

Dancing with Light

by Leigh Bishop

Diving deep shipwrecks is a demanding past time, photographing them presents an even more technical and task laden challenge. Frustrated by ever-present backscatter Leigh Bishop explains why he swapped his strobes for a tripod and took the ambient light monochrome option.

The incredible infrastructure of shipwrecks that lie on the seabed around the world represents thousands of actual known sites, certainly a Mecca for wreck divers indeed. With a fair share of these wrecks a little on the deep side and as temperate as certain waters can be, the odds of capturing that 'Big' image of our rich maritime history' is stacked against us. As they say there's a means and a way around everything and abnormal as it may sound if setting a tripod & housing system up at a depth of 230ft/70m then shouting orders at your models is the way around, well then so be it. Deeper shipwrecks impose so many problems in diving them. You quickly get that feeling that someone above is letting you know you're not naturally supposed to be there. Physically altering and balancing partial pressures of gas mixtures in order to breathe is perhaps as good a reason as any on its own not to be there. Add to that all the extra equipment you need, knowledge, courses, the journey out to the site and getting the slack right, nature herself may have a valid point. Throw a camera in the equation and you could well find yourself questioning even your own sanity!

As with basic underwater photography



Divers at 230ft (70m) drift across a bulkhead break of the Justicia's boiler room. Afa scala 200 multi speed film pushed to 800ISO F22 – 4 secs

lighting & colour present they're own independent problems, the deeper you go technical problems to overcome begin to build. The filtration of light through water effects colour according to depth, take a calm millpond day for example with the sun high the first colours to be lost are reds & oranges at approx. 26ft/8m then yellows and greens at around 66ft/20m and finally blue at 115m/35m. Keep descending and from here on to keep those precious colours you have to take your own cans of

light in the form of strobes. Strobe lighting is yet another topic in photography circles that can never be complete, beyond 100ft/30m you're going to need some big mothers to illuminate large sections of wreck especially if you want to bring out colour as well. Artificial lighting also has a tendency to illuminate suspended particles in the water know as back scatter, a frustrating and ever present problem that haunts myself and no doubt many worldwide photographers.

Quickly we've identified two significant problems to overcome so instead of battling against the odds why not simply take them both out of the equation.

If depth increasingly takes away our colour, accept that's what's going to happen and shoot monochrome film. In doing so you may indeed change the entire mood of a typical shipwreck into a sense of reality not to mention dropping the stress of hunting for the colour itself. Professional land photographers regard monochrome work as their true integrity, underwater the reverse is perhaps more realistic, but many will agree black & white certainly has its place.

