam housing, 105mm VR, 2x Retra Pro flash, F14, 1/80, ISO250

a much greater level of mindfulness coming from a drop in urgency to make each dive as productive as possible. Returning day after day to the same few sites, revisiting the same critters, having more numerous windows into the lives of the animals

has all afforded me with a much deeper level of intimacy with the local seas, for which I hope I will be ever grateful. 2020's post lockdown sites for me were Swanage Pier, Kimmeridge Bay, the Weymouth/Portland region and I managed to

sneak out for a three day break to Lundy Island.

I am also in the fortunate position of having access to new and exciting underwater photo products (what would an article from me be without a few commercial plugs?).



Snakelocks anemone under Swanage Pier, Nikon D850, Nauticam housing, 28-70mm, WACP1, 2x Retra Pro strobes, F11, 1/250, ISO 400.

Candy stripe worm on rusty metal pipe, Swanage Pier, Nikon D850, Nauticam housing, 105mm VR, SMC-1, 2x Retra Flash Pro, F18, 1/200, ISO 160

Visiting the same sites, I could return with different lens and lighting combinations with ideas as to how to tackle the same subjects from very different photographic perspectives. Much of the shore diving on these sites, as you can see from the photos in this article, lends itself mainly to close up and macro/supermacro photography with windows of excellent visibility (and tangible excitement) when I was able to unleash the Nauticam Wide Angle Conversion Port on the critters. We have also recently received the Nauticam EMWL-1 (Extended Macro to Wide Lens) which is a long probe lens attached to the front of the flat macro port offering wide-angle perspectives of macro subjects. I had the pleasure of test driving the new Retra Pro flashes (with its ability to sync to shutter speeds far higher than the usual 1/250 as you can see in the jellyfish and sunburst shot) and the Backscatter miniflash (the easiest and most versatile snoot light option we have used), to understand first-hand how both are opening up new and exciting possibilities for

underwater photography.

My final thought having revisited the image selection for this article is that I'd have never expected to have been able to repeat dive these same sites and to find such diversity and beauty in our local marine flora and fauna. If there is any upside for me to the current difficult situation, it could be that I would never have made the time to discover this had international dive travel still been an easy option.

Dr Alex Tattersall
www.nauticam.co.uk



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Lundy Seals

By Grant Thomas

When people think about diving in the UK they normally think cold, dark and slimy seaweed, which are the same kind of thoughts I used to have before this year. However, as I discovered, that is not at all true. Prior to the current global pandemic putting an abrupt halt to international travel, I was fortunate to spend most of my time working in the warm tropical waters around the Asia-Pacific region. I would spend most days floating around in crystal-clear blue water with only a rash guard and shorts for thermal protection. It feels like so long ago that those days are almost like a figment of my imagination now. As the impending lockdowns were looming back in March I was advised to return to the UK and come back in a month or so when it all blows over, but little did we know...

Fast-forward 7 months of lockdown in the UK and I'm feeling very fortunate to have been stuck here. Not just because we actually had some sunshine this year, a rare sight in Scotland, but also because it gave me the chance to explore some of the incredible diving we have available around our vast 31,000km coastline, and over 40,000 lakes.



A panoramic view of Lundy Island. This special little island is home to 23 unique holiday properties and a smattering of residents.

Swimming with the seals. Lundy Bay water temperatures run from about 15-18°C (59-64°F) in the summer down to as low as 9°C (48°F) in the winter. Canon 5d Mk IV in an Ikelite housing with 2 DS 161 strobes. Canon 8-15mm fisheye lens. 1/200s f/20 , 11mm, ISO 320





Just like any Seal Team worth its weight they know the drill. Lundy Island seals are accustomed to the visiting divers.

Canon 5d Mk IV in an Ikelite housing with 2 DS 161 strobes.

Canon 8-15mm fisheye lens. 1/200s f/20 , 11mm, ISO 320

One of the absolute highlights for me was diving at Lundy Island, a small granite outcrop, three miles long and half a mile wide that lies off the coast of North Devon, where the Atlantic Ocean meets the Bristol Channel, with nothing between it and America. Completely unspoiled, this little British paradise is home to hundreds of Atlantic Grey seals, which are very much used to the presence of divers.

I had heard many epic stories of the seal encounters at Lundy Island

but as I usually only made flying visits to see family in Glasgow, the opposite end of the UK to Lundy, I never had the time to visit myself. Time wasn't so much of an issue this year though thankfully, so I packed my equipment and set off on a 10-hour drive to the South West coast. In typical UK weather fashion, we had a huge storm blow in the night before, bringing with it 50 mph winds and monsoon rain but that wasn't going to put me off!

After a bumpy boat ride out to



The seals may seem like puppies at first but they can grow the size of Andre the Giant and have a mouthful of razor sharp teeth.

Canon 5d Mk IV in an Ikelite housing with 2 DS 161 strobes.

Canon 8-15mm fisheye lens. 1/200s f/10 , 11mm, ISO 320

the island, we pulled into a sheltered bay where we were greeted by a bunch of curious seal heads popping up from behind the jagged rocks. They seemed to know exactly what was going on, as each of them slipped into the water and swam towards the boat, circling us in no time. We all suited up and hopped into the water and straight away, we were surrounded. I have to admit I was slightly intimidated at first, as the males can weigh up to 250 kg (550 lb) and stretch to a whopping 2.5 metres

(8 feet) long, with huge mouths full of sharp teeth. I very quickly realised though that my newfound seal friends were about as dangerous as a young puppy. They would gently chew on different parts of me and my equipment, just as a puppy chews on new toys.

I found that the less attention I gave the seals the more curious they were. As I turned away from them to photograph some interesting rock formations or kelp, they would instantly come over to see what I was



A seal beckons for some playtime. Don't wear your best shoes as the seals love to nibble on the tips of your fins.

Approximately 40% of the world's seal population live in the UK. Canon 5d Mk IV in an Ikelite housing with 2 DS 161 strobes. Canon 8-15mm fisheye lens. 1/200s f/20 , 11mm, ISO 320

doing. They also absolutely LOVE nibbling on divers fins. So much so, that quite often I would feel one of my legs being tugged away from my body, only to look down and find two big dark eyes looking up at me as if to say "come play."

The reason for the huge number of Grey seals in the UK is largely due to the fact that they are protected under the Conservation of Seals Act 1970. This has allowed the seal population to grow enormously. It's now estimated that there are more

than 120,000 grey seals in Britain, representing 40% of the world's population, making the UK one of the best places in the world to dive with these amazing animals.

The Conservation of Seals Act of 1970 helped the local seal population by limiting the ways they can be killed and implementing a closed season. Additional work can still be done to reduce the number of seals killed by fishing, boating, and fish farming activities each year.

With resident seals, Lundy Island

can be dived all year round. If you want an opportunity to see the pups (baby seals) with their white fur coat, November/December is the birthing period. Anyone looking for an operator to visit Lundy, get in touch with the amazing team at Easy Divers North Devon.

I work as a freelance photographer and expedition guide, leading a variety of tours

and workshops to encounter and photograph animals such as humpback whales and orca.

Spending most of my time in the water scuba and freediving in remote locations requires durable and reliable equipment. Thankfully Ikelite has always delivered!

I have always been absolutely mesmerized by the stories that a wide angle photograph can tell and love the way over-under style imagery can create a visual connection between the terrestrial world we all know and the more mysterious underwater world. Through my images I aim to show off the amazing life we have on our planet in hope of inspiring more people to experience it for themselves and most importantly care for it!



Grant Thomas

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Loch Creran

by Alasdair O'Dell

Loch Creran sits on the west coast of Scotland and at around 12.8 km in length it is not considered a large loch. What it lacks in size however, Loch Creran makes up for in character.

Approaching the Creagan narrows in the North-East of the loch the dramatic silhouette of Beinn Sgulaird creates a breath-taking backdrop, highlighting the outstanding natural beauty of the area. On a calm autumnal night, stags can be heard rutting on the nearby hills and the fortunate adventurer might stumble across pine martins, red squirrels, otters, and eagles in the area. Topside beauty is all very well, and Munroe baggers and nature enthusiasts will be entirely satisfied with a visit to the local hills.

But it is beneath the chilly waters of Loch Creran where the real magic happens! A mere 12,000 years ago the loch was covered in glacial ice which, when it melted left several sills and two main basins. The larger basin sits to the West of Creagan Bridge and connects to the Firth of Lorn by the Isle of Eriska. The smaller, more diver friendly basin has a maximum depth of 37 m and is somewhat protected from currents and eddies by a narrow sill at the Creagan Bridge some 400 m wide.

On the south shore of the upper basin sits perhaps the most frequently visited dive site on the West Coast of Scotland, Queenie Reef. A classic club dive often visited on training days with easy access and a variety of interesting critters and rocky outcrops to explore. The more adventurous diver



might be more interested in the Creagan Narrows. Here, the tidal flow provides an exciting drift dive through coral encrusted rocks and thick kelp forests.

The road around Loch Creran used to be the main route to the North. Since the bridge was built it is now a quiet scenic route which is generally taken by sightseers and adventurers looking for a scenic spot to relax or camp. There are several lay-bys which provide easy access to the loch and each of them offers a somewhat unique diving opportunity.

It is in fact the underwater creatures that have led to Loch Creran's status as a Marine Protected Area (MPA). Designated by the Scottish

***Polycera quadrilineata* - size 1-2 cm. Olympus OMD EM-5 mark II, Olympus housing, 30 mm macro, INON S2000 strobe**



government, the protected area is home to flame-shell beds which are a priority marine feature and occur in the deeper basin. The loch is also home to Serpulid worms which is a type of reef building marine tubeworm with a bright feathery brush like head at the top. Both flame shells and Serpulid worms are very rare and considered very valuable in their ability to enhance biodiversity in the area.

Nudibranchs are not yet prioritised, in-fact many species are listed with 'insufficient data' due to the difficulties in finding, quantifying and establishing their importance ecologically. They are however, very colourful, charismatic and incredibly beautiful creatures (for a slug I mean).

Many Scottish nudibranchs are quite rare and known to only a handful of enthusiastic divers brave enough to venture into the cold waters of Scottish lochs. It is because of this that they don't really have common names and they are generally referred to with their Latin names.

Some species are also very similar looking and often confused with one another. Such as *Fjordia lineata*, *Facelina bostoniensis* and *Fjordia browni*. which, are very similar in shape, colour and often when in their juvenile stages look really similar.

There are also a few species



Carronella pellucida - size 2-3 cm.
Olympus OMD EM-5 mark II,
Olympus housing, 30 mm macro,
INON S2000 strobe. 1/250, F/22, ISO 250

which have many different morphotypes (body shapes) such as *Polycera quadrilineata*. It is only through recent genetic research, that scientists discovered *Polycera quadrilineata* had a second species (known only in Norway at the moment) called *Polycera norvegica*.

Nudibranchs are perhaps the most cooperative marine organism, moving slowly enough that even the most equipment laden, ungainly



Facelina bostoniensis (juvenile) - size less than 1 cm.
Olympus OMD EM-5 mark II, Olympus housing, 30 mm macro, INON S2000 strobe. 1/250, F/8.0, ISO 400

underwater photographer can keep pace with them. It is easy however, to overlook a creature that is sometimes no bigger than a grain of rice and camouflaged perfectly to suit its surroundings. Nudibranchs remain an underwater photographer's favourite mainly because they don't run away at the site of a camera.

