

Shooting in Low Visibility

By Mathieu Meur

Not all underwater photographers are lucky enough to be diving all year round in gin-clear waters. In fact, a large proportion of photographers commonly dive in areas where visibility is rather limited, and only get to dive clearer waters a few times a year at best. If you are one of the lucky few others, read on anyway; the advice given here works in clear water too!

Numerous divers are discouraged by the prospect of diving in low visibility, let alone taking pictures in these conditions. Leaving your camera behind would be a shame given the amazing wealth of shooting opportunities that can be found in areas where visibility commonly is limited.

One of the keys to success when shooting in low visibility is to know what to expect during the dive. If you are not familiar with the area you are diving,

you should discuss with dive professionals to find out the types of subjects available. This will assist you in selecting the most suitable setup for the dive, and even more importantly alert you to the presence of particular photo opportunities.

While knowing the area goes a long way to improving your chances of getting some good shots, going slow and opening your eyes wide certainly helps much too. If you are on the lookout for macro subjects, going slow will reduce the likelihood of passing by a prized critter. If you are leaning towards wide angle photography on another dive, it is less likely that you will scare away a potential subject if you are moving at a deliberately unhurried pace.

Assuming that you find subjects that you would like to shoot, avoiding backscatter, the bane of underwater photographers, will be your next challenge. You'll find

advice on avoiding or limiting backscatter in every book on underwater photography: place your strobes to the sides of the camera and angle them inwards to minimise the number of particles that bounce light straight back to the camera. While it's easy to get complacent about strobe positioning in clear waters, strobe positioning can irreversibly damage a picture when shooting in adverse conditions.

When shooting macro subjects in poor visibility, bring your strobes forward as far as you can to minimise the column of water lit by the strobes. If you are after wide-angle shots, make sure to position the strobes far to the sides of the camera, and light your subject with the edge of the beam. Do check the LCD review screen once in a while to make sure that the results are in accordance with what you expected.

A side benefit of



A diver visits accessible areas of the Seven Skies Wreck. A very wide angle lens lets you get close but still cover a large area. (3m visibility) (Nikon D1X, Nikkor 10.5mm, F4.0, 1/60s, 2xInon strobes)

angling the strobes towards the subject, and brushing the latter with the edge of

the beam is that built-in modelling lights will not illuminate suspended particles

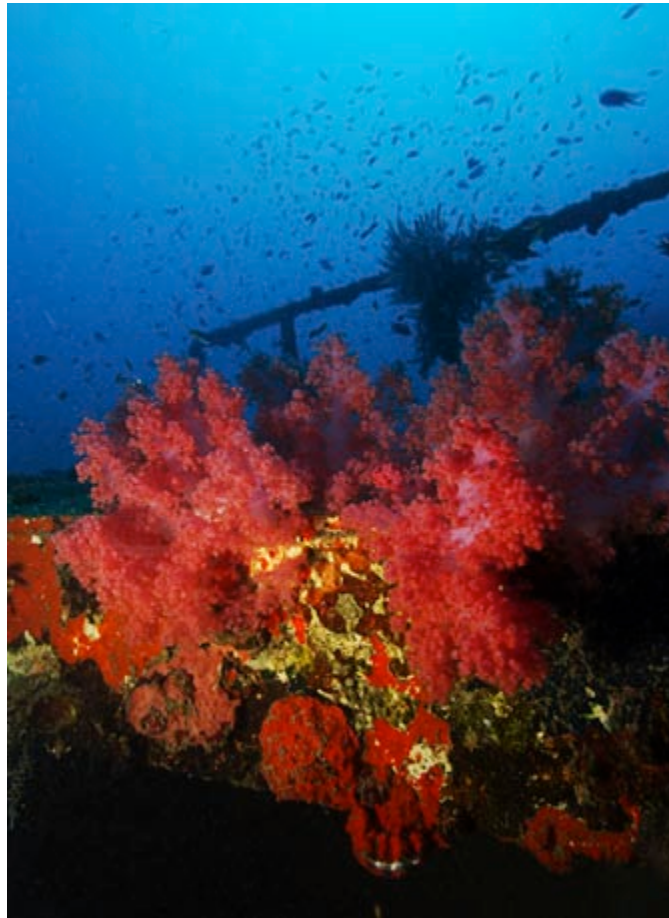


Poor strobe placement leads to severe backscatter (2m visibility).

located between the camera and the subject. If lights used for focus assistance are aimed directly at the subject from the top of the housing, this can fool the autofocus system (provided you are shooting in autofocus mode) into focusing on suspended particles, and the pictures generally end up out of focus.