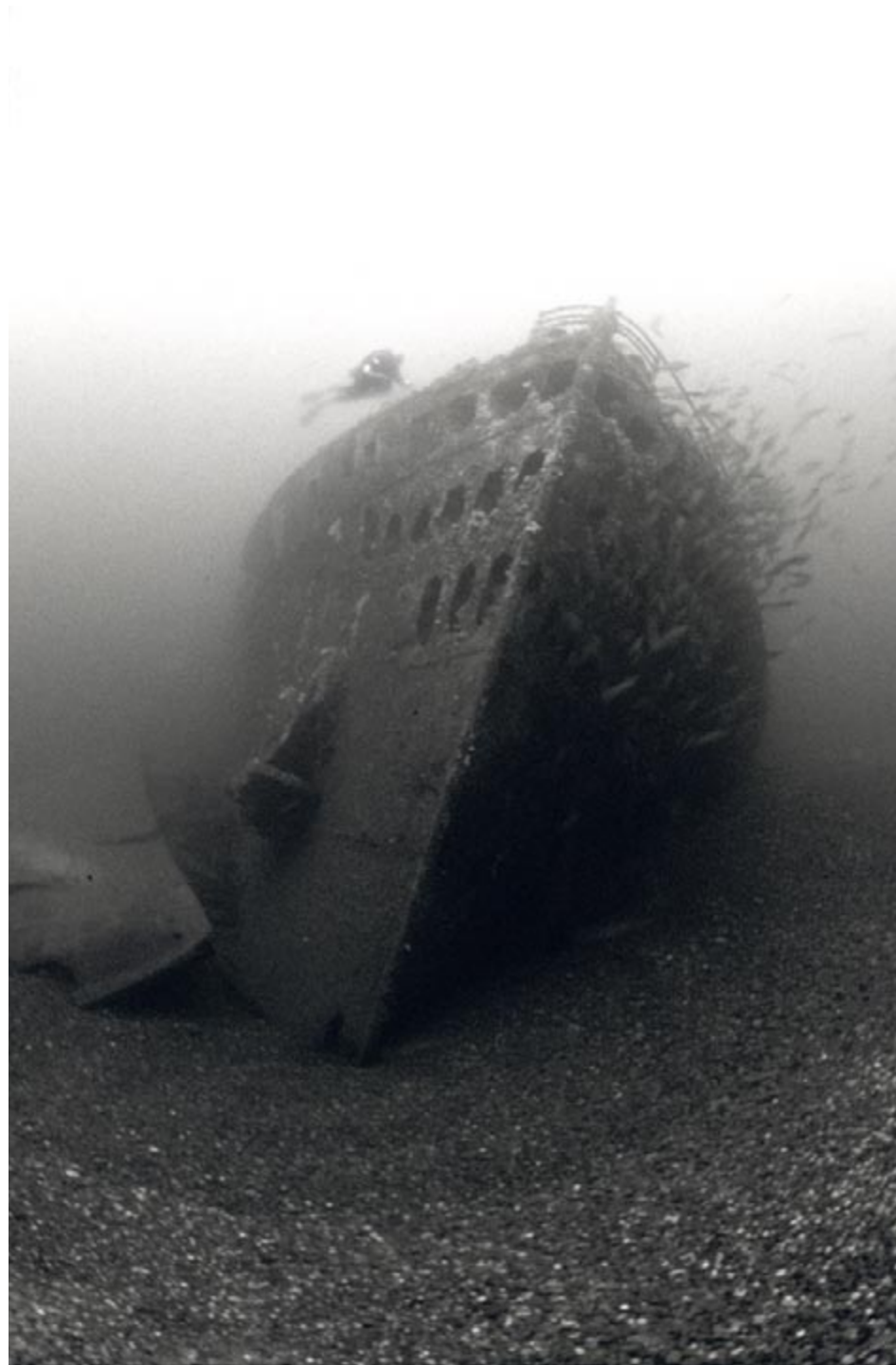
For me capturing huge sections of shipwreck in deeper waters has proved to be a meaningful test, flash photography simply wasn't going to happen. In order to capture the large sections on film meant backing off some distance to fill the lens appropriately; even with a large guide number the strobes were just not powerful enough. Like the colour it was also time now to remove the strobes from the equation, natural light and long exposure photography appeared to be the way forward. The world of ultra fast films and an entirely different concept of exposure now followed me like a black cloud but the biggest question was 'Would the north Atlantic diving conditions open a window and let me try them out?'

The great majority of deep wrecks

Port bow of the Justicia, manual exposure metering with Agfa Scala 200x slide film pushed to 1600 ISO, exposure f16-10sec minus one exposure value.

I photograph are blessed in complete darkness with no available natural light. I had especially discovered this when I had travelled to the English Channel to photograph shipwrecks. Having said that there are the odd occasions when a friend or boat captain calls with news of brilliant visibility, which in turn means clean waters, fingers crossed a midday dive with the sun at its highest and the available light window is all of a sudden open.

When considering the photography of big sections if not entire wrecks a wide angle lens is top of the list, the wider the better, after all we still have to reduce the column of water and tuck in as close to the wreck as possible. We are also looking for some serious depth of field to capture the distance so small apertures down to f22 are also on the cards. Small apertures in conjunction with low light levels means longer shutter speeds the knock on effect of this nasty little chain equals picture blur due to movement and camera shake. It couldn't be simple could it! No taking something out of the equation had to be substituted for another and in this case a tripod was the answer. Introducing





Using black & white film with colourless subjects such as this tank draws out detail where colour simply would not work.

Even at 69m a high sun has given enough light to freeze the fish beside the prop, f11-2sec Agfa pushed to 1600 ISO



a tripod to the deep wreck diving community was asking for a laugh at my expense, I was going to have to bite my lip. Using a Nikon F90x in an Aquatica housing all I had to do was design an adapter that would easily slot into a tripod shoe. Some simple machining and the job was done; attached to a heavy-duty Velbon video tripod I was now ready to capture some interesting effects.

An opportunity to return to the north Atlantic for a number of weeks was too good to turn down; all I had to do was work as hard as I could alongside the crew aboard the expedition vessel Loyal Watcher. In return for my efforts I would have

the opportunity to dive some of the most fabulous wrecks in the world as well as testing the tripod approach.

The question of film is again a subject in itself, although my choice was considerably narrowed down in the fact that I wanted slide format to represent my work in presentation format. Monochrome slide film is a little on the rare side, after some research Agfa Scala 200x was as good a choice as any, a professional variable speed film that could be pushed or pulled between 100 & 1600 iso. I had discussed the concept of which film to use with American shipwreck author and photographer Brad

Sheard. Brad strongly recommended Kodak Tmax a fast 3200 speed mono print film although expressed its sole intention was for use without a tripod, its ultra fast speed would allow hand held use at around 1/30 sec on a wide open lens. Under normal circumstances if a tripod is to be used a slower film is definitely in order, but this was an experiment to capture deep wreck images with great depth of field so anything was worth a try.

