photo & video

Smart Start

— Preparing for Your First Photo Dive

You just bought a brand, spankin' new underwater photography kit... Now what?

Text and photos by
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So… you have your new photo equipment. Cool... now what? Should we just jump in the water with it? The fact that underwater photography differs from traditional surface photography goes without saying. Most people know this and don't need anyone to tell them so. But if you ask the same people to list the vital points on *how* it differs and how one actually takes pictures underwater, they become a bit stumped.

Now, go and ask a completely new underwater photographer about how they have planned to actually carry out their first photo dive, and they usually have not even considered it. For that reason alone, many first photo dives are rarely successful.

Find the essence

Although it is quite different to take pictures underwater, it is not that hard to learn. But you need to put aside your commonly held notions about photography and learn to prepare in a different manner.

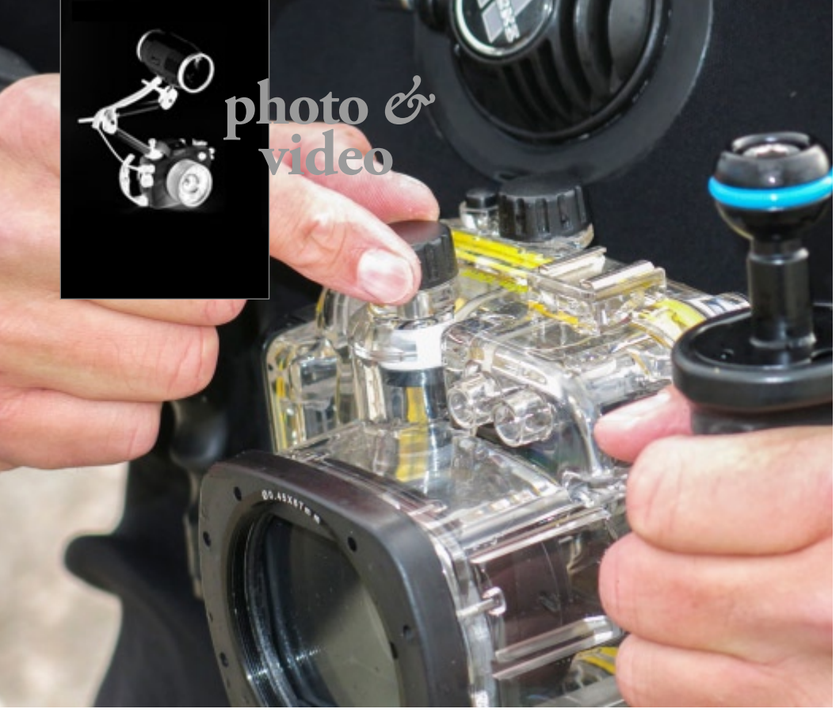
You may well be an experienced photographer and know your camera well, but once you put it in a housing, the buttons and where they have been placed become a whole new ball game!

So always start out by taking the time to get to know your housing, where the buttons are and (most importantly) be able to identify them with your eyes closed.

And let's be honest... You didn't really read the manual, did you? You may think you have, and you might have told your friends that you did, but chances are more likely that you haven't done it.

The secret to camera manuals is not to try and read them all at once, but to get started by running over the table of contents as fast as it takes you to read the letters. Then, do it again, just a little slower, so you now have the overview.

Most manuals repeat themselves forever. But, by knowing the main headlines, you will know where to start reading once you have the need for topic.



Smart Start

THIS PAGE: Adjust your aperture (or f-stop) and shutter speed and ISO settings *before* you enter the water

What you need to know

You will need to know how to turn the flash on and off, how to set the ISO and the basic settings associated with changing between Auto and Manual, as well as adjusting the f-stop and shutter speeds, plus how to enter the menu and run through the settings.

Just forget about the detailed menu settings for now, as they can wait until later.

Put it together at home

Rule #1, when you are about to go diving, is to make sure you have set up your camera equipment at home.

The majority of floods happen because the camera has been sealed in the housing in a rush and not checked properly. This important warning is usually written on the first page of every manual. But since you haven't read your manual, you won't have done it...

So by taking the time to mount the camera in the housing while at home, sitting at a table with a clean surface, you will eliminate that risk.