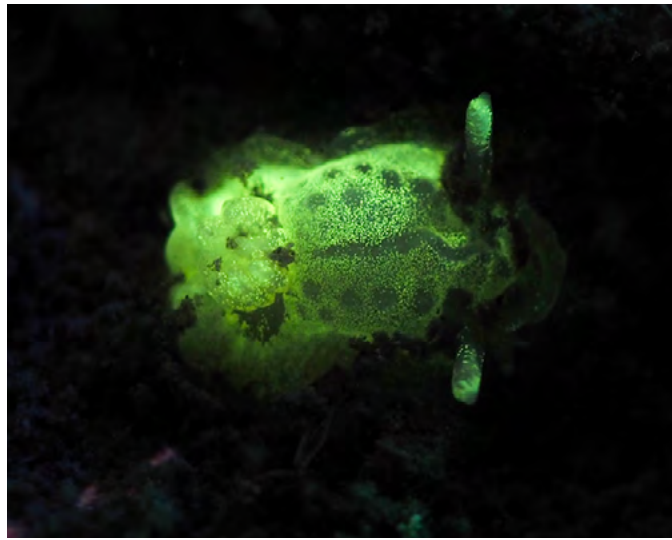
As with most sea-lochs in Scotland nudibranchs are common in Loch Creran, but it takes a keen eye

to find them and maybe a little bit of insider knowledge. In fact, with the right camera and a wee bit of patience, Loch Creran might be able to compete with the Lembeh Straights, Anilao and the Raja Ampat's on top of the nudibranch leader-board!

While none of these nudibranchs are unique to Loch Creran, they were all photographed there during my many days of procrastination whilst studying. The first challenge,



Goniodoris nodosa, size - 1-2 cm. Olympus OMD EM-5 mark II, Olympus housing, 30 mm macro, INON S2000 strobe. 1/250, F/8.0, ISO 400



Goniodoris nodosa, size - 1-2 cm fluorescent! Ikelite dichroic excitation filter on a spotlight with a Smardy yellow filter on the lens



Doto coronata, size - 6-9 mm. Olympus OMD EM-5 mark II, Olympus housing, 30 mm macro, INON S2000 strobe. 1/250, F/8.0, ISO 400

however, is to try and find a nudibranch.

Some UK species are cryptic (they camouflage really well into their surroundings), others hide really well under algal fronds and out of sight and some are just downright tiny! The trick in Scotland is usually to find the thing that they like to eat.

Most nudibranch in Scotland will eat encrusting organisms that grow on kelp (known as epiphytes). For example, sea-mats (such as *Electra pilosa*) that form on kelp blades towards the end of summer, various hydroids (or sea-firs) that also grow on the blades of kelp as well as tiny sea-snails (tubeworms or *Spirobis spirobis*) are common foods of nudibranch.

Nudibranchs are often quite picky and specialist feeders, so if you see a species on a certain type of hydroid, look for it again if you see the same hydroid later in the dive or on a different

dive in another loch.

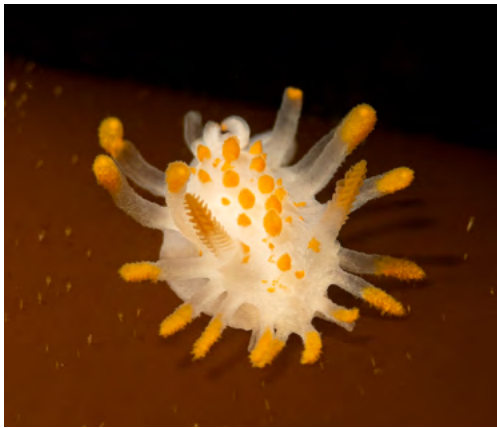
Nudibranchs also tend to have a preference for habitat, and some species are rarely found on kelp. For example, one very interesting species called *Goniodoris nodosa* (which is fluorescent under blue light by the way) is more often found on rocky parts because the type of hydroid it likes to eat lives there (*Alcyonidium* sp..).

Other species can be found in more energetic areas, such as the brightly coloured *Carronella pellucida* that is usually in more tidal areas with a bit of current because the hydroids *Eudendrium arbuscula* live there.

There are limited studies that show the full life history of nudibranchs in Scotland. Some species live for just two years (biennial) while others live for multiple years (perennial) and breed several times during their lives. It does appear that their

occurrence has been linked with the occurrence of food types, and in Loch Creran we have noticed from personal experience that *Facelina bostoniensis* is present in large numbers towards the end of summer and into autumn (August - October). While some species can be found all year round like *Goniodoris nodosa* it is always worth looking for nudibranchs though, you never know what you will find!

There are hundreds of nudibranchs to be found in Scotland, and Loch Creran is just an example of the diverse shapes, sizes and colours of these tiny, special little animals. Below are a few of my top-tips for photographing nudibranchs. But always remember Loch Creran is a protected area and the priority must be that you don't harm or alter the environment you are in. So, take only photos and leave only bubbles!



fiddly and with big thick gloves on it can be a bit awkward to turn!

Rhinophores are the pointy antennae thingys at the front, make sure you get them in focus! Most nudibranch also have an eye spot which is a very primitive light sensing organ usually just below the rhinophores, if you can get that in your photo, it looks very cool as well.

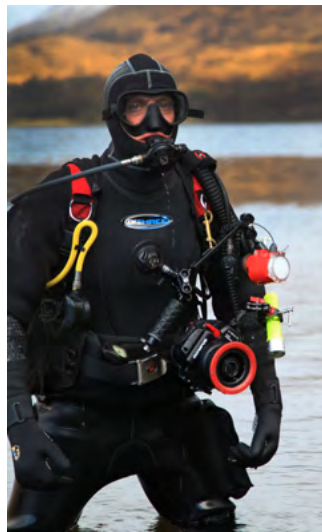
Lens choice is important, I shoot with an Olympus OMD EM-5 mark II and my go-to lens for nudibranchs is a 30 mm macro lens.

Limacia clavigera - size 1-2 cm.
Olympus OMD EM-5 mark II,
Olympus housing, 30 mm macro,
INON S2000 strobe. 1/250, F/22, ISO 250

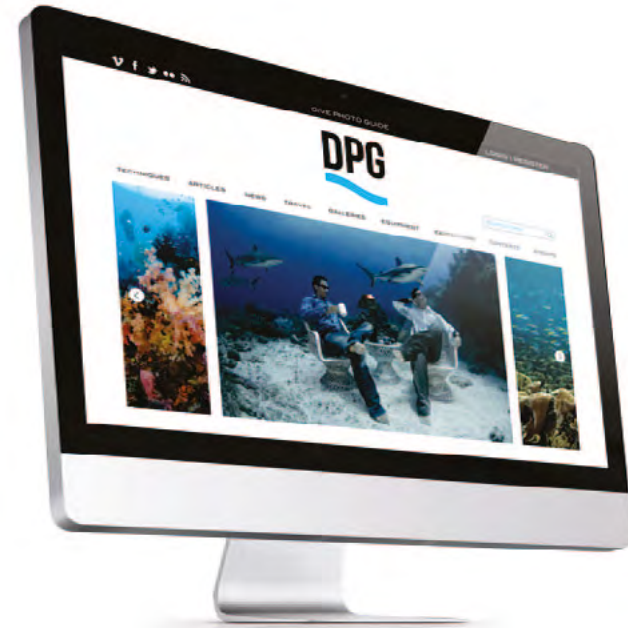
Alasdair O'Dell

Alasdair O'Dell is a SCUBA instructor from the UK writing a PhD on the potential for macroalgae (kelp) to contribute to Blue Carbon Storage in Oban, Scotland.

Instagram



The leading online resource for underwater photographers and videographers



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DIVE PHOTO GUIDE

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Top tips

Get low, get close, shoot up, is a bit of a cliché now but it still works!

Make sure you get my best side! Nudibranchs often look best if you're shooting either directly head on, or at a 45-degree angle but from their level.

In Scotland, light is often lost when visibility is low even in very shallow water. You can take advantage of this and up your F-stop giving you a black background effect and it looks like the photo was taken at night.

I use an INON S2000 strobe and usually have it set to a consistent brightness, then I adjust the settings on my camera to get the exposure I'm happy with. This is mainly because the switch on the strobe is small and

My Shot

by Christian Horras

The wreck of the “SS Thistlegorm” is widely considered as one of the best wreck dive sites worldwide. The British cargo ship was sunk 1941 during World War II by German bomber planes.

Let alone the history of the ship and the wreck can easily fill up entire books. What does make it such an interesting dive site is - aside of its history - mostly the cargo: from trucks, motorcycles, rifles, ammunition to even tanks and steam locomotives. It is easy to discover something new with every dive on the wreck. Also it is within recreational dive limits and lies in the warm, mostly clear waters in the Red Sea (Egypt).

Of course it is also a fantastic site for doing wreck photography, with endless possibilities. Often the cargo decks, as well as the stern section of the ship with the two guns attract the most attention of underwater photographers. But I found also the impressive bow of the wreck to be a quite good subject and had a shot in my mind, that I wanted to do the next time I could dived the wreck.

I got the opportunity to go on an liveaboard trip in November 2020 with one day diving at the Thistlegorm. There were only two other diving boats there! So, without the usual crowds of divers, I decided to take the opportunity to do some shots of the outside of the wreck.

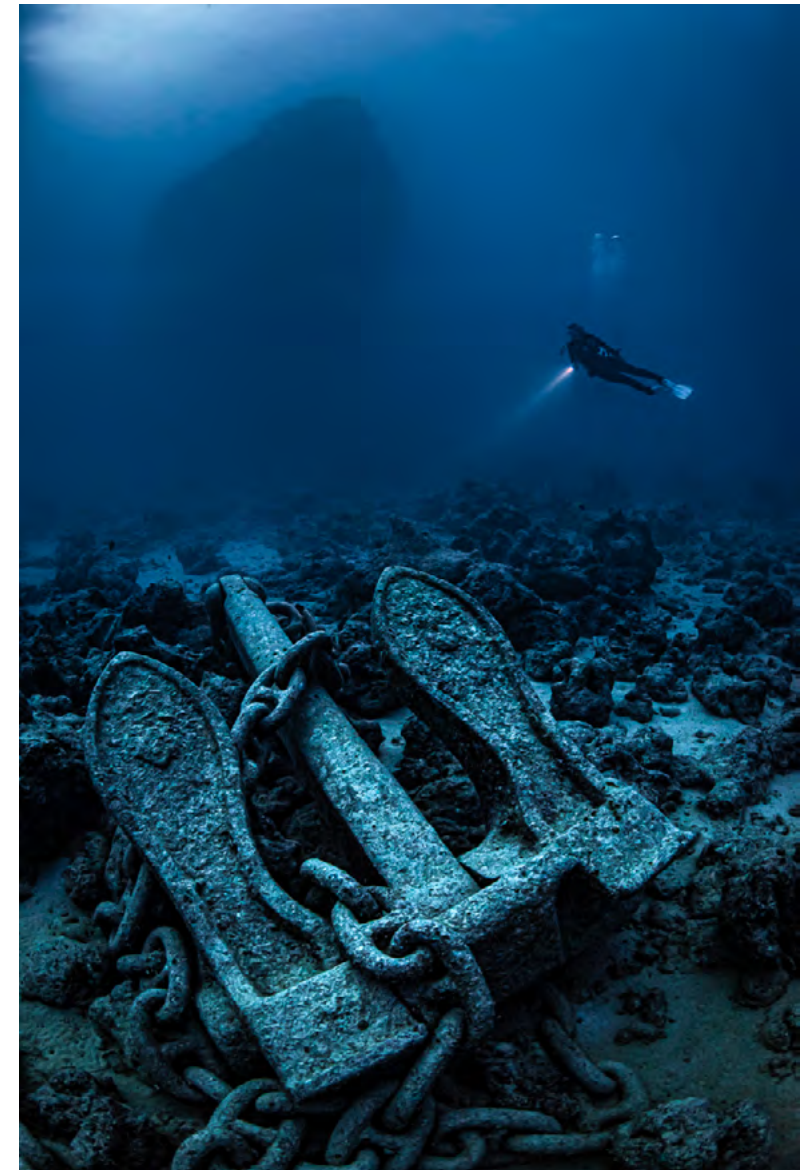
I had seen shots of the massive anchor before and wanted to include the bow of the

wreck and a diver. The bow should give context to the anchor and also give a little depth and perspective to the image.

