

Close Focus Wide Angle

By Alex Mustard

Close Focus Wide Angle (CFWA) is one of the core techniques in underwater photography and despite being simply a subdivision of wide angle, for photos taken at distances closer than 60cm (2 feet), it requires quite specific techniques. This close working distance creates unique challenges in lighting and framing photographs, but by forcing perspective it creates images that grab attention. CFWA can be challenging initially, but once mastered it is actually one of the easiest techniques in underwater photography. The aim of this article is to set you on the track to success.

We all know the mantra “Get close. Get CLOSER!” is fundamental underwater photography advice. It helps us produce pictures that have more colour, contrast and detail in the murky underwater world. But when we get close with a wide angle lens we reap another benefit. Short camera to subject distances force the perspective of the picture, so that the subject appears larger than it is and it seems to pop out of the background creating an almost 3D image. The resulting photos have high impact, especially when the foreground subject is colourful or a charismatic creature.

CFWA is best shot with fisheye lenses on both SLR and compact cameras. Fisheyes focus close and their unmatched, ultra-wide coverage allows us to create the most dramatic images. Rectilinear (non-fisheye) wide angle

lenses (e.g. 16-35mm, 14-24mm) can be used for CFWA, but cannot force perspective as much as fisheyes creating more realistic, but less exciting perspective. The best lenses are 180 degree corner to corner fisheyes (e.g. Canon 15mm, Nikon 10.5mm, 16mm, Tokina 10-17mm etc depending on your camera). Occasionally, we may want to use a slightly tighter view, which is easily achieved if you have a Tokina 10-17mm. In addition, prime fisheye lenses can be fitted onto 1.4x and 1.5x teleconverters to reduce their coverage for certain subjects.

From an exposure point of view we should think of CFWA images in two layers: a flash-lit foreground (controlled by aperture and strobe power) and a background illuminated by ambient light (controlled by aperture and shutter speed). Since aperture affects both, it is simplest to adjust this as little as possible. For example with CFWA we will get adequate depth of field with an aperture of F5.6-F8 on a compact, F8-F11 on a DX/APS-C SLR and F13-F16 on a full frame SLR. So we can set the aperture and then adjust flash power to alter foreground exposure and then the shutter speed to alter background exposure independently.

We should not be afraid of using long exposures if necessary in deep or darker water, and it is easy to shoot sharp images down to at least 1/10th, as the foreground will



Close focus wide angle is a classic technique for producing three dimensional images where the subject pops out of the background.

Nikon D700 + Sigma 15mm FE lens. Subal housing, 2x Inon Z240 strobes. F14 @ 1/80th. ISO 800.



(Far left) Despite the large scene recorded, I was less than 1 foot (30 cm) away from the seafan, but was able to fit it into the frame because of the ultra-wide coverage of my fisheye lens. Ulysses wreck, Red Sea. Nikon D2x + Nikon 10.5mm FE lens. Subal housing, 2x Subtronic strobes. F8 @ 1/40th. ISO 100.

(Centre) A 180 degree fisheye can be a bit wide to fill the frame with small subjects. If you have a Tokina 10-17mm or a compact camera, you can zoom in. Alternatively you can fit a teleconverter to your fisheye lens to reduce its angle of coverage. Anemonefish, Red Sea. Nikon D700 + Nikon 16mm FE lens + 1.5x teleconverter. Subal housing, 1x Subtronic strobes. F10 @ 1/125th. ISO 200.

remain sharp because it is frozen by the flash. When using long exposures it is beneficial to use rear-curtain flash synch (if available) to render any blur on moving subjects (e.g. swimming fish) pleasingly.

Producing correct exposures of CFWA images is relatively easy, the main problem I see (regularly) when teaching this technique is a badly lit foreground subject. The exposure is correct, but the strobe positioning is giving a poor quality of light. Most commonly the centre of the subject is slightly shaded and the edges of the frame are over lit, really drawing

the eye away from the main subject. The key to good lighting in CFWA is to understand the consequences and to compensate for the really close camera to subject distance.

The main cause of poor lighting in CFWA is photographers positioning strobes too far out from the dome. There is a widely held misconception that wide angle lenses always require long strobe arms. They do if the subject is further than 60cm (2ft), but once we start shooting CFWA they do not. If we try and shoot CFWA with our strobes on long arms we will light (and often burn out) the sides of our

subject and leave the centre of the subject in shade.

The key rule is that the closer we get to the subject, the tighter the strobes need to be. And adjustments become more critical the closer we get. Once we are within 15cm (6") we need the strobes in very tight to get the optimal quality of lighting. Of course, if we do not get close enough, such strobe positioning could produce backscatter.

