

Black and White

Rob White

Topics

- What is “Black and White”?
- What makes a good B&W subject?
- Converting images to B&W
- Re-introducing colour

What is Black and White?

- “Black and White” - generic term
- “Greyscale” – more descriptive term
- “Monochrome” – using a colour rather than black

- Tones but not Hues.

“Black and White” is a generic term which is applied to images which use shades of grey so the term “greyscale” is often used instead.

“Monochrome” is the term applied when a single colour is used instead of black. Shades of grey become shades of blue (or green, red, etc)

The colour does not have to be part of the original image and Sepia photos are a good example of monochrome images.

In summary, when we’re working in Black and White, we have only tones available to us, with no variation in hue.

What makes a good B&W subject?

Look for:

- **Texture**

Look for textures when you're aiming to create a black and white image.
Strong texture helps give depth and interest to your shot.

Texture

- Get close – reveal the details
- Use side-lighting to enhance shadows and highlights

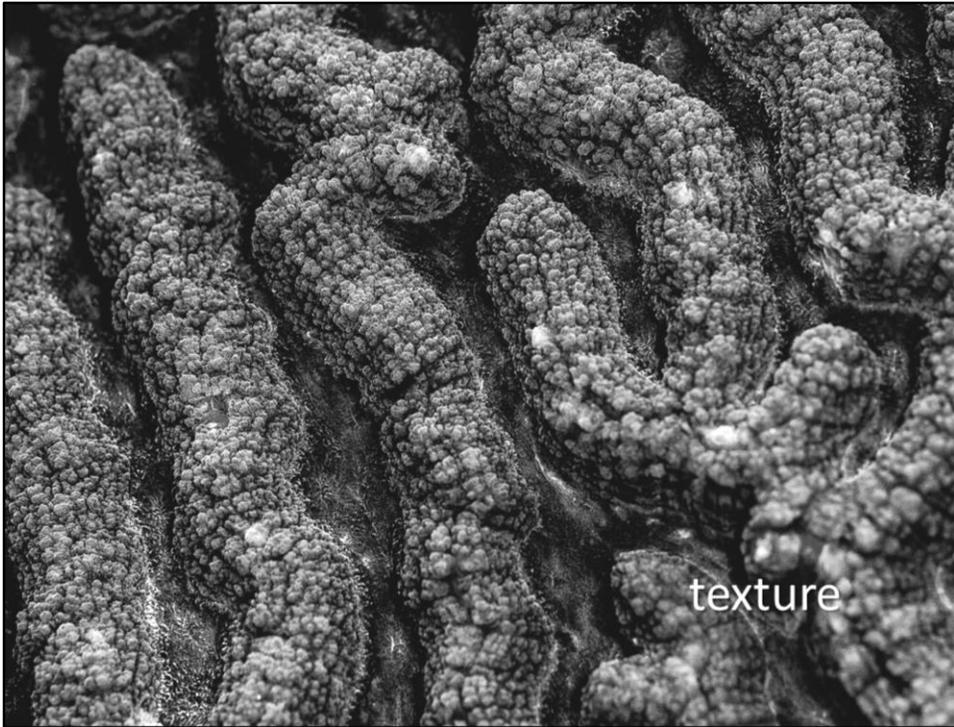
Examples:

Shark denticles, Fish scales, “hair” on a hairy frogfish, corals

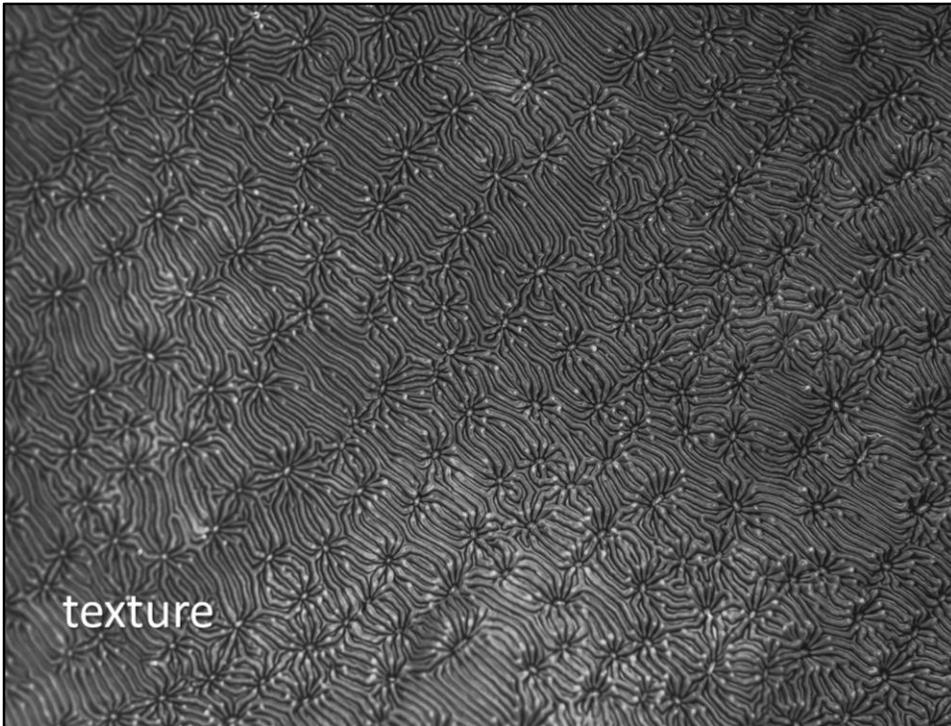
Texture is often only revealed when you get close to your subject. A good example would be a fish’s scales.