My plan was to include a diver for scale and to cover the middle part of the image. As I had this clear idea of the shot, I was able to discuss this with the model before entering the water. This helps a lot, because once in the water, communication is very limited and as I had to almost touch the ground, bottom time is running out very quickly, leaving not much time for error and repositioning of the model.

I mounted a fisheye lens for getting the whole scene into the frame. After entering the water, we were able to avoid the other divers and going quickly to the anchor, following the chain. Having reached the anchor, everything went better than expected: I was able to frame the shot very quickly and getting the right exposure. As the subject was not about color, I did not turn on my strobes and used only natural light. I positioned the model via hand signals and took some shots.

After reviewing the pictures on my camera screen, I was really happy with the results and we had enough bottom time and air left to continue our dive and go to the cargo decks!



Nikon D810, Sigma 15mm Fisheye, Isotta Housing, Isotta 230mm Dome-Port. 1/80, f8, ISO 400

Christian Horras
www.christianhorras.com
Instagram

Do you have a favourite shot with a short story?
If so, please e mail the image and text to
peter@uwpmag.com
and yours could be the next My Shot

Guidelines for contributors

The response to UwP has been nothing short of fantastic. We are looking for interesting, well illustrated articles about underwater photography. We are looking for work from existing names but would also like to discover some of the new talent out there and that could be you! UwP is the perfect publication for you to increase your profile in the underwater photography community.

The type of articles we're looking for fall into five main categories:

Uw photo techniques - Balanced light, composition, etc

Locations - Photo friendly dive sites, countries or liveaboards,

Subjects -, Anything from whale sharks to nudibranchs in full detail

Equipment reviews - Detailed appraisals of the latest equipment

Personalities - Interviews/features about leading underwater photographers

**If you have an idea for an article,
contact me first before putting pen to paper.
E mail peter@uwpmag.com**

How to submit articles

To keep UwP simple and financially viable, we can only accept submissions by e mail and they need to be done in the following way:

1. The text should be saved as a TEXT file and attached to the e mail

2. Images must be attached to the e mail and they need to be 150dpi

Size - Maximum length 20cm i.e. horizontal pictures would be 20 cm wide and verticals would be 20cm high.

File type - Save your image as a JPG file and set the compression to "Medium" quality. This should result in images no larger than about 120k which can be transmitted quickly. If we want larger sizes we will contact you.

3. Captions - **Each and every image MUST have full photographic details** including camera, housing, lens, lighting, film, aperture, shutter speed and exposure mode. These must also be copied and pasted into the body of the e mail.

Parting Shot 1

You would think it was easy to take the perfect shot of a nudibranch. They don't move very fast after all.

This nudibranch and many of its kind are generally abundant towards the end of summer in Scotland where they love to forage along the fronds of sugar kelps (*Saccharina latissima*) looking for their favorite prey the hydroid *Turbularia*.

This species is known to be the largest in the United Kingdom reaching a whopping size of 5.5 cm! They are easy to spot and in Loch Creran, Scotland at least, when you see one, there are usually many more in the area.

Their size means that you do not always need to have the latest macro lens and they are often shallow enough that a good torch will provide enough light for a decent shot.

Facelina bostoniensis are common throughout Europe and you can probably tell from the name that they can also be found on the North-East coast of the United States.

My partner and I dive regularly in Loch Creran and because we were expecting the return of these nudibranchs this year, we planned this shot in advance.

Lighting, composition and timing are quite often key. But with this particular shot, buoyancy was the most important skill to have mastered.

Sugar kelp is usually quite shallow, and the freshwater layer can be enough to throw off even the most skilled divers sometimes, so we had to be particularly careful not to disturb the nudibranch.

I made sure to tune my exposure on another piece of seaweed before taking this shot and then

asked my partner to slowly move towards the nudibranch, tilting her head so the bubbles would not disturb it.

I usually count down from three with my fingers so she can breathe in while I'm taking a shot to avoid excess bubbles in the image and get nice and close, so the background (her eye) wasn't too blurry. I'm lucky to have a partner with such patience and skill in the water, it is not always fun to be a photographer's better half!

We are very lucky to have such wonderful diving on our doorstep in Scotland. There always seems to be something different in Loch Creran every time we go. With the multiple lockdowns and restrictions of 2020, we were really glad to get back in the water after summer and take a few shots, and even more happy when we saw the nudibranchs were back!

Many different species of nudibranchs are common in Loch Creran all year round, but it does seem that this particular species has a population explosion once a year and September-October are the right months to find them in Loch Creran.

And they are always happy to pose for a photo.



*Olympus OMD E M5 Mark ii, 1/125 seconds F-3.5, ISO 200.
Strobe: INON S-2000 Lens: Micro 4:3, 30mm Macro F3.5*

**Do you have a shot
which has a story within a story?
If so e mail it with up to 500 words of text
and yours could be the next Parting Shot.
peter@uwpmag.com**

Alasdair O'Dell
alasdairodell@hotmail.com
www.instagram.com/alasdairodell

Parting Shot 2

It's funny, as Australians you would have thought we would have at least dived our own backyard - the Great Barrier Reef, but no. Instead, for as long as we can remember we've scoured all four corners of the earth in search of incredible diving adventures.

International travel restrictions due to Covid now meant we were finally here on the largest living organism on the planet, and to be honest, we couldn't have been happier.

We've always loved night diving, normally we've got our noses in the muck somewhere searching for rare macro critters, but as we arrive at 'Gotham City' on the Great Barrier Reef's Ribbon Reefs, our cruise director tells us to leave our macro lens behind.

This is our first ever night dive on the Great Barrier Reef and we had no idea what to expect. As we descend onto an incredibly rich sloping reef with hard and soft coral, congregations of; hunting sharks, red bass and trevally shadow our every move - hunting aggressively using our torch light. One by one, an unsuspecting little fish is annihilated. We can't even begin to describe the sound.

Not really knowing where to look, we fire our strobes at random hoping to get that impressive hunting action shot. With so much light and huge numbers of fish darting across the reef we feel almost dizzy, and instantly know that we need to slow the action down. With a quick switch to our red lights, the scene instantly calms. Not only do we save a few little fish from becoming dinner, but we can now move somewhat unnoticed about the reef.

With the inability to see the red light underwater, it's not long until the hunting fish are drawn closer. It's amazing how effective the red lights were in calming the scene, and to be honest, we much prefer it to the bright disco of a night dive.



Nauticam Panasonic GH5 housing, Panasonic Lumix G X Vario Power Zoom 14-42mm f/3.5-5.6 + the Nauticam WWL - 1 Wet lens. 1/125, f:8, ISO 200

There's definitely something magical about moving about the reef peacefully in the dark, and it created the perfect mood to capture a portrait of this gorgeous hunting red bass.

**Anita Verde and
Peter Marshall**

www.summitstoseasphotography.com

Do you have a shot which has a story within a story?

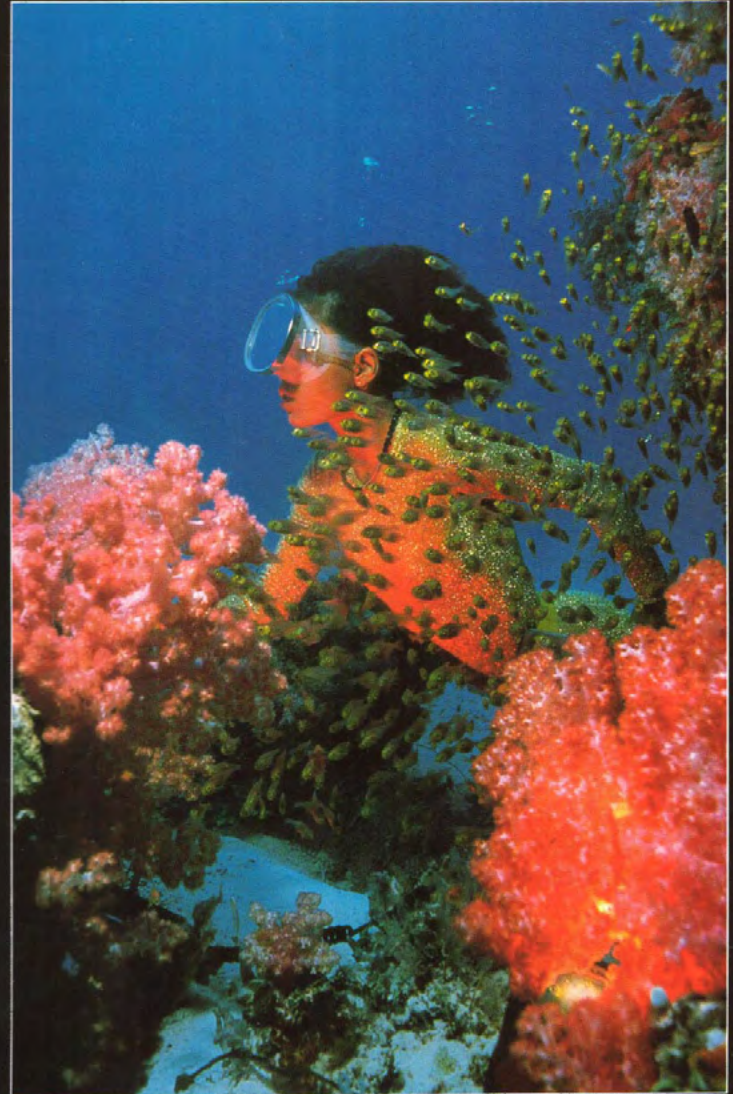
If so e mail it with up to 500 words of text and yours could be the next Parting Shot.

peter@uwpmag.com

UP Supplement

UP7
Jan/Feb
1988

Underwater Photography



Jan/Feb 1988

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Editorial

When David Doubilet first submitted work to the National Geographic Magazine the Editor growled "What's so special about underwater photographers? We can make any of our staff photographers into underwater photographers. I don't need you."

Three years later, that same editor was forced to accept that underwater photography is not like that. You cannot make a professional land photographer become a good underwater photographer just because he can take pictures. Underwater photography is much more than just being able to take a photograph as it requires a complex balance of physical and artistic input together with a will to work in a potentially hostile environment. And it is this which makes it one of the very few markets where the beginner can still compete equally with the professional because the choice of equipment is limited and the subjects are open to all. This lets the ideas and images become the reasons for success and not just the ability to own the most expensive camera.

Since it is these ideas and images which form the very foundation of underwater photography's future, it is important that competitions (which are the only events where underwater photographers can study the winning shots at length) should be judged by underwater photographers, perhaps with one land photographer to add a worldly balance. Judges, whether they realise it or not, have a heavy responsibility; they are choosing the shots which will influence underwater photographers and in so doing they could influence the course of underwater photography itself.

It is for this reason that major competitions like Brighton '87 are so important. The results hold so much influence that they cannot be entrusted to a panel of judges consisting of non-divers from Fleet Street and the media world with token underwater photographers, two of whom are still being hailed as "World Champions" for an award they won over 8 years ago and which they can no longer hold claim to.

No wonder, then, that its real standing in underwater photography has been eroded over the years until it has become misrepresentative of the emerging and existing talent. The direction of underwater photography should be steered by underwater photographers.

Underwater Photography is published bi-monthly by Ocean Optics Ltd

Subscriptions are available by mail order. Annual costs are £15 UK, £18 Europe and £20 Overseas.

Brighton '87 comments

From the editorial in Issue 6, I know your interest in comments about the Brighton Festival 87. I hope this one from Germany is welcome:

I can only agree with Stan Waterman's last words on Sunday evening when he - as the most experienced star guest of them all - confirmed that Brighton 87 provided the best program he had seen in his life.

However, this festival had other impressions beside the excellent lectures. I am talking about the most comprehensive of all underwater photographic competitions, as the organiser calls it. My measure is this pretension.