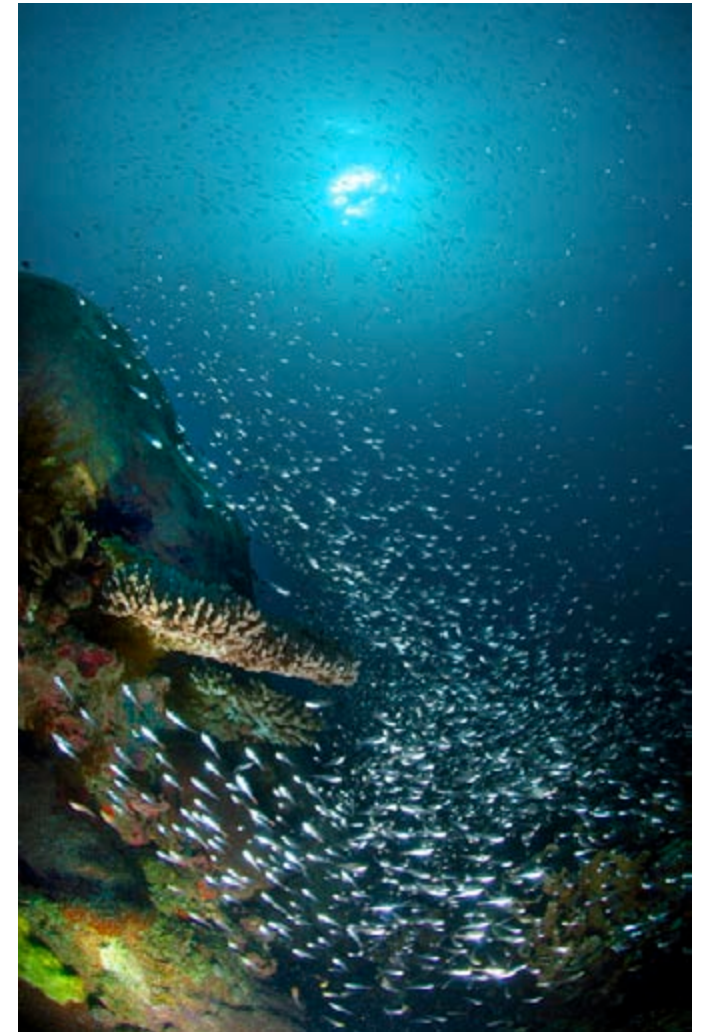
The motto of underwater photographers becomes of paramount when shooting in low visibility: get close! On any dive, this entails exercising good control over your buoyancy. In adverse visibility, it becomes even more important. Less than perfect buoyancy or an instant on inattention could land you in a sticky situation... quite literally. My left knee still remembers its encounter with a crown-of-thorns!

A corollary to getting close is that you should get a lens that focuses close. For macro shots, select a relatively short telephoto lens (say 50mm



or 60mm) with a short focusing distance. For wide angle work, go for as wide a lens as you can (ultra-wide or fisheye lens). These lenses not only focus close, but also distort the perspective to give the illusion of better water conditions. Properly lighting such lenses can be quite tricky and does require a fair bit of practice, but the results can be rather surprising, and are certainly worth it.

