



# Going Wide

Text and photos by Kurt Amsler  
Translation by Peter Symes

**The notion that wide-angle lenses can only be used for large subject matter is common, but erroneous. Wide-angle lenses are truly all-around lenses that can be used both for frame-filling shots of Sperm whales as well as capturing the fine details of delicate coral branches.**

Wide-angle lenses can be divided into three categories: 1) standard wide-angle with focal lengths from 28 to 40 mm (film equivalent); 2) super wide-angle with focal lengths from 17 to 24 mm; and 3) a special type of super wide-angle: the fish-eye, which covers angles of 180 degrees and above.

The great advantage of wide-angle lenses is that they make it possible to include a lot of the background in the image even at close distances to the subject.

A wide-angle lens should not be forgotten. Always go as close to the subject as possible to minimize the loss of colour and brilliance from absorption and diffusion in the water.

### Placing the flashes

The wider angle a lens covers, the more care needs to be taken to ensure proper illumination with flash. Modern underwater strobes are capable of illuminating an angle of approximately 100 degrees, so if you use a wide-angle lens of, say, 17mm

Go as close to the subject as possible to minimize the loss of colour and brilliance



Text and photos by Tony White

With any large sceneries flash can only be used to add touches to specific areas



(film equivalent), which covers an angle of 105 degrees across the diagonal, dark areas will appear in the corners unless two strobes are used. To avoid backscatter from suspended particles, there needs to be a substantial distance between the flash unit(s) and the camera—about 80 cm (a little less than three feet) is good.

If you are using one flash only, it is best to position it along the camera's vertical axis, but if you are using two, place them along the camera's horizontal axis to ensure proper illumination of the whole image.

A good wide angle image will inevitably contain a lot of ambient light, and this must be taken into account if we want to bring out all the colours of a reef in their full splendour against a beautiful blue background.

### Composing the image

Shipwrecks, landscapes or large marine animals (whales, for example) will always

primarily be illuminated by ambient light, as obviously these objects are too large to light up by artificial means. In these case, flash can only be used to add touches to specific areas. It also recommended, in these cases, to shoot at an angle of 30 degrees towards the surface in order to add some perspective and depth to the image. Avoid shooting straight down.

When shooting portraits of divers in wide angle—such as a diver with fish or coral behind her—the best shooting distance is from 0.8 to 1.5 meters. In these ranges, the light of the flash will be stronger than the ambient light, so measure the background light at an angle of about 45 degrees towards the surface and set the exposure accordingly. This will produce a nice deep blue background.

*TIP: In order to avoid too much flash in manual mode, you can take the reading from TTL-system, but then add a diffuser, so that the light is softer.*

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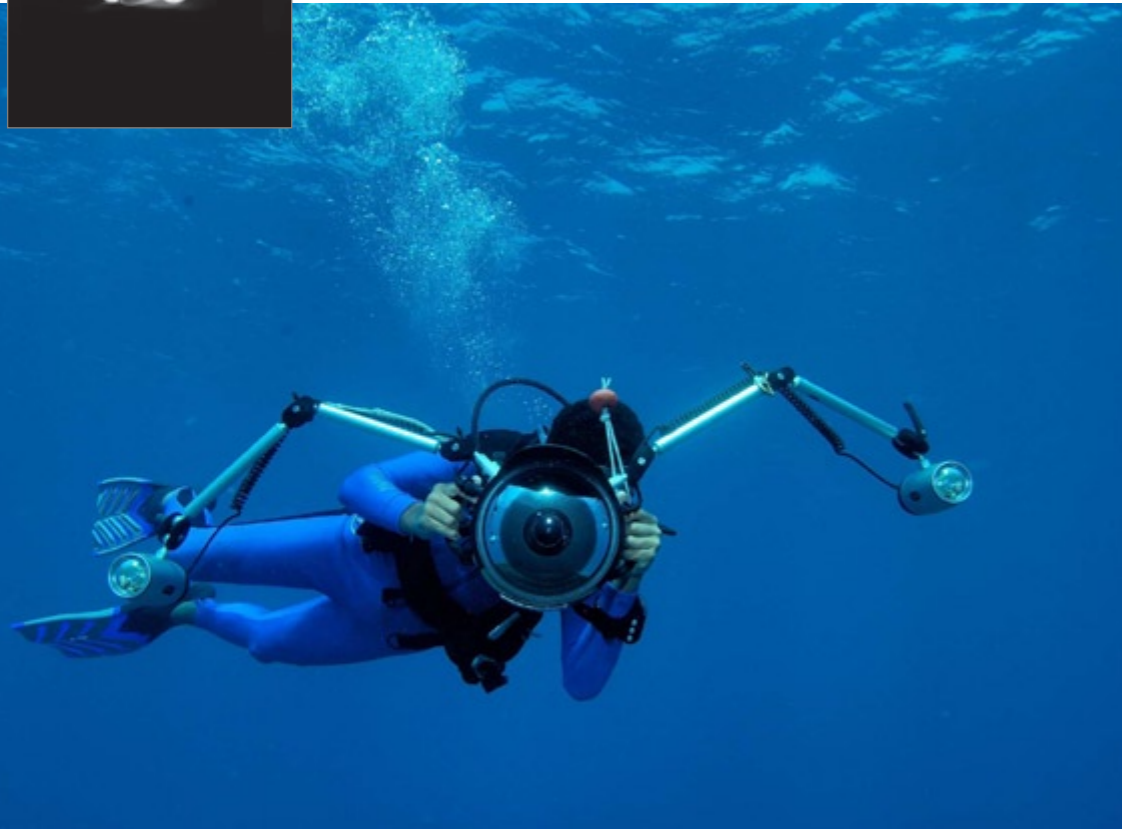