It is probably superfluous to discuss the decision of the jury concerning the different categories and their winners. In my eyes some of the winning photos were only average, rarely impressing at all. But I would like to complain about the presentation of the photos.

The organiser offered the most presumptuous and arrogant person presenting the winning photos I have ever seen during comparable competitions. Berwin's only interest was obviously to show his Rolls Royces and rush back to his assignment in the Caribbean. During his joking comments - or what he thought they might be - I could watch amateur competitors sitting beside me and getting very angry. Is it so new to Berwin and the organiser that underwater photographers put their heartblood, as we say in Germany, into such a competition? And the presenting guy only shows ignorance and has no biological knowledge at all.

It is no excuse that several slides already were with Diver for printing, as Bernard Eaton added. In my opinion, the presentation of the winning slides should also be a highlight of such a Festival. Because the photographers, for which the Festival was originally created, deserve it. The choice of Mr Berwin was a shame.

Helmut Debelius, Frankfurt.

Helmut, I well remember the anger in your eyes when I met you just after Derek Berwin's presentation and the anger of so many others who asked "What can we do to stop this treatment?". "Write to UP and Diver", I said to you all and looked forward to a healthy letters page. Such venom seems to have been dissipated by the demands of everyday life and you are one of just a few who have transferred their reactions to pa-

per. Your comments and response are much appreciated and accepted.

That leaves me, through UP, with the thankless task of trying to do something. Thankless because a great many people will say "There he goes complaining and stirring again" and also thankless because most underwater photographers prefer to express themselves in their work rather than with pen and paper. That doesn't make for a coherent response.

However, I feel that your letter is similar to ones which dozens of underwater photographers would have written just after Derek Berwin's presentation. It is precisely this problem of no written response that will allow such abysmal displays to continue unabated. We must all bear responsibility when this sort of thing happens again for it is only by responding that we can affect.

More Brighton '87

Brighton '87 has already passed and what an enjoyable weekend it was. But despite all the hard work and effort in organising the events, the slide presentation was totally disappointing and, as far as I can recall from the last four Brightons I have attended, the presentation of the winning slides has always been poor but this time it was exceptionally bad.

Surely after all the hard work that photographers put into Brighton they should be entitled to a more professional presentation. The previous speakers all had plenty of time allocated but when it comes to the winning photographers' presentations there is never enough time. The prizes are rushed through and no one ever gets to see who has won what.

One could sense the frustration in the audience who had come to enjoy both the winning slides and to see the photographers who had been merited with honours, not to hear excuses of why this or that was not working. Surely this just loses everyone's enthusiasm and attention.

If I may suggest that the highly commended shots be projected with the photographers name being mentioned and then when the award winning slides are shown, they be kept on the screen while the photographer collects his/her prize. Of course this will take time but that's what the festival side of the weekend is all about. If one is thinking of cutting back on time for example they could have cut Jack McKenney's film on beginners. I'm not suggesting that I don't want to see there great cameramen, on the contrary, but if Brighton is to remain a prestigious event for

photographers then there must be a more professional attitude/balance when it comes to the final presentation.

I'm certainly looking forward to the next Brighton and shall be working extremely hard over the next three years and am hoping to be amongst the winners.

Terry Arpino, Kingston-upon-Thames

Couldn't agree more, Terry. BSoUP has always advised the Organisers after each Brighton that the prizes should have more time allotted and that they should be awarded much earlier to allow the winners to be congratulated and have their brains picked. Yet, despite this advice, the Organisers see fit to keep on making the same basic mistakes (which could so easily be rectified) and they are surprised when they hear complaints. They think that the build up of suspense is what people like.

One point you didn't touch on is from the sponsors point of view. They provide expensive prizes in return for maximum publicity. To see the prizes being rushed through like that must make future sponsors think twice about giving future prizes.

Gimmick/Surreal complaint

The magazine is very small and as yet not of great benefit to any underwater photographer who dives mostly in the waters around these islands. Creative techniques are all very well but we have in recent times been filtered and gimmicked to death to the detriment of good photography. Surrealism should be part of things but not to the exclusion of everything else.

I would like to see more articles about the practical problems involved photographing the marine environment and its flora and fauna. Where to find, how to stalk, seasonal variations etc are what most diving photographers are into in my experience. I think we have a better chance of getting photographers to take photographs than of getting photographers to dive. If this is the case then it is surely sensible to encourage all divers to bring a camera and not to try to show them how inadequate they really are with this obsession for "winner takes all" mentality which competition creates.

R. Quinlan, Dublin

We do try to achieve a balance between straightforward and manipulated images and know that there will be times when we seem to lean too much in one direction. However, I hope that over a period of 12

months, the balance will be fair. The exception is British waters diving for we have always featured a location and included British shots in every issue because we believe that crafts learnt around our shores will stand us in good stead wherever we go thereafter.

Natural shots v Gimmicks

Congratulations to Warren Williams on winning the BSOP splash in competition with an atmospheric rock pool shot. Its good to see the public voting for his natural shot rather than the photographic gimmickry of double exposure - an 'interesting' technique but now greatly overrated by those with the power to publish.

On the subject of undersubscribed UP photographic competitions, perhaps some information on the circulation figures would encourage more people to enter if they thought that the results were being seen by a wide audience.

At present the prize of Agfa film is little incentive as many people don't like it. A wider choice of film and no entry fee might work wonders. I appreciate that the main reason for the competition is to get good photos seen by a wider audience but prizes are an incentive and to enter more than one slide at £1.50 a go becomes a bit expensive. Most photographic competitions are free on the basis that both sides gain - good photos sell magazines. I don't think the 'slide clinic' problem is an issue here and I do think that a regular competition is an important feature in a magazine such as yours. I suggest you alter the rules and try again for sunburst shots - there must be lots around, even in murky UK!

Sue Hiscock, Marine Biologist, Peterborough

The power to publish is available to us all through Write UP's and at present, UP is sent to around 1200 subscribers so that should be a wide enough audience but I'm not sure AGFA would agree with you about their film which they donated to encourage entries. To have their generosity belittled with such a wide generalisation is not very productive in such a small world. It is difficult enough to attract prizes for what is a small competition. without such ungrateful comments.

I am glad, however, that you expose that you are a marine biologist for this must explain why you prefer natural shots. Strangely enough, the double exposure photo you refer to shows a reasonably rare shot of a starfish spawning and a diver has just been added to give a more dramatic and

eyecatching result. The result, I feel, is a productive image which combines informative illustration with photographic technique. Perhaps if you weren't told how the shot was taken you would have accepted it more readily?

Thanks for your comments.

Brighton 87 Competition

We were really disappointed with the pictures that were selected for prizes, particularly the slides. In an event that purports to attract the very best in the field, we felt that the final selections were very ordinary and, whilst we wish those who did win the best of luck in the future, we are sure that they are not representative of the state-of-the-art underwater photography of today.

Are the judges that out of touch? The only excuse that I can see to justify some of the winners is that the ordinariness of them all may encourage a much wider entry in the future. However, we do not think that this is what Brighton is all about.

Alex and Tamara Double

With no disrespect to Michael Wong, how a clown fish shot can win a major award is beyond me and many of the underwater photographers I spoke to over the weekend agree with your comments. It is the winning shots which influence the future and it is a great shame when such an event, which is still held in high esteem by some, judges such ordinary/simple-to-take shots as winners.

What the organisers must realise is that a great many underwater photographers come to Brighton to see the latest trends/techniques and, even though they never have ambitions of being a Grand Master, they become confused when ordinary subjects are praised. The solution is to go right back to the judging and make sure that the chosen judges really are in touch with the direction/required standards of underwater photography.

More Brighton comment

Sorry for not writing sooner but we have been waiting for the results as we did not attend in person. Rumour had filtered back that my missus had won a medal and I wanted confirmation before giving my views. The latest Diver Magazine reports "Bronze - Maggie Gray - Baby Squid" which is the first official news she has had!

The quote which surprised me, however, was "... the small number of entries in the British waters category, where pitifully few awards could be made and no

one named as British Underwater Photographer of the Year."

That was fairly predictable, given the rules. The "Grand Master" section did not have a UK category yet the rules also forced many of us into that section, like it or not.

My pictures have all been taken in UK waters and some have been placed in (minor) national championships. Judged against greater stars, with more skill, better equipment and clearer water...

The final straw that clinched my non-entry, though, was being expected to pay an extra fee for the prizes!

One final note is that I am pleased to say, partly thanks to the publicity in UP, the standard of entry in this year's Southfed competition is very good and the majority of slides were taken in the UK!

Colin Gray, Hants

The omission of a UK category in the Grand Master section was a major blunder as was the totally unjustifiable extra entry fee and was seen as the last straw by many underwater photographers.

Also, what the Organisers fail to realise is that the majority of competition-entering photographers have all won something at some stage in their careers so we are all in the same boat. This doesn't really solve the problem of trying to give beginners a feeling of being able to compete against the more experienced people. In fact for some, the thought of having to enter in the Grand Master section was too daunting and so became self defeating.

What do you think?

"Write UP's" is for you to express your opinions about anything to do with underwater photography.

Please write to: Underwater Photography Magazine

Don't think about it. Write about it!

Brighton '87 Pip Evered reports



(Above) David Doubilet relaxes before showing his excellent slides to a packed house.



(Above) The Ocean Optics stand was busy and saw some important visitors popping in and posing with the Ocean Optics! Underwater Photography magazine Directors. Helmut Debelius, Jane Carr, David Doubilet, Peter Rowlands and Anne Doubilet.



(Above) Kurt Amsler still in a state of shock after scooping the Grand Master Title and winning a fabulous Rolex watch worth over £2000. Bernard Eaton, Editor of Diver and Organiser of Brighton '87 presented the prizes.

All uncredited photos by John Neuschwander



(Above) Mike Valentine won the Ocean Optics Trophy for Best Audio Visual featuring Emma Crewdson (centre)



(Above) Michael Wong won the prize for Best Colour print



(Above) Benny Sutton makes sure it's the trophy for Most Promising British Underwater Photographer



(Above) Laurie Emberson won the prize for Best Professional Film



(Above photo by David Nardini)
Exhibitors from the world of underwater photography and diving added extra interest to an action-packed weekend



(Above)
Jack and Sarah McKenney, Mr and Mrs Stan Waterman and Emery Kristof.



(Above)
A Sylvia Earle sandwich with Hans Fricke and Emery Kristof



(Above)
Flip Schulke admires Kurt Amsler's latest Trophy

Dolphins". Have I missed something or is 1987 the Year of the Dolphins?

Sunday morning's talks concentrated on deep water subjects with eminent speakers such as Sylvia Earle showing the use of deep water manned submersibles and their capabilities. Hans Fricke followed with a comprehensive presentation on the mysterious Coelocanth. On a shoestring budget, he certainly achieved a great deal, adding to our limited knowledge and understanding of this fascinating creature.

With all of the publicity surrounding the Titanic in recent months, Ralph White and Emery Kristoff gave a welcome discussion on the search and identification of this most famous wreck and so clarified a great many points.

From the underwater photographer's point of view, the Sunday afternoon presentation of the winning films, slides and AV's should have been the highlight of the weekend but, sadly, this was far from the case.

In the absence of Mike Portelly (hurricane battered in the Bahamas), Slim MacDonnel presented the amateur and professional films. The 8mm film category, once again, proved to be poor in quality due to the inherent capabilities of the format. Added to this the film maker's approach left a lot to be desired and as Slim pointed out, most films had no real theme. Most concentrated on telling the audience what their Red Sea holiday was like.

It was during the screening of the winning film that things started to go wrong with it being projected at 24 frames per second rather than 18 and if it wasn't for Slim noticing it and the film maker being next to the projector it might have got worse. Perhaps the 8mm film category can now be phased out in favour of video.