To balance foreground and background lighting, it is often necessary to adopt large apertures when shooting wide angle in poor



(Above) Using the vertical water column can give the illusion of better water conditions (about 3m horizontal visibility) (Nikon D1X, Nikkor 10.5mm, F10, 1/500s, 2xInon strobes)

(Above) Very slow shutter speeds can help balance foreground and background light nicely. Colourful subjects in the foreground improve shots overall. (3m visibility) (Nikon D100, Nikkor 12-24mm, F11, 1/20s, 2xIkelite strobes)

visibility. Another advantage of very wide lenses then becomes apparent: these lenses afford a very large depth-of-field, such that if you focus on the closest subject, the rest of the frame should also be in focus, regardless of the large aperture adopted.

Another benefit of using large apertures is that it further reduce potential backscatter. Since the amount of strobe power required to light the foreground is guided by the aperture and distance to the subject, for a given distance a larger aperture will require less strobe power. In turn, less strobe power means potentially less backscatter.

Should using a large aperture be insufficient to balance foreground and background lighting, u/w photographers can go for relatively low shutter speeds. An experienced diver with a good control over his buoyancy should be able to shoot at 1/15s or even slower while hand-holding the camera with little or no noticeable shake. Our movements are generally slower underwater. Therefore, it is possible to successfully adopt much slower shutter speeds than would be considered feasible on land. One key thing is to ensure that fast moving subjects are within the range of the strobes, so as to freeze the action. Otherwise, large sweeping trails could ensue.

In extreme conditions, where even while using very large apertures, the lack of available light would require adopting prohibitively low shutter speeds, a solution of last resort consists in boosting the ISO setting on the camera. Most housings allow access to this function underwater, so it should be possible to adjust this setting on the fly if conditions warrant it.

An interesting phenomenon that is commonly encountered by divers, albeit often without them being conscious of it, is that the vertical visibility is better than lateral visibility. This means that if you look up or down, you should generally be able to see further than if you look left and right. This is emphasized at mid-day, between 10am and 2pm.

With this in mind, photographers can make use of the vertical water column to increase the amount of available light coming into the camera. This helps balance foreground and background lighting with greater ease, and can also give the illusion of better water conditions.

One appealing alternative when shooting in shallow waters (less than 10-15m) with relatively poor visibility



Using filters and natural light offer real advantages in challenging conditions (about 5m visibility) (Nikon D100, Nikkor 10.5mm, F3.5, 1/45s, Magic Filter)

consists in doing away with strobes altogether, and utilising natural light only. This de facto eliminates the biggest potential problem associated with strobe lighting: backscatter.

Unfortunately, using natural light alone generally yields flat, colourless images, with some exceptions. By adopting filters adapted to the dive environment, one can create stunning pictures in the seemingly most adverse conditions. Shooting with filters requires special techniques

beyond the scope of this article, but for a start, red filters, or the popular Magic Filter, are highly successful at restoring natural colours in tropical (blue) waters, while in temperate (green) waters, magenta filters will fare better. Making use of the custom white balance function offered by most digital cameras will further enhance the beneficial effects of filters, generating what I would term as large 'colour depth' in pictures.

One obvious and easy way to



Using the right lens to get as close as possible to your subject will minimise chances of backscatter. (2m visibility) (Nikon D100, Nikkor 60mm,

of the viewer on this rather than other less-than-perfect aspects of the shot.

We all strive (or should!) to achieve the perfect picture straight out of the camera. Some call it Murphy's law, but as chance would have it, if you are going to have backscatter or other problem on only one shot, it is quite likely to be on the photo of that one subject that you'd never seen before, and will probably never see again.

It is relatively easy to remove some obvious spots of backscatter from a shot in Photoshop using the Clone

Stamp Tool, or the more recently introduced Healing Brush Tool. The latter is a better choice in most cases, as it preserves colour tonality, while applying the required texture. This results in more natural fixes. Describing the actual procedure is once again beyond the scope of the article, but it is good to at least know which tools are available to do the job.