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Below: When using two strobes they should be aligned along the horizontal axis. Right: Note how the lighting helps create a 3-D effect



Wide-angle close-ups allow for a very short shooting distance. With a 20 mm lens, it is approximately 20 to 25 cm, and a fisheye only 10 cm. Although it can be challenging to find the proper perspective, get the composition right, and the illumination, even at such short distances it is often worth the extra effort. Practice the technique, because there will still be a big area in the image beside the main subject matter.

Be aware that even if the camera is close to the subject, the flash may not be, in which case, you should not switch the flash into macro mode if it has a such. The main issue here is the distance from the subject to the flash, which might be positioned well above or beside on a long strobe arm.

### Three dimensions

The biggest challenge in wide-angle photography is recreating a sense of depth and capturing all three spatial dimensions. For this, lenses with an image angle of 100 to 180 degrees are ideal.

To achieve a three-dimensional effect, the image must be defined along all three optical axes: from the extremely close focus, starting in the corner of the image, to the main subject, which should be located approximately in the centre of the image, to the background, which rounds off the picture.


If all three image planes are incorporated correctly, it will create a vivid effect that cannot be achieved with any other focal length. The difficulty of this technique lies in unifying sharpness, lighting and composition into a complete

whole, but as is often the case: practice makes perfect!


These techniques are not reserved for owners of expensive, housed, single lens reflex cameras. Modern compact digital cameras also come with wide-angle capabilities. Several manufacturers such as Sea & Sea, Epoque and Inon also offer wet lenses and adaptors offering image angles of up to 165 degrees. These relatively affordable gadgets can turn the standard 35mm, which comes with the camera, into a super wide-angle with a focal length of 20mm, thanks to their multiplication factor of 0.56. Another benefit is that these adaptors, or wet lenses, are mounted on the outside of the housing, making it possible to change focal length under water. The downside is that the



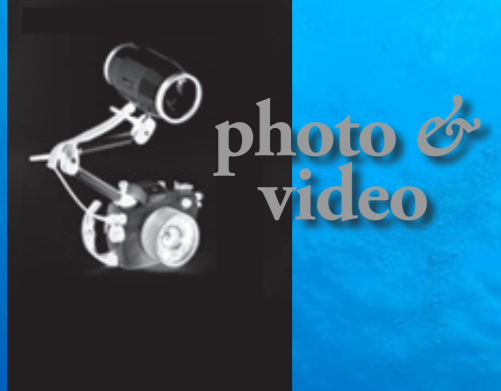
Wide-angle close-ups allow for a very short shooting distance



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When using a single flash it should be aligned with the camera's vertical axis

light on the film or CCD sensor. Secondly, it also allows for the use of smaller and lighter flash units.

In wide-angle photography, the ambient light always plays a very important role, as flash will only be capable of illuminating a smaller part of the big picture. The flash can illuminate the foreground and the main subject, while the ambient light will constitute the background and the blue water.

To ensure that we capture enough ambient light, we adjust the shutter speed to match the aperture, pretending for a moment that we have no flash. Then we use the built-in camera light

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perspective, saturated true colours, and a superior image quality.

Having the overall image in mind, it is important to consider the position of the flash in order to obtain a uniform illumination, so that the image is not marred by a cloud of suspended particles. Here the rule applies: the wider the angle, the further away from the camera the flash must be positioned. With a picture angle of 100 degrees, that means at least 80cm.

quality is never as good as what you get with a housed single reflex camera.