I would like to report that the slides,

at least, were properly presented but, unfortunately, this couldn't be further from the truth. Derek Berwin started off by blowing his own trumpet too much with above water shots and then proceeded to get his commentary out of sequence with the slides (or vice versa) and it was left up to the audience to shout out that the projected slide was not theirs or that it was upside down. The presentation couldn't have been more chaotic and incompetent even if the organisers had tried.

As a result of this, the whole impact of the winning slides was lost and I honestly couldn't tell you who won what and with what shot. Given the money involved in entry fees not to mention the cost of photography and printing, I doubt whether any underwater photographers present felt that their efforts and financial input had been given justice.

In addition, I am surprised that sponsors weren't up in arms about the poor display of prizes and announcements about who had won what and who had donated it. They had given thousands of pounds of prizes and didn't get a fair exposure for their generosity. Such treatment makes it much harder to get prizes in the future.

Stanton Waterman was left to salvage a dwindling audience with his usual good quality American style films.

During the two days, I spoke to a number of underwater photographers regarding the winning pictures and most agreed that the judging must have been carried out by non-underwater photographers. This was evident by the prints on display with average shots winning titles and stunning ones being just highly commended. I appreciate that personal opinions differ but this view was shared by the majority of underwater photographers.

Finally, why are people allowed to enter exactly the same shot in black and white, colour print and colour slide and in one particular case a whole AV and film covering the same theme? It makes a nonsense to allow such inarticulate use of underwater images.

I hope that this article, however strong it may appear, will encourage other photographers to express their opinions for it is only by doing this that we can help to improve future festivals. Let's hope that the Organisers of Brighton will learn from their mistakes and that the farcical events surrounding the slide presentation never happen again.

Pip Evered

Brighton '87 The Friday Film Show by Brian Pitkin

Brighton '87, held at the Dome, Brighton over the weekend of October 23rd, 24th and 25th was without doubt the most important underwater photographic event this year.

The dazzling weekend started on Friday evening when invited speakers and guests gathered at the Old Ship Hotel for a pre-evening drink before going to the Royal Pavilion. There, in the magnificent banqueting hall, many of the top names in underwater exploration, conservation, cinematography, photography and other invitees were officially welcomed by the Mayor. An entertaining brief history of the Royal Pavilion by the Keeper replaced the expected tour, cancelled due to the severe damage to the roof in the recent hurricane-force winds.

Our return to the Old Ship Hotel was delayed by some joker pressing the fire alarm which left a hundred or more people standing in the road until the Fire Brigade gave the all-clear. Once inside, a splendid buffet meal was served to delegates before they moved into the ballroom for an evening of spectacular films, especially selected by American Stanton Waterman.

Stanton is one of the world's finest underwater cinematographers and he has filmed some of the sea's most exciting inhabitants from giant mantas in the Sea of Cortez, bull sharks in the Bahamas, humpback whales off Bermuda to great white sharks in Australia. He has shot and shown films all over the world and won trophies, gold medals and awards galore.

The two hour show, entitled the Waterman Collection, comprised Stanton's favourite films made by other great diving cameramen. He started with "Deep Dive", a film made by Al Giddings showing a breath-holding dive to a record 240 feet by Robert Croft. Incredibly, Croft survived this, only to die in another record attempt two years later.

Second choice for the evening was Jack McKenney's "Beneath a Sulu Sea" which included some beautiful slow motion footage of manta rays 'flying' effortlessly through the clear waters off the Philippines.

To complete the first half, Stanton showed a short section on ice diving from Al Giddings' two hour "Mysteries of the sea". A further section from the same film, showing Herwarth Voigtman feeding sharks in the Maldives started the second half. These two clips showed Al's versatility in differing extreme conditions and brought home the sparsity of our knowledge about the great oceans.

The evening was concluded with Lenora Carey's "The Muru Ami Dilemma". This superbly shot documentary showed the Muru Ami fishermen and boys living in grossly overcrowded conditions onboard a traditional fishing vessel. Nets were cast and lines of buoys, using weighted lines festooned with ribbons, drove the reef fish into them. Yet others swam down to help drive the fish up into the net as it was hauled onboard. Scarcely a fish on the reef escaped, leaving virtually nothing but the corals and other invertebrates as a sign of their passing.

The Waterman Collection was a thoroughly enjoyable, spectacular selection of films and Stanton is to be congratulated on his choice. Regrettably British divers are unlikely to see a presentation of this quality again.

Brian Pitkin

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The Nassau Grouper is the "ham" of the Caribbean. I've watched two of them competing for my lens, seen another pull the bikini top off a model and had others mimic me in the roll over game where a diver lies in the sand and rolls over and the grouper then follows suit.

Nassau Groupers live mainly in the Bahamas and the Caribbean but have been found from Bermuda to Brazil along the Atlantic coast. They are members of the Serranidae family of fish and can grow up to four feet in length and weigh as much as fifty pounds. Remarkably, in the process they change from males to females, a fact which may account for their quirky eccentricity. On the reef, the Nassau tends to remain in the shallower regions between 20 and 50 feet. They are territorial, a highly convenient trait for the underwater photographer.

When you come across a Nassau, it's best not to approach too abruptly or to make sudden gestures. If the fish is accustomed to divers, he (or she) may come up immediately expecting the common handout. If not, click your fingers or tap your mask to arouse curiosity. If that doesn't work, get the camera set up and work in slowly. Most Nassaus will simply watch passively but if you notice their dorsal fin rising (a sign of concern) don't go any closer otherwise the fish will disappear. Wait until your subject relaxes again.

Since most groupers are friendly with divers, it is possible to use wide angle, normal and even macro lenses to photograph them. I've used the Nikonos 15mm, 28mm and the Close up outfit. The 15mm works well when you are photographing divers with the fish as you can fit everything in from three feet away. With the 28mm you can be a little further away but still fill the frame. The Close Up kit provides wonderful detail but it's a 9 1/2 x 6 1/2 inch frame is awkward to handle around the fish's head. A housed camera with reflex viewing is much easier.



(Above) A rare portrait of two young groupers playing. These fish usually part before you get close enough to shoot. The dorsal fins are extended, indicating a sense of danger. Nikonos 111, 28mm, Subsea 150 flash, 1/160th @ F8. Kodachrome 64 in 20 feet.

(Top) Groupers enjoy being held by divers as long as they are gentle. (Above) A photographer prepares to shoot a grouper in its typical location - around 30 feet above a small coral head with an opening in the wall behind it. Both shots - Nikonos 111, 15mm lens, Subsea 150 flash. Fuji 50 film. 1/160 @ F5.6 in 30 feet.

If you do get a chance to photograph these fish, it's important to treat them respectfully. petting them with your gloves on will affect their mucous layer and expose them to parasites and disease. Food not in their chain (sausage, bread etc) is harmful and should not be fed to groupers. Care, above all, should be taken not to disrupt their environment.

The Nassau Grouper is a very special fish. Most people who have had the pleasure of playing with and photographing them proclaim after their dive that they would never eat one again. Hopefully, we will all someday be able to say the same.

Alex Kirkbride

The development of video camcorders seems to be continuing at a frantic pace with new models being announced at regular intervals. This pace causes problems for housing manufacturers as they have a limited amount of time in which to develop the product and then sell it before the camcorder is discontinued in favour of a smaller, improved model.

This situation has led to housing manufacturers being cautious as to which cameras they decide to produce for and it also affects the design of their housings. They tend to produce designs which can, with the minimum of modification, be altered to house new models. This makes economic sense and is a situation we should accept for it is better to have a universal housing than no housing at all.

The Sea and Sea C7 housing is made from extruded aluminium section sprayed yellow with polycarbonate front and rear sections. The 8mm wall thickness will withstand the roughest treatment and the 15mm end sections ensure that the design is well within the requirements of the amateur requirements. The housing is rated to 60 metres.

It is designed to house the JVC GR-C7 camcorder which uses VHS-C video cassettes. The results can be viewed through the camera's electronic viewfinder for instant reassurance or played, via an adaptor, through a domestic VHS recorder and television.

Despite a simple design, the standard of finish is very high and this seems to be a hallmark of Sea and Sea's products. The internal controls allow control over camera power, zoom and standby/record which gives you the flexibility so attractive with video. The small viewfinder on the camera is fine on land when you can get your eye right up to it but it's not so easy underwater so Sea and Sea include a built-in viewfinder magnifier to improve this situation. To increase the angle of coverage, they supply a wide angle adaptor which screws onto the front of the camera's lens.

The zooms lenses on most camcorders are not very wide at the wide angle end and the provision of this adaptor is a useful accessory but the flat front port will reduce the angle by around 1/3rd underwater and also affect the optical performance so there is a disadvantage to the advantage. To provide a domed front port which corrects the angle would be an attractive optional extra as it would improve the image quality and



give a very useful wide angle with such a wide depth of field that the focus would be virtually all embracing.

The main rear seal is a compression O ring retained by 4 overcentre catches while the front port is the same except with smaller catches. As with all underwater cameras, great care must be taken when closing the housing and this is particularly true with videos as a flood could write off over £1000 of electronic camera. The Sea and Sea C7 seals are easy to maintain and inspect.

Two handles are provided, one on each side of the housing. They are not quite in the best position to gain finger access to the controls and you will need to stretch to get to the camera power lever on the left but this is not a control which requires constant operation. Mounting shoes are fitted to the top of each handle to attach lights.

Internally, the camera is mounted onto an intermediate plate which then slides into the housing and allows quick and positive positioning of the camera in relation to the internal controls. The built-in microphone has a long enough lead to allow easy

location of the camera. The standby/record function is operated via the camera's remote socket.

The robust construction and size of the C7 housing result in a heavy package. The housing alone is 9.5kgs on land but this does include a counterbalance weight inside the housing. Underwater this almost disappears to 300gms. Add a video light to this and you have an outfit which takes up most of the baggage allowance when travelling abroad. The housing measures 350x190x180mm (14x6x7.2") excluding the handles.

It is not Sea and Sea's fault that video camcorders are such an awkward shape to house but they have produced a solid housing which allows the camera's full controls to be used. Housings of this size and capability must be heavy and there's not too much that can be done about that. Perhaps we are surprised by the weight and size because we compare them to still camera housings but what we should really do is look at 16mm cine camera housings and we would soon change our minds!

Dr Mia Buehr reports on The Firth of Lorne

Where's your diving going to be this year? The Seychelles? The Maldives? There's always the Red Sea, of course, or you could pull out all the stops and head for the Caymans or the Great Barrier Reef. There can't be an underwater photographer alive who hasn't dreamed of these places.

Tropical diving has the sun, the good weather, the clear water and above all the good subjects. But is that last point really true? Are all the most exciting subjects for a diver's camera to be found in warm water? And will you have to wait until you can take out a second mortgage before you have a hope of doing any really good photographic diving?

Of course not. British waters can give you subjects as exciting as any you'll find in the Tropics. And of all parts of Britain, few can be as inspiring to the diver with a camera as the West Coast of Scotland.

For a clue to the reason for the rich life in the area, take a close look at the charts of any of Scotland's western coasts, like the Firth of Lorne in Argyll. You'll see a multitude of rocky reefs and islands along a deeply indented coastline of sea lochs and inlets. Such varied topography provides the different habitats needed by a great variety of animals. Cliffs, boulders, sand or mud, exposed or sheltered: all will support different kinds of life.

This kind of geography means too that you'll always be able to get a dive, because no matter where the weather's coming from there will always be a lee or sheltered spot somewhere. While you might not be able to describe the water as "gin-clear", the visibility at most times of the year is as good as any in Britain and quite good enough for most photographic purposes.

So, when a group of divers from London's Holborn Branch (BSAC) wanted a week's good underwater photography at a price that wouldn't break the bank, we naturally headed for Scotland and chose the Firth of Lorne for its variety of outstanding dive sites. You can dive Scotland from an inflatable or even do without a boat altogether (there must be more good shore diving here than anywhere else in Britain. But if you want to get to the most remote and exciting spots you really need a hardboat.