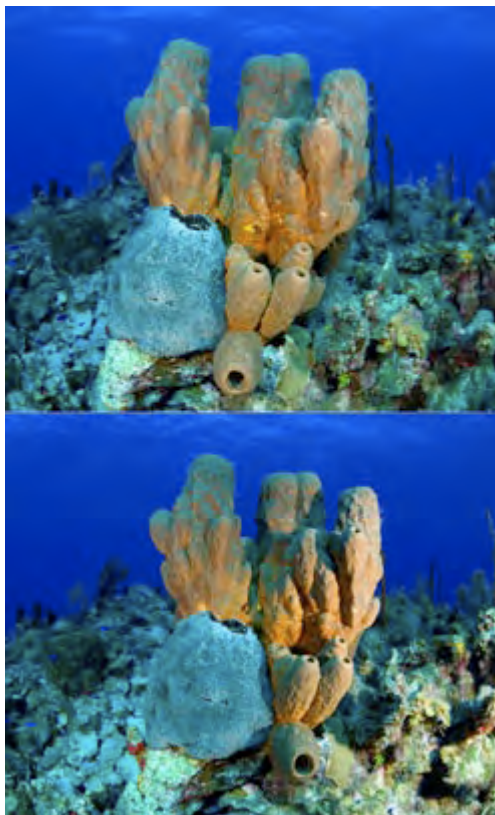
Generally, I place my two strobes either side of the port, pulled back so that the front of the strobes is behind the back of the port to

(Right) From an exposure point of view we should consider CFWA images in two layers: a strobe-lit foreground and an ambient light lit background. North Wall, Grand Cayman. Nikon D2x + Nikon 10.5mm FE lens. Subal housing, 2x Subtronic strobes. F11 @ 1/80th. ISO 100.

avoid flare. I generally point them straight ahead for CFWA (60cm), and slightly inwards when very close less than 30cm (1 foot). When shooting horizontals, for most subjects my strobes are at the same height as the lens (3 & 9 o'clock). But when the main subject is on a flat seabed, I lift them up above the housing (2 & 10 o'clock) to avoid overexposing the foreground seabed, but still point them forward.

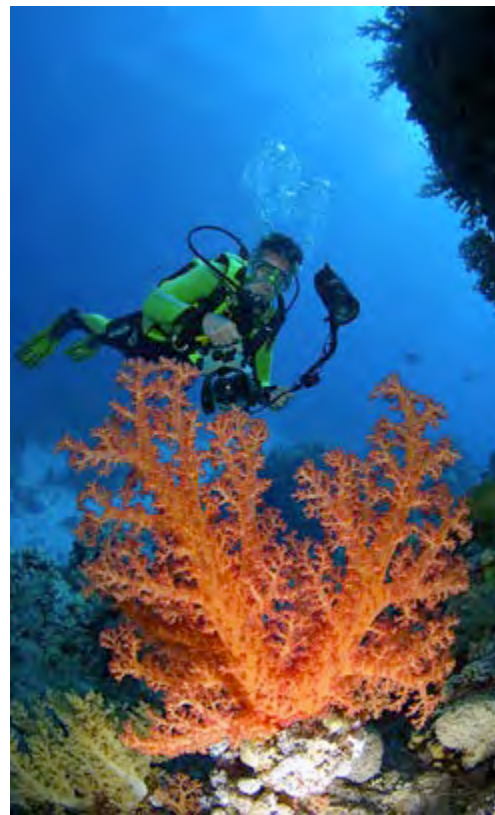
CFWA compositions are probably even better suited to the vertical format. When the subject is in open water or sticking out from a wall we can leave the strobes in the same position as in horizontals. Now that the camera is rotated, they will be above and below the port (12 & 6 o'clock). However, the second common problem in CFWA photos is too much up-lighting in verticals, which on most subjects looks unnatural (sunlight comes from above) and drags the eye to the bottom of the frame.

In vertical compositions we get this uneven illumination simply because the lower strobe is significantly closer to the subject than the upper strobe, so if they are on the same power the bottom of the frame will be much brighter. If you use TTL they will be on the same power. As a guide, we must reduce the power of the lower strobe by at least two



stops compared with the upper strobe (that is 4 clicks on an Inon!). When shooting a subject on the seabed, I swing the strobe round until it is on the side of the port (12 & 10 o'clock) and reduce its power further, which also allows me to get the camera lower. In vertical CFWA, the upper strobe is doing almost all the work and you can try turning off the second strobe and see how little difference it makes.