Using a wide-angle lens at the same distances as standard lenses makes no sense in underwater photography. Move close to the subject to achieve a dynamic

depth of field in contrast to standard and macro lenses. It is therefore possible to work with smaller apertures than f:8. This has two advantages. Firstly, using apertures from 5.6 to 8 enables you to use faster shutter speeds and still get enough ambient



If your main subject is a diver, using angles of more than 90 degrees may result in gross distortion of proportions.

This turtle would be distorted if it came any closer



meter to establish the proper flash power setting corresponding to this particular combination of aperture and shutter speed. It will often be listed on an attached table glued onto the side of the unit.

### Good planning is paramount

Clear water and abundant sunshine make for the best conditions when shooting wide-angle. If the weather is bad, it is probably better to use the day for macro photography.

Wide-angle lenses are ideal for recording distances from 0.8 to 1.2 meters, but be aware that if your main subject is a diver, using angles of more than 90 degrees may result

in gross distortion of proportions.

Composition is especially important in the wide-angle photography, and the general rules are the same as on land. A wide-angle image must include three parts: a near foreground, the golden mean, and a background.

Wide-angle lenses also make it possible to make high quality pictures in turbid waters. These kind of circumstances often produce stunning high-contrast imagery. When shooting in cloudy waters, less light must be used if we are to obtain better and clearer pictures. In other words, never shoot in TTL mode, but use manual flash mode, using

only the 1/4- or 1/2-power settings instead.

Wide-angle photography is arguably the most sophisticated technique in underwater photography. The equipment does not allow room for much compromise and many important factors must be considered simultaneously. For this reason, it is important to become familiar with the equipment in steps and not set out by putting an 180 degree fish-eye lens in front of the camera in the first try.

For more information on underwater photography workshops, please visit Kurt Amsler's website at: [www.photosub.com](http://www.photosub.com) ■

In confined spaces it easy to stir up particles

When shooting in cloudy waters, less light must be used if we are to obtain better and clearer pictures

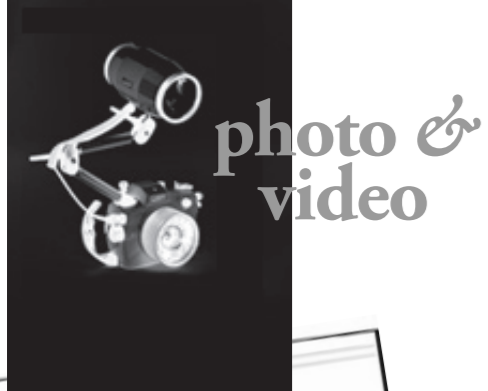
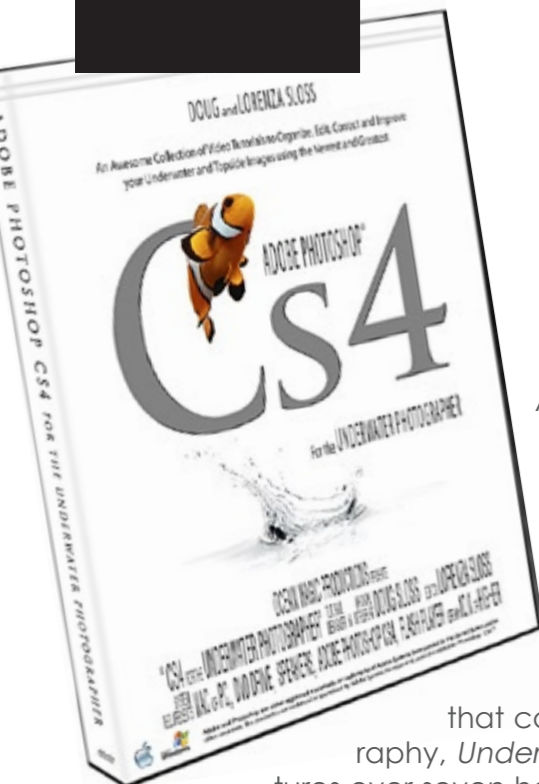


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## CS4

Acclaimed underwater photographers Doug and Lorenza Sloss have released *Underwater Photoworkshop*, an instructional DVD.

The tutorials are geared towards the underwater photographer with tips on RAW conversion and output

that can be applied to all photography, *Underwater Photoworkshop* features over seven hours of video instruction, and can be viewed on any DVD player.