One of the key secrets of this type of photography is almost certainly composition. Previous exploration of a site and knowing exactly what image you intend to capture before



The camera housing has been modified to work with a tripod underwater.



Working with divers and long time exposures is perhaps the most difficult part of time exposure photography here the diver has paused to see the guns for himself and the opportunity of a 4 sec period was all that was needed to work the image. Kodak Tmax p3200 print film 5 seconds F16

entering the water can be a great help in composition. Not all subjects however are suitable for ambient light photography, big wrecks as in my quest, objects located close to the surface and ones of high contrast

are considered the best options. Any subjects that do not stand against its background should inevitably be avoided.

Accurately estimating exposure variations even deciding which part

of the scene to meter is probably the most difficult task in this type of photography. There are so many variables affecting light levels at depth, without considerable experience you cannot precisely guess

the amount of light reaching your subject. In order to acknowledge the problem many cameras have built in light meters that even automatically measure light level and adjust camera settings accordingly. Keep in mind that

light meters average the value of all light they see. Based on that average they offer suggested settings (f-stop/shutter speed combinations), all of which result in the same exposure.

Overcome the situation of unsure exposure metering by bracketing, shoot several frames at slightly different exposure settings with the optimum image being singled out on later development. Now equipped with a rebreather the depths I was shooting film in posed no significant pressure to the dive itself. This was a huge benefit as I could effectively concentrate solely on creating images; I had all the time in the world. Once I had found my subject matter of question depending on its potential value as an end image determined what bracketing would essentially be carried out. The very first of a set of frames would be shot using Aperture priority a function to SLR systems that gives ideal control over depth of field. After deciding the Aperture required the cameras sophisticated microcomputer then automatically selects a corresponding shutter speed to give what it believes to be the correct exposure. As I was searching for detailed images with great depth of field this seemed an appropriate way to start a bracketing set and gave early indications of an average exposure the conditions on the day required. After three frames ranging from f11-f22 the systems controls were then changed totally to manual where the electronic analog display within the viewfinder could be used to determine the exposures. Once again a small aperture was selected although this time the shutter speed was also adjusted until it corresponded with what the electronic analog requested as the perfect exposure. In theory the long exposure determined



Sherman tanks on the Empire Heritage. The smallest aperture possible captured the depth of field, and the 10sec exposure has blurred the fish

was exactly what the cameras computer requested in aperture priority mode, mental notes were taken to see if the functions worked simultaneously in the given conditions. Results showed that the exposures in both modes were exceptional and what I was looking for. Adjusting the shutter speed 1 or 2 exposure values either way over-rode what the microcomputer wanted giving an over or under exposed shot which often produced interesting

silhouette effects depending on the conditions and camera angle. All the metering undertaken with the long exposures was in conjunction with the field proven 3d matrix system obtained through an eight-segment sensor and the AF Nikkor lens itself. The system takes into consideration scene contrast, scene brightness and subject-to-camera distance; the result in this situation was an optimum exposure for each frame even in the complex lighting situations



Remaining film after a dive can be used to capture effective mono images of divers decompressing. Here aperture-priority was chosen over manual for fast results to avoid buoyancy problems, using f16 at 1000th sec

I was throwing at the camera. If after my dive I had frames left on the roll I would switch again to aperture priority on the ascent and look for Silhouette images of my colleagues decompressing. Again a combination of Apertures gave interesting effects against the sun using monochrome film; aperture priority was the easiest to shoot in this situation taking the effort of continuously rotating the speed dial while monitoring bouancy as often the shutter speed rose well above 1000th of a sec. At the depths I was shooting film the cameras

microcomputer asked for exposures ranging from approx 4 seconds right through to a whopping 25 sec's. 25 seconds was enough time for me to relax behind the tripod and actually monitor for a change what my rebreather's computer was asking. Of course the long exposures were only problematic when I was working with a diver as scale within the scene, fin movement was inevitable as was trailing light beams. Only the lowest exposures with the camera angle in coordination with the diver produced expectable images, but having said

that the divers where like gifts in comparison to fish! Acting like a screaming break-dancer behind the tripod often prevented fish from entering the field of view during an exposure. The only fall back to this was the fact I was using a rebreather and there was always a chance that a passing colleague may mistake me for someone having an oxygen convulsion.

Large shoals of fish already present in a subject scene blatantly being there first refused to budge which in turn resulted in either an interestingly busy image or simply one for the bin. Whether my images produced using these methods were acceptable in expert fields is debatable, the interest never the less has been overwhelming which is a

result as these images are taken for everyone to see deep shipwrecks as I see them.

Leigh Bishop

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