CFWA, by definition, requires the photographer to manoeuvre very close to the subject, and before



going in to take any CFWA image we must be certain that we can do so without damaging the environment. Some subjects will always remain inaccessible (particularly if you have long strobe arms folded over on themselves) and the best images come from subjects that give us space to work, so we can find the perfect angle for the composition. Small changes in the position of the camera will make big changes in the relative positions of the foreground and background in the frame.

When building a CFWA

(Far left) When strobes are too far out from the camera in CFWA, they will over expose the sides of the subject, while leaving the front of it in shadow (upper image). Pulling them in tighter to the camera will produce more even illumination on the front of the subject, the side that faces the camera (lower image). The difference in strobe positioning in these two examples is actually less than 1 foot (30cm). Sponge, Grand Cayman. Nikon D700 + Sigma 15mm FE lens. Subal housing, 2x Subtronic strobes. F13 @ 1/60th. ISO 200.

(Right) This photo was taken with both strobes, positioned at 12 & 6 o'clock, set on the same power. Because the lower strobe is much closer to the subject than the upper strobe, much more light is reaching the bottom of the frame, creating an unnatural looking uplighting effect, which pulls the eye to the bottom of the frame. For a more pleasing exposure the upper strobe should be two stops more powerful than the lower strobe for this type of image. This is one reason why TTL will not give the most pleasing lighting for wide angle, even when it gets the exposure correct. Soft coral and diver, Red Sea. Nikon D2x + Tokina 10-17mm FE lens. Subal housing, 2x Inon strobes. F8 @ 1/125th. ISO 100.



photograph we must find both an interesting subject and also an attractive background. The challenge is finding these in the same place! I often search for an interesting background first and then look for a suitable foreground, the right distance away and on the right angle to work with the background.

The background of a CFWA image is important as it gives the image depth which leads the eye through the frame. Solid blue water backgrounds are the duller CFWA backgrounds and add little to the photo. We can improve

on them by incorporating some surface texture and/or sun beams and most importantly by finding a silhouetted background subject. As the background subject will only be illuminated by ambient light (diffuse light), the best choices are simple shapes that have strong contrast and that make sense to the viewer in silhouette. For example, a reef wall against the surface, divers, the legs of a jetty, a cave or archway, silhouetted kelp, seafans etc. These subjects will boost the impact of the shot.

The final element to consider is the portable CFWA background:

a model. Using a human silhouette in the background of CFWA images creates additional interest and also gives the photograph a visual depth. However, it is worth noting that empty blue backgrounds can be desirable when images are needed for editorial or advertising use, with text overlaid on them (e.g. magazine cover).

Once we have our background, then we need a foreground subject and these are relatively easily selected. Colourful, interesting or charismatic subjects that can be easily approached all work well. When we are diving in clear blue water we should look

(Far left) Backgrounds are vital for strong CFWA shots and I often search for a background first. I felt that the silhouetted kelp forest would make an excellent background, and spent my dive beneath it searching for foregrounds. Although a starfish is not the most exciting subject, the background makes the shot interesting. Nikon D3 + Sigma 15mm FE lens. Subal housing, 2x Inon strobes. F13 @ 1/50th. ISO 800.

(Centre) To demonstrate the importance of backgrounds in completing CFWA shots, I have painted out the background of the (upper) original lionfish shot to represent the image if I have taken it against open water (lower image). Backgrounds give the image depth and also contribute to the 3D perspective, giving the photo much more impact. Nikon D2x + Nikon 10.5mm FE lens. Subal housing, 2x Subtronic strobes. F13 @ 1/125th. ISO 100.

(Right) By pulling my strobes in tight to the port I am able to get an even illumination of this soft coral. Despite the turbid conditions of the mangroves this does not produce unacceptable backscatter because of the very short camera to subject distance. Nikon D700 + Sigma 15mm FE lens. Subal housing, 2x Inon strobes. F14 @ 1/250th. ISO 200.



Diver silhouettes are excellent additions to the backgrounds of CFWA photographs. Perhaps they are most valuable for giving an image depth when a great subject is not near a suitable background. Divers are moveable, after all. Generally they are a positive addition to any CFWA shot. Seafan in cave, Raja Ampat. Nikon D700 + Sigma 15mm FE lens. Subal housing, 2x Inon strobes. F13 @ 1/15th. ISO 200.

for warm colour subjects (red, orange, yellow) because these are complementary colours to the water, giving the most colour contrast and creating the most impact. Large creatures do not always suit CFWA. Sharks, for example, become distorted or tadpoled (big head, tiny body) when photographed close to fisheye lenses.

This article is already two

and half times the word count I was given! And I have only discussed the basics. There is so much more to say and there are exceptions to just about every bit of advice I have given. But I hope that this article helps you get more from your CFWA photography.

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