We chose to dive in considerable comfort aboard MV Brendan, a 38' Aquastar based in Craobh (pronounced Crove)



(Above) Only in quiet Scottish lochs will you find the anemone *Protanthes*. Shoot it against open water to get the most impact from its delicate tentacles. Nikon F2, 55mm micro Nikkor in an Ikelite housing. Marlin flash. Ektachrome 64 film. 1/160th @ F22

Haven Marina just south of Oban and skippered by diver-photographer Bruce Howard.

A convenient shore base at the luxurious Craobh Haven Cottages gave the twelve of us an exciting week's photographic diving at a very reasonable cost. In his large dive centre, Bruce has a darkroom equipped for E6 processing and a workbench for sorting out flooded equipment and recalcitrant flashes. He is also happy to provide projection facilities for fellow underwater photographers.

Once you've found base in Scotland,

how do you find the good dive sites? If you've got a knowledgeable skipper like Bruce, all you need to do is ask his advice. Alternatively, you can use Gordon Ridley's book "Dive West Scotland" as a guide to some of the better known areas. But if you are really feeling adventurous you could try spotting likely sites yourself from the charts.

The west coast of Scotland is such a large and complex area that no-one knows all the good dive sites and you might just strike lucky and be the first to discover and dive on some exciting drop-off.



(Above) At lunchtime, the boat moors in the lee of one of Lorne's rocky reefs to let us explore some of the more remote islands

(Below) A tunicate's recurring nightmare is to wake up on a bed of brittle stars. Equipment used was identical to that for the shot on the opposite page.



So what kind of diving can you expect from the Firth of Lorne? The islands off the west coast are known for their dramatic underwater cliffs and drop-offs and it is here that most divers will want to go. Bruce took us to places where we found sheer cliffs plunging from the surface to more than 60 metres of depth, thick with colourful sponges, anemones and many other animals, browsed by nudibranchs and patrolled by shoals of fish.

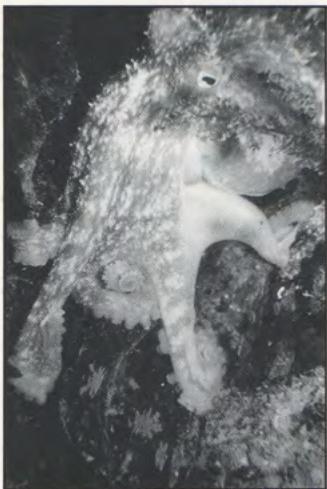
Taking a camera down on one of these drop-offs is like walking into a gourmet's free buffet: you just don't know what to try first and a 36 exposure film lasts no time at all. But dramatic as the Lorne cliffs are, they are not the only sites which will attract the underwater photographer.

Quiet sea lochs like Loch Melfort and Loch Fyne are home to a variety of animals quite different from those you'll find on the more exposed coasts. For example, here you'll find the distinctively Scottish anemone *Protanthes* and the many other animals which share its habitat. And even sites that don't look particularly promising on the charts can give quite an exciting dive for the photographer. Flat mud, for example, has a reputation for being dull. But it's on the muddy flats of some parts of Lorne that you'll find such photogenic subjects as *Nephros*, the large Dublin Bay prawn, or the phosphorescent sea pen *Penatula*.

With so many subjects in so many different places, you can find suitable subjects for any kind of photographic system. Wide-angle lenses are perhaps most effectively used on the spectacular scenery of the steep, rocky slopes, and the visibility here is usually clear enough to give very good results on diver and landscape shots. You can take 35mm and close up systems just about anywhere and be sure of finding suitable subjects. Some of the shallow rock faces can be very kelpy and here a macro set-up will give you access to the smaller animals like nudibranchs, shrimp and crustaceans that can make such effective pictures.

But whatever the system you use, the first principle of such an expedition is "process on site". No matter how well you know your camera, little mishaps (like perhaps a jogged shutter speed knob) can happen to anybody, and the only way you'll know that you're getting good results is actually to see them there and then. That way you can correct any mistakes before the opportunity is gone forever.

Though E6 processing can be done in very primitive conditions, it's much easier when you have a well-equipped darkroom to work in, such as the one Bruce



(Above) You don't have to go abroad for octopus shots.



(Above) Fewer divers in the area means more likelihood of finding lobsters to photograph

provides at Craobh Haven. A nightly processing session gave us our results when we needed them and, at the end of the week, beginners and experienced alike, went home not only with happy memories, but with a satisfying collection of pictures.

The seas all around Britain are full of colourful marine life, but rarely is such a great variety of marvellous photographic subjects so readily accessible to the underwater photographer as on the west coast of Scotland.

So if the budget won't run to the Maldives this year, try the west coast of Scotland instead and be prepared for some of the best photographic opportunities of your diving career.

Dr Mia Buehr

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ACCOMMODATION: BUIDHE LODGE at Craobh Haven, 200 yards from the Dive Centre, is an attractive timber built guesthouse built during 1987, and offers four double rooms and two four berth bunk rooms all with private facilities. Accommodation and Diving package can be arranged by us. Caravan and camping site two miles distant. Self catering cottages available.

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LORN DIVERS, Kames Lodge, Kilmelford.

14th International Festival of underwater photography

This annual festival is now in its 14th year and it is extremely professional in both its image and its presentation. It took place from December 2nd to 6th 1987 and attracted about 15,000 people. It is an event which appeals to divers and non-divers alike as well as the general public.

The building is a multi-capability one with a large main cinema, a smaller one and a host of smaller meeting rooms as well as large display areas and every inch of space is used. There are trade stands from most European manufacturers as well as holiday companies.

Being a regular annual event, this festival has established itself as the most important in Europe and this is not just because it is held regularly. The organisation of the whole event is a pleasure to experience and should serve as a model for others to follow.

To enter the competition side of the event costs just 100 French Francs which is about £10 and for this you get two tickets to

attend which includes access to all viewings as well as lunch and evening meal! The organisers are considering increasing this next year but even at three times the price it is still extremely good value.

The competition is very comprehensive and superbly judged by sympathetic professionals. They work very hard for the three days over the competition to establish the winners and the categories are all embracing. There are no separate categories for fish, still life etc just stills, cine and movie sections as well as TV films, audio visuals and paintings.

There are nearly 60 awards which are given at a perfectly orchestrated ceremony on Saturday afternoon which gives everyone plenty of time to view the work and talk to the winning underwater photographers.

As if this were not enough, there are sessions next day where entrants can discuss the results with the judges themselves and find out firsthand what they were look-

ing for. If there is one aspect of the festival which puts it head and shoulders above the rest it must be this feature for the information which can be gleaned by those who attend must be inestimable.

The enthusiasm for the event was made even greater when Britain's Mike Valentine won the Best 16mm film award and Mike Portelly won Best Video and Best Commercial. Linda Pitkin and Georgette Douwma both won medals in the print and slide sections and Anglia TV won the best National History Documentary.

The 15th Festival will take place from October 12th to 16th 1988 and is a must for all serious underwater photographers to both enter and attend.

A full report with photos from the 1987 event will be in the next issue of UP.

Peter Rowlands

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Ex-pat Gordon MacSkimming reports and illustrates

Tax free employment in a Middle East location holds a number of advantages for the amateur underwater photographer, that is as long as your work place is not in the centre of Saudi Arabia: not the place to be if you subscribe to this magazine! One of the better locations is undoubtedly in the area of Muscat, the capital of the Sultanate of Oman, which is situated on the South East corner of the Arabian peninsula.

Muscat lies on the coast of the Gulf of Oman at a point where a rugged mountain chain meets the sea. The resultant coastline is quite dramatic both above and below the water with depths in the 30 to 40 metre range close inshore. To the South East, the rocky nature of the shoreline continues to beyond the range of a one day boat trip. A few kilometres to the West of Muscat, sand takes over from rocks and cliffs. Here the coast slowly turns North West running parallel to the mountains. The sandy beach continues virtually uninterrupted for hundreds of kilometres and, beautiful to behold though it may be, it has very little to offer in the way of good diving.

About 5 kilometres North West of Muscat and lying 2 kilometres offshore is Fahal Island, probably the most popular dive site in the area. Fahal has the appearance of a large limestone boulder rising out of the sea. It is about 500 metres across at its widest point and 95 metres high. Its sheer sides are subject to continual erosion as a dive among the 'bits' and 'big bits' that have broken off on the West side will testify. The most spectacular diving is to be found on the reef areas which lie a short distance off the island. These are rocky reefs which rise 20 to 25 metres off a 35 to 40 metre seabed, attracting all manner of encrusting and swimming marine life.

Much further to the North West of Muscat, about 45 kilometres away, lie the Daymaniyat Islands which, without doubt, offer the best diving in Northern Oman.

There are seven islands in the chain if you disregard the smaller rocky islets. The underwater topography includes sheer rocky drop offs to deep water, caves, tunnels, shallow coral reef flats and gardens of soft coral. In the summer, the Daymaniyats become the sanctuary for nesting seabirds and hence access is limited to the months of October to April inclusive. There are a few wrecks in the area but none fit the "not to be missed" category.

There are four diving clubs in the



(Above) With visibility which can suddenly worsen, you have to take your diver shots when you can. The close ups can wait. A wide angle lens enables the subject and the surface to be included to give a feeling of depth and fill in flash adds colour and detail to the foreground.

region, all of which are BSAC branches. Muscat Divers, to which I belong, usually operates on an all year round seven days a week basis with afternoon dives Saturday to Thursday and all day diving on Fridays.

Virtually all diving is carried out from hard boats allowing the underwater photographer plenty of space to store cameras away from the thrashing fins brigade.

Speaking of storage, with temperatures which peak at about 45-47°C in the summer, some form of thermal protection is advisable for camera equipment, particularly when en route to more distant locations. This requirement is well met by the medium sized polythene coolboxes manufactured by Coleman which provide excellent protection both physically and ther-



(Above) The scenery is typically Red Sea with more than average macro life and some excellent shore diving.



(Above) Turning well and surrounded by colourful corals, this Emperor Angel fish was happy to pose. (Below) Close up detail reveals an appealing face in the marine growth.



mally.

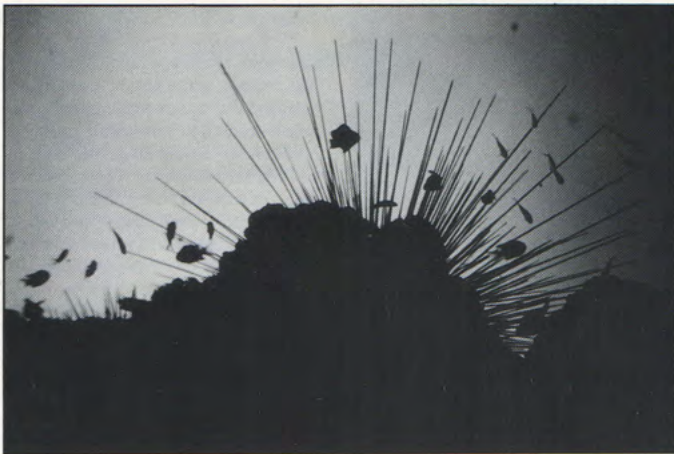
Coastal Oman is affected by frequent cold upwellings from deeper water. Nutrients are carried inshore with the cold water and they in turn trigger off plankton blooms leading to very turbid conditions indeed. In lay diving terms, the visibility can drop from 30 metres at best down to 3 metres or less in a matter of hours. Worse still, this bad visibility takes considerably longer to go away than it does to arrive! These cold water and turbid conditions also have an adverse effect on the growth of corals and, although there are many species present and often in large numbers, there are no extensive reef structures such as those found relatively close at hand in the Red Sea.