## Ikelite DS161 Movie Substrobe

As more new digital SLR's come equipped with HD video capabilities, there has so far been a dearth of lighting products that provide both flash and continuous lighting. The DS161 features three high-power LEDs providing an output of 500 lumens at 5000-5500K with a 45° beam angle. While not wide enough for shooting wide-angle video, it is more than adequate for fish portraiture or macro. The continuous lighting beam runs for five hours on a charge and has nine power levels. Ikelite will offer an upgrade for existing DS-160 owners, but not for DS-125 owners. The strobe is available for pre-order for a retail price of \$950 and ships in late December, 2009.

[www.ikelite.com](http://www.ikelite.com)



## Hasselblad

The Ultima digital housing for the HASSELBLAD H3DII medium format digital camera has made it possible for underwater photographers to experience the legendary Hasselblad quality land-based photographers have enjoyed for years. Tested to a depth of 250 feet, the sturdy cast aluminum construction features a manual focus wheel, adjustable handgrips, twin flash connectors and easy access to camera functions. A variety of ports are also available including a 9.25" optical glass domeport, 5.7" optical domeport and a 5.7" optical flatport.

[www.ultimadigital.com](http://www.ultimadigital.com)



## Aquatica D7

Hot on the tail of their newly released D300s housing comes Aquatica's latest addition, a housing for the new Canon 7D. With an 18MP APS-C CMOS sensor and 1080p HD video recording with manual controls, the 7D housing features easy access to the vital video function controls while retaining its ease of operation. Being introduced on Aquatica housings for Canon are the options of Optical Fiber and/or regular Nikonos and Ikelite bulkhead. The bayonet mounting is compatible with all Aquatica accessories and ports.



## Subsea magnifier

ReefNet's

SubSee Magnifier is a high-quality close-up lens specifically designed for underwater photographers and videographers. Used on its own or mounted in a SubSee Adapter, it is available in either +5 or +10 diopter versions.

The +10 version can increase camera lens' magnification by up to 3.5x. The 52mm diameter lens offers a wide field of view compatible even with full-frame DSLR cameras (36mm x 24mm sensors).



## Nauticam, D90 D700 and D7

Nauticam's new housing for the Nikon D90 is the first to bring the D90's live view and ok/record buttons to the right handle in a single control. Convenient switching from still photo to live view/video eliminates the awkward reach required by other housings in order to start recording video clips. Along with the rugged aluminum construction, each housing comes with Nauticam's unique port latch mechanism. Rotating the port release lever rotates the locking bayonet tabs while the port remains stationary. [www.nauticamusa.com](http://www.nauticamusa.com)



## Remora Remote

The Remora Remote by Bluewater Camera offers remote or time lapse controls for any housing. With SLR focus and fire as a standard controls, the 3-button remote is waterproof to 100 metres and can be easily customized to suit any job. Easily integrated with Bluewater's IR and USB camera control modules, cable connectors are available in Ikelite, Nikonos or S6 configurations. [www.backscatter.com](http://www.backscatter.com)

## Sea and Sea YS-01

Sea & Sea has revealed a prototype for its brand new strobe brand new strobe, the YS-01. Although 1/3 stop less powerful than the YS-100a, it is more compact and supports DSTTL for optical flash TTL. The YS-01 has done away with wired sync, supporting fiber optic sync only. Priced at US\$430.00, the release date will be sometime in January. The YS-02 strobe is a manual-only, 8-power version of the strobe and will be priced even lower. The YS-02 should be available in March.



## FIX

(Fisheye Japan) has released their new housing for the Canon G11. The super-compact but robust design features an ergonomic shutter release and easy access to all camera controls. The housing zoom control features a unique 'screw-down' limiter to prevent accidentally zooming the camera when using the wide angle converter. Adapters for the popular 67mm wet mount macro lenses or Inon AD mount macro lenses add even more versatility, or go really wide with the FIX UWL-04 Fisheye conversion lens.

## Ultramax

Be it shooting on land, snorkeling or scuba diving, UltraMax's UXDV-1 High Definition Video Camera fits the bill. Rated to depths up to 185 ft (55m), photographers will enjoy the choice between high definition video or 8 Mega Pixels still images. The camera is protected by a silicone jacket that acts as a second stage in the event of failure of the polycarbonate housing. The jacket alone will protect the camera during snorkeling, white water rafting or the effects from dust, mud or rain. [www.ultramaxincorp.com](http://www.ultramaxincorp.com)



## Ikelite Design announces changes to DSLR Port System

As of 1 November 2009, all Ikelite housing port systems will come equipped with a simple and reliable port system featuring four locks for added user confidence and fail-safe assembly. All existing port components with the exception of the #5510.10 Superwide Port Body are fully functional with the new port system. Housings shipped after November 1 will also feature a new 1/4-20 threaded mounting point for the attachment of a focus light, video light or other lightweight accessories.



ERIC CHENG