Start by preparing the camera and housing completely for the dive. Then, take it apart again, so that you can learn about battery settings, how your buttons work and if the camera sits in the housing the way the manufacturer intended.

Taking these steps also increases the chances that you will get potential problems solved in good time before the day you want to go diving.

Eliminate your settings options

The next thing you need to decide is how you want to operate the camera. At this point, you might be thinking there are so many settings, how does one possibly decide on the right ones to choose? Well, when it comes to camera settings, there are three basic things that control your exposure: your aperture (f-stop), your shutter speed and your ISO setting— which are often collectively referred to as the "ASI".

Although you may think your camera has none of these features, it is exactly these three settings that control the camera's operation when you choose one of the many shortcuts found on most cameras.

Virtually all cameras have an "Auto" button, usually called "P". It is important that you know where it is, because it is your back-up if every other setting you have decided to go for fails. It will make certain that you get out of the water with at least some reasonable images on your memory stick.

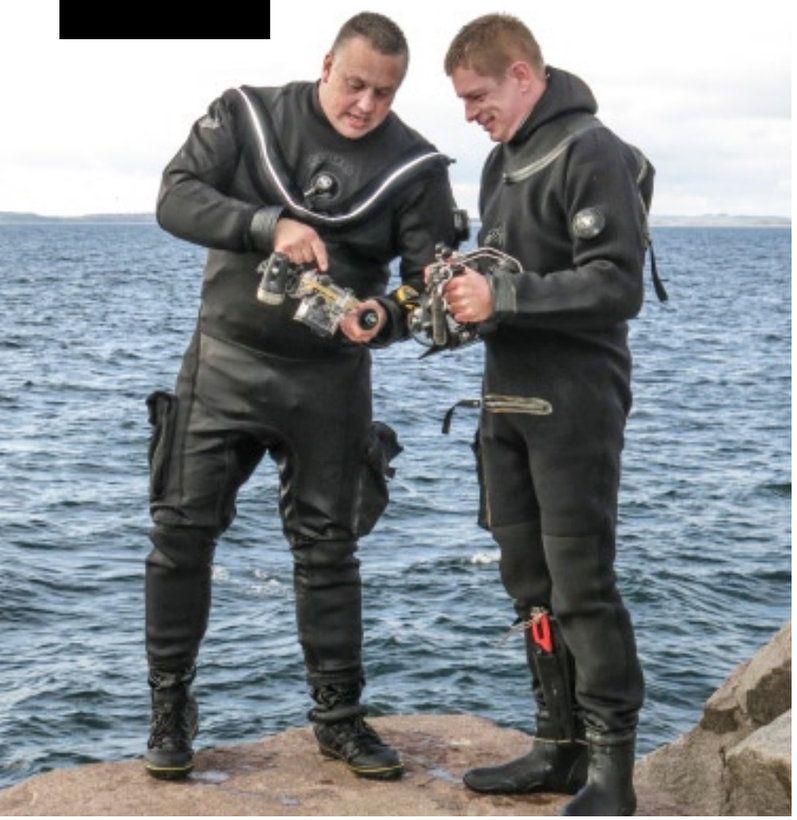
There are many other settings, such as the "Portrait" and "Sport" settings, which you will probably wonder about. The possibilities are many, but they all lead back to the three main ASI settings of Aperture, Shutter and ISO.

It is important not to be too concerned about the other settings, if you are not familiar with them, and keep things simple by using the settings you do know and then plan from there.

The long-term goal of any underwater photographer should be to use one's camera in the manual mode. Once you get there, you can always use short cuts to make things easier and optimise the cameras settings. But knowing exactly what happens when you press the

Set your camera on the "P" setting

Oops! Did he forget rule #1? Set up your camera and housing at home first *before* you go to the dive site—thereby avoiding possible flooding of your camera



Choose the right partner—preferably someone with similar interests

button for manual mode is probably the most important step in mastering underwater photography.

The two setups

I teach my students to plan for two different settings at the start of their dive. The first one being the one you would like to be able to handle but still have not tried or would like to try more. While the second is the one you already know all about and can return to if everything else fails during the dive. You should know exactly how to adjust these two settings even if you are deep down doing a cold dark dive and have lots of other things on your mind.