If the reef building corals are somewhat lacking, then this is surely made up for by the variety and profusion of many of the other animal groups. One method often used to gauge the quality of fish life in a specific area is the presence of large groupers. In some parts of the world such animals have been fished or hunted to near extinction but not so in Oman where a dive amongst large groupers could be arranged at the drop of a hat.

If the groupers act as an indication for the fish life then surely the abundance of black coral does the same for the invertebrates. Its bush-like anatomy is easily spotted on any dive to over 15 metres in a rocky area. Fundamentally, the region is rich in marine life and the Government policy, no doubt inspired by the conservation-minded Sultan of Oman himself, is such that it should remain so. In practical terms only licenced fisherman may remove anything from the sea.

It has been said of the more regularly dived Red Sea locations that there is very little scope for macro photography. Muscat does not share this problem since there are many subjects which will fit within the frames of a Nikonos extension tube: cowries, flame scallops, nudibranchs and the brilliant red cave corals for example. In the same size range but adding more interest to photographs are the shrimps which live on the anemones, the squat lobsters which live on the arms of crinoids, the gobies which live on the branches of black coral and many other similar combinations.

When diving with a housed camera and macro lens, the colourful reef fishes must be a prime target, they certainly were with me. When I left Oman for the last time I was quite frustrated, for even though I carried away a great number of slides featuring the reef fishes, I had only just begun to nibble at what might have been possible. For anyone who is hooked on ultra wide



Oman Cont'd...

angle work, the field is limited to some extent. Where the aim is to produce those high impact "diver in the sun, lump of red coral in the corner" or similar images, the extremely variable water conditions already mentioned are very much in control.

The actual business of taking photographs underwater does require some degree of backup and this in itself can present a few problems. For example, I know of one person in Oman who is capable of stripping and reassembling a Nikonos V or similar piece of equipment but he wouldn't thank me for putting his name in print! In other words, any major flood will almost certainly involve sending the equipment out of the country for repair. This is both expensive and time consuming so careful day to day maintenance is needed.

O rings, silicone grease and similar small spares must be imported. Consumables such as batteries and common brands of film are available. Processing can be a problem, Kodachrome has at least three weeks turn round from Switzerland, too long for anyone wishing to make an immediate assessment of their efforts.

Local processing for both slides and prints is expensive and very often poor in quality. My answer was to use E6 slide film which I developed myself using locally available and reasonably priced Kodak chemicals. With high ambient air temperatures and a 'cold' tap which ran at between 36 and 40°C, home processing was simplicity itself.

Who can visit Oman? Regretably there is a very strict control over entry to the country and you cannot go as a tourist. If you could, you might find it a bit disappointing compared to dive locations which offer clear water conditions on a year round basis. However, if you have the opportunity to visit relatives who work in Oman, to visit on a business trip or, better still, to work there for a year or two, then make sure that underwater photography figures high on your list of priorities.

All four BSAC branches will normally entertain guests in small numbers and their current details are available from BSAC HQ.

Gordon MacSkimming

How was it done? Sunday Times Photographer Chris Smith explains



As a full time sports photographer, I am constantly looking for and trying to think of new ideas for action photographs. This has seen me in some odd and sometimes alien situations but, for me, there was no more alien time than when I took this shot.

Having covered many swimming championships and produced the usual tight shots of swimmers on the surface capturing their concentrated facial expressions, I was looking for a different angle and thought that one from under the water would be worth a try. Just as with athletes, breathing is a vital part of a swimmers' timing in order to increase efficiency and I thought the exhalation would make an interestingly different and powerful shot.

The idea seemed fine but the one main snag was that I didn't know the first thing about diving or the finer points of underwater photography. Not wanting to go to great lengths (sorry about the pun) to get the shot, I persuaded a friend of mine to lend me his diving cylinder and valve to let me stay on the bottom of the pool.

Whilst covering a training session for the Olympic swimmers at Crystal Palace I asked Steve Grossman to stay on for a

while afterwards to swim over me a few times.

The midday light was bright and the light-coloured tiles helped keep the light levels high but Steve's face would be more in shadow as the light was predominantly from behind him. Despite this, I decided to keep things as simple as possible and shoot by available light using a 400 asa black and white film. I usually use either Kodak Tri-X or Ilford HP5 and rate it at 400 rather than under expose and over develop for more contrast, which some photographers do. The required contrast could be supplied by using a harder grade of paper at the printing stage but, for the time being, that was the last of my worries.

The vital ingredient of any sports photograph is timing; capturing that split second. On land, with reflex cameras and practice, it is a lot easier but underwater there was much more to control. Using a Nikonos camera with a 35mm lens, the light levels gave a reading of 1/500th @ F4. I needed the fast shutter speed to capture and freeze the movement. The aperture wasn't so important as the camera to subject distance was fixed and easily estimated.

Using the non-reflex Nikonos with

it's odd shutter release and film wind action took a bit of getting used to so I got Steve to swim over me a few times to get a feel for the timing of the shot.

I used the best part of a roll of film as I wasn't sure whether the results were going to be well timed and there were many variables to affect the result.

Back in the darkroom, the processed negatives looked fine but the surface was much brighter than Steve's face so I had to "hold back" the surface and then "burn in" Steve's face to achieve a better balance. These black and white printing techniques are great for adding that balance and sparkle which competitive shots must have. A harder grade of printing paper gave the contrast and I had my first underwater shot!

I haven't ventured back underwater again since but, if I did, I would probably use a reflex camera with motordrive for ease of use but, until I think of another shot, I'll leave the underwater photography to UP readers and continue to concentrate on above water sports action!

Chris Smith

UP with the Image Makers

Kurt Amsler, World Champion and Grand Master



(Left) Taken in a river in Florida this action shot was achieved by using a long shutter speed (1/2 second) and a roll of film. The photographer and diver are swimming with a strong current. The camera has to pan at the same speed as the diver to keep him sharp and the rest blurred. This combination of movements means that only one out of about 20 shots worked but, as the saying goes, one is enough. The Nikon F3 camera was in a Sea and Sea housing with a 16mm full frame fisheye lens and the aperture was F16 with Ektachrome 100 film.

For those who follow the international underwater photography world, there is one name which can claim to have led the field in 1987. He is Kurt Amsler from Switzerland and it is not by chance that 1987 has been his year. He has been leading up to it. He has had a very successful year in both competitions and assignments. May saw him as the World Champion in Cadaques and then he topped it with the Grand Master Title at Brighton. To follow this, he looks set to carry on producing images which both communicate and attract; a combination which few really attain.

As with most divers from his generation (Kurt is a young 39), he was impressed by the Hans Hass adventures and can remember at the age of 9 wanting to follow a similar career. That he has been able to live so long sometimes surprises him for his early school days were spent experimenting with long snorkels and some potentially dangerous "Heath Robinson" breathing apparatus but he survived these early dips into life underwater and, after leaving school, studied photography fulltime at college. Since his father was a mountaineering photographer, he was encouraged right from the start to expand his artistic capabilities and it is this background which encourages him to make detailed sketches of the shots he wants to take underwater. He uses these to show to clients what he visualises before they commission him to do the shot.

Feeling rather limited by Swiss lake diving, Kurt decided to use his diving instruction qualifications and go to the Bahamas after leaving photo college. He soon found work in the expanding diving indus-



(Above) Taken at 7am in Crystal River, Florida, the Manatees like to scratch their underbellies on man's junk. This old signpost is ideal. A 16mm lens on a Nikon F3 in a Sea and Sea housing was used with Ektachrome 100 film. The YS150 flash was on half power and further softened with a diffuser. The red shape in the background is a very fat American woman whose frantic finning stirred up the bottom and terminated the session sooner than Kurt would have liked.

try in Grand Bahama in the early 70's. His portfolio at this time consisted of black and white prints, a medium which he still uses to capture the mood and form of the underwater world. Training new divers all week did not dampen Kurt's enthusiasm for diving on his days off and he took every opportunity to shoot film in the Caribbean to expand his image collection. It was in Bahama that Kurt met Chuck Nicklin and other leading American underwater photographers. He was encouraged to enter competitions and

soon built up an impressive list of medals.

Large format (6x6cm) cameras were still very popular at this stage but, with the advent of smaller 35mm cameras coupled with rapid developments in film emulsion technology, it was not too long before Kurt was using 35mm Nikonos equipment before moving up to a 35mm SLR camera in an aluminium housing. The 35mm format is one which the Americans use almost exclusively, leaving the large format work for studio shots.



(Above) A double exposure done in camera in the Maldives. A whole roll was taken of the sunset and then rewound for double exposing with the model. She is tied in place at the edge of the reef with the camera looking into blue water. A 16mm lens and available light was used for the underwater shot.



(Above) Taken in a cave system in Bourg Saint Anedol in France, this is in only 9 metres of water but 390 metres in! There is no ambient light so the front diver holds a slave flash and the silhouetted diver holds a flash with a long lead back to the camera. Nikon F3, 16mm lens, Sea and Sea housing, Fuji 100 film 1/15th @ 5.6.

COVER SHOT. This is a Kurt Amsler shot taken in the Maldives off Wadoo Island with a Nikon F2 and 24mm lens in a Hydro 35 housing. Ektachrome 64 film was used at 1/60th @ F8. A slave with a slight red filter was placed behind the coral on the right.

Whilst he still has large format camera equipment, the 35mm SLR Nikon F2 and F3 cameras in Sea and Sea housings form the basis of his camera equipment. Lighting comes from a variety of flashguns from Sea and Sea and Oceanic as well as a number of specially built slave units to add extra light from different, off camera angles. His faith in these slaves is high for most situations but, when he has to guarantee they will fire, he fires standard flashes directly from the camera using long EO

leads.

It is not by chance that Kurt was chosen to be the Director of Underwater Photography at the new PADI European College. His role is to teach underwater photography to those who teach and so improve the quality of instruction. He hopes that this will take some of the stigma out of the subject for there are very few dive shops or training centres which offer underwater photography instruction and this has not encouraged the growth of the sport. With

the PADI European College courses (details of which are included later in this issue) Kurt's aim is to redress this imbalance by taking the technical mystery out of the subject and to show how easy it has now become to take good photographs underwater.

Running a dive training business in Switzerland provides Kurt with his regular income but, as his career has progressed, he finds his desire to spend more time as an underwater photojournalist becomes more and more tempting. He is a realist though and knows that it is hard to earn a living in this way and is making the transition slowly. At present, all of his photographs are used to illustrate articles which he writes and submits to magazines. On the Continent there is a much more active magazine-buying public and this supports several quality publications using photo essays on environmental issues. This suits Kurt perfectly for he is a quiet conservationist, keen to use his underwater photography skills to educate others into preserving our disappearing habitats and animals.

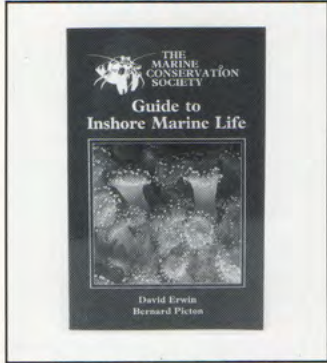
Two recent jobs illustrate his constructive deliveries; the first was a major photo essay on Rhine pollution after a large chemical works emptied lethal liquid into the river and killed most of the marine life and the second was a trip to Florida to film the Manatees in Crystal River Springs. These large, docile grass eating creatures are in danger of extinction due to pollution and the attentions of outboard propellers. In early 1988 he will return to Florida for a cave diving trip followed by more Manatee shots.

In order to expand his market, Kurt's next project is to concentrate on "stock" photographs which he will lodge with an international picture library. These are straight shots of divers underwater for which there is a steady demand throughout the world. They are not the most exacting shots but there is a demand for them and satisfying that demand is what being a professional is about.

Whilst he is primarily a stills photographer, he has made forays into moving images with a Maldives film in collaboration with Hans Hass followed by two live broadcasts; the first from a wreck and the second from a cave complex in Switzerland. Whilst he appreciates the larger commercial possibilities of cine and video, Kurt is a stills photographer and it with this medium that he feels happiest and at his most productive. I am sure that we will be featuring his work for many years to come.