Finally, it is also possible to use the Levels or Curves tools to balance

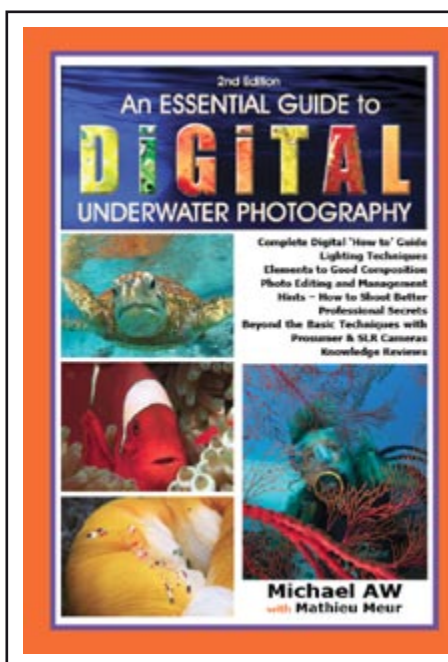
foreground and background in case of gross exposure differences. While these tools are available in Photoshop, it is actually best to fix this particular problem directly within the RAW converter if you are shooting in RAW format. Most RAW converters also offer the Levels and Curves tool, and it is generally less detrimental to the picture to do such adjustments within these programs. If you are shooting in JPEG, then it is fine to use Photoshop for this task.

Hopefully with these few words of advice, you not only will not pass an opportunity to dive and shoot in low visibility, but will actually see the quality of your shots improve despite the conditions!



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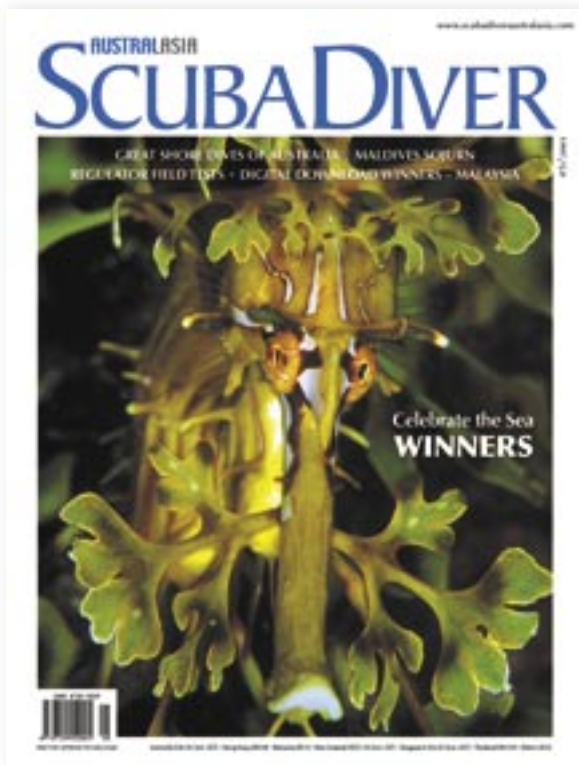
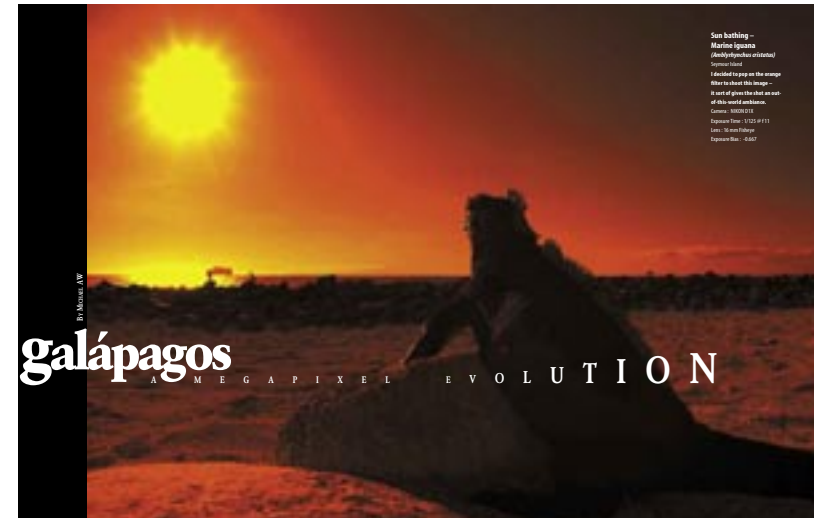


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