For a novice, the first setting should always be the "Auto" setting, but where you set the ISO manually, while the second setting should be full Auto, with the camera deciding everything.

The ISO is basically the light sensitivity of the camera's chip and increasing it is the same as making the sensitivity of your chip higher. If you are doing a deep dive, or one late in the afternoon, you will need the ISO to be as high as possible because of the low ambient light. But there is no free lunch in this scenario, as increasing the ISO will introduce "grain" into the image.

Grain is what used to happen in the old film-based days when "fast" film was used. Grain referred to the silver grains in the film's emulsion that became visible at high ISO's. With digital sensors, the grain is electronic noise that is introduced as the ISO increases. While a little bit is okay, a lot will ruin your image quality.

How high ISO can be set in your camera is relative to its quality. The old adage of you-get-what-you-pay-for really does apply here. As a rule, a cheap camera will deliver poor image quality in low light.

This becomes a catch-22 for underwater photographers who dive in low light.

As your experience increases, having the camera on Auto and manually setting the ISO will become your #2 setting—the one you can always revert

Example of a *grainy* photograph, or a photo with "grain"

Before the dive, discuss the dive plan or routine with your dive buddy and how you will stick together for the entire dive

to. While your #1 setting will be one that teaches you how to adjust the f-stop or shutter speed to achieve good images.

Adjusting the f-stop and shutter speed are by far the most used settings for photographers using DSLR cameras. A lot of high-end compact cameras have the same ASI settings, but always check whether the housing you are considering actually supports all the settings!

There are lots of settings that you will learn about in time, but a lot of them are just short cuts to the three ASI settings. The really important thing is not to plan on doing too many things on your first dive—and to make sure that you have a setting to fall back upon, which you know by heart.

Keep things simple and avoid unnecessary complications, as your dive time is always too short to start playing with something completely new.

Choose the right partner

As an underwater photographer, you have to look upon yourself as a potential solo diver. Not that you should dive alone at all, but photographers have a tendency to get carried away with what they see and to stay with it and often lose their dive buddy during a dive.

Before a dive, make sure you and your dive buddy have routines on how to dive together and how to stick together during the whole dive. If your buddy doesn't bring a camera, then he or she might become very bored after a while and get tempted to wander off.

Using a camera and really getting into photography is a time-consuming hobby, and you will probably end up connecting with other divers who enjoy taking pictures as well. Underwater photography is a buddy-sport and is best enjoyed under safe conditions with someone who shares the same interests.

If your buddy does not want to bring a camera but you still want to dive together, she or he might participate anyway. Keeping track of time (so you don't forget your planned dive time), acting as an underwater model, spotting small creatures for macro images, or perhaps holding a photo lamp to create an interesting effect in the image are some of the many things your buddy can do.

—Leaving you is not one of them!

Find a productive photo dive site

I have often made the basic mistake of having too high expectations of the dive site where I teach, but choosing a very basic site when learning new things is vital. The phrase, "productive site", simply means a good dive site where you are comfortable and where the entry and exit areas are very easy.

Easy access is important in case you need to re-think your shooting strategy. Finding such a site is usually not too hard. Most experienced underwater photographers usually have a local site they know very well, which they use to try out new equipment and techniques.

Doing a dive with the purpose of taking pictures is like putting on a new set of glasses. Things that were previously hidden are suddenly easy to find!

A productive site can be fun and very cozy at the same time. Find a little harbor with some stone formations, leftovers from construction, some nice vegetation or a little wall with a drop off just a few meters high—and your happiness is complete!

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Pick a productive dive site—one that is easy to enter and exit

photo & video

Sea & Sea RDX-100D Housing

Sea & Sea has released its new housing for the Canon EOS Rebel SL1/100D. The RDX-100D is made of black polycarbonate and is supplied with two fiber optic ports as standard, but can be fitted with Sea & Sea's internal YS TTL convertor. The new housing also features a redesigned focus/zoom control and is compatible with the company's magnified viewfinders.

Nauticam NA-70D Housing

Nauticam has announced the release of their new housing for the Canon EOS 70D. The NA-70D shipped from the 1st of October and features a new vacuum seal check and leak detection system as standard along with much of the new Nauticam functionality that was introduced with the NA-6D housing. The Nauticam NA-70D housing will retail for $3,300 in the United States.