Peter Rowlands

Marine Conservation Society's Guide to Inshore Marine Life by David Erwin & Bernard Picton



Despite having a very varied marine life and a healthy supply of marine biologists and underwater photographers, we do not seem to have combined all of these talents to produce a book which shows off these three different but inter-related worlds.

It has taken the Marine Conservation Society (Why don't they include their address in the book?) and IMMEL Publishing together with authors David Erwin and Bernard Picton to change this situation for they have all got together to produce the very useful Guide to Inshore Marine Life.

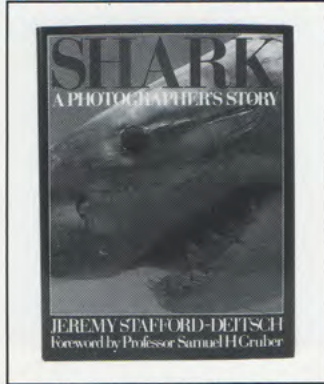
At first glance, it looks a bit thin on detail but this 120 page full colour semi-rigid book does not claim to be the ultimate in identification and information for it's aim is to provide basic uncluttered presentations to allow the diver and rock pool investigator to identify what has been seen and to provide the beginnings of useful information. To achieve this, the book uses actual underwater photographs surrounded by attractive annotations to indicate size, habitat and depth at which they occur.

The result is a very useful publication which will provide just the right amount of information. For those who wish for more, there are other, much more boring books. All of the subjects you are most likely to see are included - fish, echinodermata, crustacea, cnidaria, mollusca, porifera, worms, bryozoa, tunicata and algae.

The MCS Guide to Inshore Marine Life is a celebration of the underwater world whose aim is to encourage rather than daunt the reader with too much latin.

It is available from all good bookshops, the MCS, 4 Gloucester Road, Ross-just £9.95.

Shark - A photographer's story by Jeremy Stafford-Deitsch



It is always difficult to find a new angle to justify another book about sharks except that the general public does seem to have an almost unquenchable thirst for images and details about these magnificent creatures so, if that is the situation, who need's an excuse? The creatures will sell the book regardless.

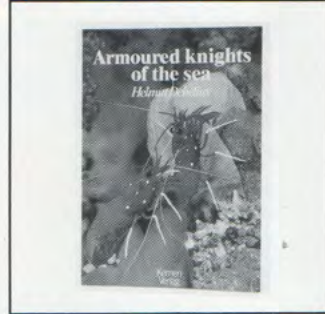
This philosophy has led to a number of books coming onto the market which are well below standard but Shark - A photographer's story does not fall an inch below the highest standards both in terms of images and presentation. In addition, the diving world has found an author who is able to express himself well both in terms of travel narrative, physical feelings and biological fact. The result is a 200 page hardback which is a very good combination: satisfying the sensation-seeker, informing the curious and entertaining the casual reader.

The photography took three years to complete in locations such as the Red Sea, Hawaii, California, Florida and the Bahamas while Jeremy's interest in sharks has been forming over a much longer period. This concentration of effort has produced a suitable finish to a well-executed project. The book builds up inevitably towards the Great White and I defy you not to jump back when you turn to page 188/9. It's the nearest you'll ever come to experiencing what it's like to be eaten by a Great White!

From an underwater photographer's point of view it would have been useful to know more about the lenses and equipment used but Jeremy's informative text makes up for this.

Shark - A photographer's Story is published by Headline books and is available from good bookshops and Ocean Optics. It costs £14.95 (+ £2.50 p&p).

Armoured knights of the sea by Helmut Debellus

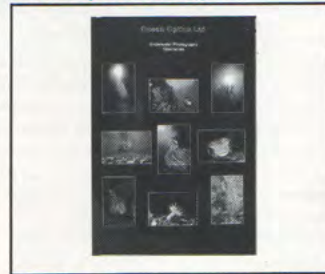


Describing crustacea as the insects of the sea, Helmut Debellus's 120 page semi-rigid book is full of colour underwater photographs of the 10 footed crustacea. This covers all of those to be found in divable waters and in home aquaria. Helmut runs IKAN, a very succesful underwater photographic library in Germany

The book illustrates Helmut's obvious love of the subject which is backed up by his wealth of both scientific and behavioural knowledge. It is one of the first books to combine diving information as well as detail for the home aquarium. This is not a combination which conflicts but it does tend to lean towards the smaller crustacea.

Armoured knights of the sea provides a fascinating insight into the world of these complicated characters and is very well illustrated with hundreds of colour plates. It costs just £8 (+ £1 p&p) from

Ocean Optics Catalogue



The latest catalogue from Ocean Optics has just been published and, although it's not a book, it does have sections of advice on all aspects of underwater photography together with shots to illustrate the capability of equipment.

The A4, 44 page colour catalogue costs £2 in the UK, £3 Europe and £4 Overseas. They are sent by 1st class or air mail.

Wildlife Photographer of the Year Underwater winner - Kim Westerkov



The underwater section of the Prudential Wildlife Photographer of the Year Competition received more entries than ever before and the results were announced at a buffet lunch on November 26th at the Natural History Museum.

Kim Westerkov is from New Zealand and has a Ph.D in Marine Sciences (marine biology) from Otago University, New Zealand. This winning shot was taken with a Nikonos 11 camera with a Sea and

Sea 18mm wide angle lens and a Sea and Sea YS 150 flash/strobe. The Kodak Ektachrome 64 Professional film was rated at 100 asa and pushed half a stop in the processing. Kim says that the settings were probably 1/60th at F 5.6 and that no filters were used.

The subject is *Macrocystis kelp*, the world's fastest growing plant which can grow up to 50 cm a day. It is common in southern New Zealand and this particular

dive was in a forest 20 feet tall. This, however, is chicken feed to the dive Kim once had off subantarctic Campbell Island where the kelp was 95 feet tall!

As the kelp gets older it becomes tatty but this example is young with lovely golden-brown fronds which dance in the current and provide shelter for the small blue moki fish, a common sight in southern New Zealand.

2nd- Michael Wong

In second place was Britain's Michael Wong who is no stranger to BSoUP members for he has just won the award for Best Colour Print at Brighton '87. Michael is a dental surgeon by profession with a passion for underwater photography and the underwater world.

His shot was taken at Hurgada in the Red Sea in 1986 with a Nikonos 11, 15mm lens and Fuji 50 slide film. A Sea and Sea YS 150 flash added extra light. It shows a shoal of butterfly fish in 30 feet of water and is not a common sight. Usually these shoals are far smaller but this one hung around to let Michael take a roll of film of which about 3 were pleasing compositions as the shoal was moving constantly and could not easily be herded into a suitable formation.



Specially commended - Kim Westerkov



As well as receiving the 1st prize, Kim Westerkov also received a special commendation for this shot of a New Zealand fur seal taken in 20 feet of water at Cape Saunders, Otago Peninsula, New Zealand.

These seals became perilously close to extinction in the mid-nineteenth century

as its thick chestnut-coloured underfur was a prime target for sealers. However, with recent protection, their numbers have gradually increased until latest estimates put their population at between 50,000 and 80,000.

The freezing action of a still camera

makes the subject appear motionless but the reality is that this subject was moving at high speed and capturing it in just the right position with the sunburst required split second timing.

Kim Westerkov confesses that its hard to differentiate between split second timing and luck as being the reason for a good shot. He's happy to accept either as long as the shots is achieved. He acknowledges that most of the other shots were misses as the action was so quick but you only need one good shot and he got it!

Kim used the same equipment and film as for the winning shot but the shutter speed was probably 1/250th to halt the action.

The Wildlife Photographer of the Year Competition is sponsored by Prudential in association with BBC Wildlife Magazine, The Fauna and Flora Preservation Society and the Natural History Museum, London.

The Competition is held annually and full details of the next one will appear in UP as soon as they are available.

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It must be the dream of most divers to earn a living from their sport and so combine pleasure with income. The diving trade too is always looking for competent personnel but has to cope with a very varied level of competence due to limited and unco-ordinated training. That situation now looks set to change for the better for, in response to the increasing demand for well trained personnel in the diving world, PADI, the Professional Association of Diving Instructors, have established a European College in Cannes which is providing an unprecedented facility. As well as courses for diving and divers, there is a special underwater photographic facility to train divers to take and teach underwater photography.

The College is situated on the French Riviera in La Bocca, just outside Cannes. It is built in the grounds of Villa Belle Rive, a spacious and beautiful French villa, built before the turn of the century in Maroccan architecture. The outdoor facilities include a 15 x 8.5 metre swimming pool specially designed for teaching scuba diving and the blue Mediterranean is only metres away.

There are three spacious classrooms and a model dive shop aimed at teaching would-be dive store owners how to present themselves and their service to the best and most profitable effect.

For divers, there are courses aimed at teaching existing divers how to become instructors. There are several levels ending up with the premier title of PADI Open Water Instructor. The qualifications gained will enable those who attend to apply for diving jobs with an added advantage and will show potential employers that the applicants are of sufficient standard. All courses are available in any commonly spoken language.

For underwater photographers, the PADI College offers facilities which have never before been available and which could be set to alter the way in which underwater photography is taught throughout the world.

The PADI Photo College can bring a new dimension to the teaching program of the diving instructor. By offering special courses in this field to students, dive shop owners and dive club members, he can add new life to his school and so make more profit. For the dive shops, the selling and renting of underwater photographic equipment means more turnover and keeps customers diving.

Until PADI opened the Photo Col-



(Above) The PADI European College on the French Riviera is built in the grounds of a spacious French villa. It has a large pool, classrooms and a model dive shop. Courses are available on underwater photography, both how to take shots and how to teach others.

lege, no other such facility existed and the course of underwater photography has been left to a few individuals but now things look set to change.

The PADI Photo College provides courses for divers from all existing diving organisations. The Training Director is Kurt Amsler, a world famous Swiss underwater photographer who recently won the Grand Master Title at Brighton '87 and also the individual trophy at the 2nd World Championships of underwater photography in May 1987.

All the camera and flash equipment is supplied and this consists mainly of Nikonos V cameras and Sea and Sea flashguns as well as a range of accessory and prime lenses. There is a darkroom for processing results on site so that those at-

tending will not only see their results instantly but be able to see how comparatively simple it is to process slide film and achieve excellent results. There are 5 courses aimed at the underwater photographer.

The 5 day photo course teaches novices how to take underwater photographs and shows experienced members how to perfect their knowledge. All courses use the latest TTL cameras, flashguns, wide angle and macro lenses. This keeps the technicalities as simple and as automatic as possible for speedy progress.

The 3 day Photo Instructor Course follows on from the 5 day course and shows how to run successful photo courses yourself. This is aimed specifically at the dive instructor who wants to expand business by

(Right) The well equipped darkroom enables E6 films to be processed quickly and shows how easy the process really is.



offering underwater photography courses to those already trained.

Finally there are three 1 day courses in Underwater photography for promotion and advertising, Setting up a business in underwater photography and finally Underwater Modelling.

This comprehensive range of facilities and courses looks set to provide a good introduction to the business of underwater photography which should introduce new talent into the business field and so expand the horizons still further.

Underwater photography is one area of the diver training business which remains largely untapped but the PADI Photo College should be the start of a reversal in this trend.

In the past, underwater photography has been seen as a technically complicated

activity which many feel unsure about, especially when it comes to teaching the subject. This has resulted in there being very few, if any, good courses offering tuition. Individuals have organised one-off courses and Fort Bovisand runs a few weekend events but there has been no consistent facility in existence.

PADI looks set to force the pace and further details together with costs are available from PADI European College, 95 Ave Du Dr Pacaud, 06150 Cannes La Bocca, France. Tel 93 47 04 82.

Peter Rowlands

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