Sony A7 & A7R

In a move that has been somewhat anticipated through various media leaks, Sony has released its new Alpha A7 and A7R full-frame mirrorless interchangeable lens cameras. Virtually identical externally, the bodies of the two cameras feature a pentaprism-like EVF housing, generous handgrips and a nice assortment of manual controls for the enthusiast user. However, under the skin there are some significant differences with the A7R boasting a 36MP sensor with the optical low-pass filter removed to enhance the image sharpness—the sensor is rumored to be the same one in the Nikon D800E. The less expensive A7 has a 24MP and retains its low-pass filter. Both the A7R and A7 bodies are designed around the Sony NEX E-mount lenses, but if those lenses are used the image will be cropped and the new 'FE' lenses are needed to take advantage of the larger sensors. Sony Alpha DSLR lenses can also be used with either the LA-EA3 or LA-EA4 lens mount convertors. The Alpha A7 will be available as a body-only kit for US$1,699 or with a new 28-70 F3.5-5.6 OSS lens for $1,999. The A7R is not bundled with a lens, and is priced at $2,299. Both cameras are expected to ship in December.

The New Nikonos?

After weeks of unconfirmed rumors, Nikon has announced what could be considered as the successor to the legendary Nikonos underwater film cameras. The Nikon AW1 is a rugged, waterproof mirrorless interchangeable lens camera, which has been released with a pair of equally tough lenses and all for a starting price under US$800. The Nikonos film cameras were the state of the art for underwater photography from when they were first released in the 1960s through to the advent of modern housings in the mid 1990s and are fondly remembered by many who used them. The new Nikon AW1 is basically a ruggedized version of Nikon's 1 J3, but is only waterproof to 15m (49ft). It is, however, shockproof from up to 2m and protected against cold as low as -10°C. The two new lenses are ruggedized versions of the 11-27mm (30-74mm equiv) and 10mm (27mm equiv) which are part of the existing Nikon 1 System. Nikon is stating that the AW1 is compatible with all of its 1 System lenses, but it will not be water, shock or freeze-proof with any of the other lenses.

Ikelite EOS 70D Housing

Ikelite has announced their new housing for the Canon EOS 70D. The new housing features built-in proprietary circuitry which, if used with Ikelite DS Substrobes, provides full TTL exposure control. The video record start/stop and AF lock controls are provided as levers on the side of the housing, which is also supplied with an aluminum tray and dual handles. Ikelite started shipping the EOS 70D housing from early October at a United States retail price of $1,600.

Olympus OM-D E-M1

Olympus has announced the release of its new flagship mirrorless camera, the OM-D E-M1. The new camera features a 16 Megapixel Live MOS sensor, together with version VII of the TruePic image processor. Olympus is claiming superior auto-focus from the OM-D E-M1 because of its DUAL FAST system, which can use either phase or contrast detection depending on what lens is fitted. The OM-D E-M1 also features a very nice full magnification electronic viewfinder. Although larger than the very highly regarded OM-D E-M5, the new Olympus offers the ability to use both the Four Thirds lenses (with a new adaptor) and the Micro Four Thirds lenses, which will appeal to legacy Olympus owners.

Nikon's D610

In a move that has been widely rumoured on the internet, Nikon has released its D610 Full-Frame (FX) DSLR camera. It seems that the new camera is the solution for the sensor oil spotting problem that occurred with its predecessor the D600. There are only three new features on the D610 compared to the D600, with the major one being a new shutter mechanism allows for 6fps continuous shooting and a quiet continuous mode at 3fps. The new shutter is the solution to the oil spotting problem and the D610 is available from late October at a U.S. retail price of $1,999.

Sealux Lumix GH3 Housing

Sealux has released its new housing for the high-end Panasonic Lumix GH3 mirrorless camera. The CSGH3 housing provides access to most of the high-end Lumix's camera functions, plus Sealux states that it can also can be fitted with an optional HDMI bulkhead. The housing is small in overall dimensions to take advantage of the minimal size of the GH3 and features large o-rings and double control shaft seals to maximize overall integrity. The CSGH3 housing is made of a seawater-proof aluminum alloy and is CNC milled out of a monoblock, anodized in black and powder coated on the outside. Sealux are advising that the housing is available now at EU€1,799.