Use strong side lighting to create obvious shadows and highlights across your subject.

Even surfaces which appear smooth at first glance may look rougher and more “interesting” with side-lighting



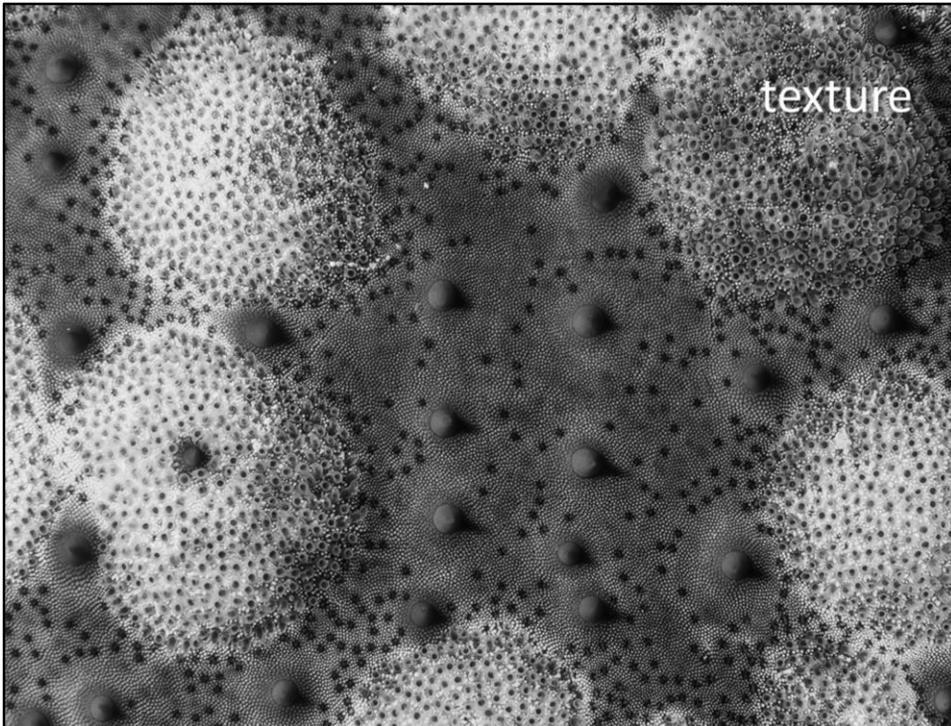
For this hard coral close-up, I moved the strobe off to one side. As a result it looks like it might be rough to touch (please don't touch!)



Another hard coral... and again the lighting is from the side. If the lighting were more directly onto the subject, the light areas would be darker, whilst the shadows would be lighter.

Aim to use the whole range of tones from very dark to very light as well as everything in between..

Although this coral has an obvious texture, it looks like it'd be smoother to the touch than the previous one (PLEASE don't touch!)



This pincushion starfish in the Maldives looked reasonably smooth from a distance. When I took a closer look, I could see several textures all on the same creature. Using side-lighting from has revealed the textures and you can clearly see the shadows of the “spiky bits” which helps the viewer understand that it might be sharp to touch (please don’t touch!!)

What makes a good B&W subject?

Look for:

- Texture
- **Pattern**

Patterns of contrasting tones can convert really well to black and white

Pattern

- Regularity
- “On-axis” lighting
- Contrasting tones

Examples:

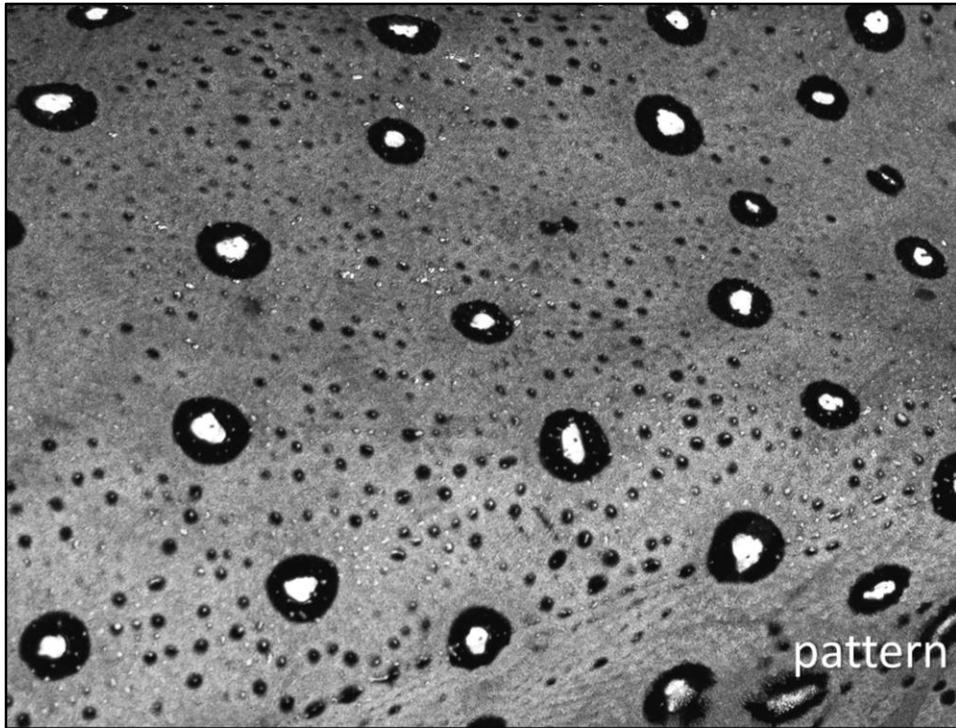
stripes on a lionfish, spots on a box-fish, shoal of fish, ripples of sand on the seabed

Patterns tend to have a discernable regularity to them.

Patterns can be enhanced by being lit consistently across the frame so position your strobe(s) near your camera to create an even spread of light across the patterned surface.

Patterns which work as black and white tend to have contrasting tones. It's worth noting that a difference in *colour* does not necessarily imply a difference in *tone*.

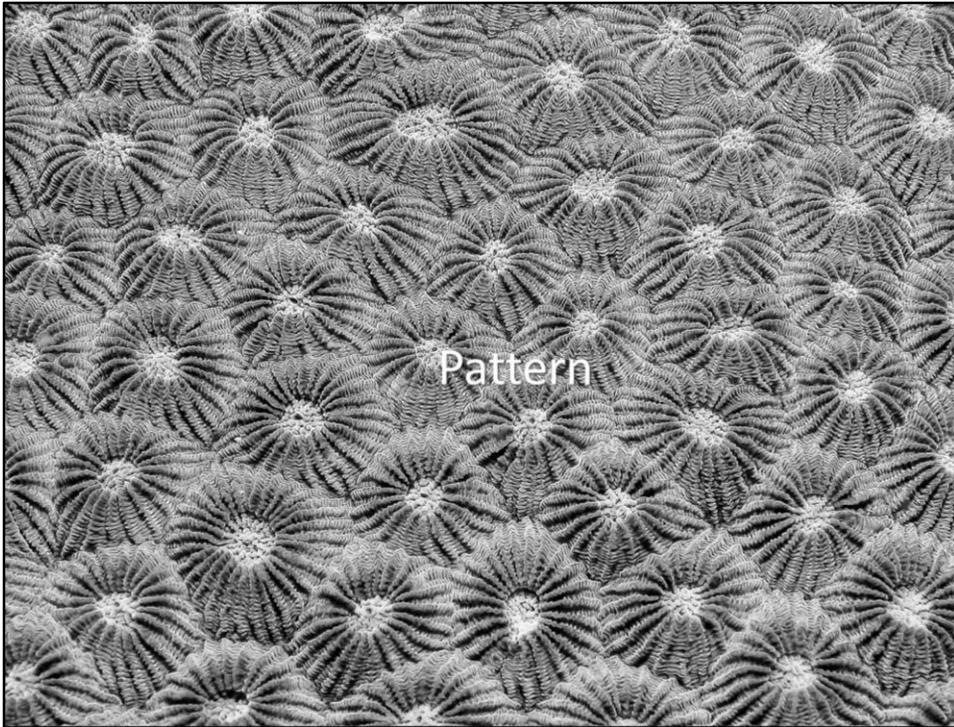
It's sometimes difficult to judge the tone that a particular colour will convert to so, if your camera has a “black and white” mode, try using it – it will remove the need for guesswork and will mean you can decide much more quickly whether the subject is worth persevering with. Bear in mind, if your camera is set to store RAW images, all the colour information in the scene will still be recorded to the memory card even if you're seeing just greys on the back of the camera.



This is a box-fish's skin – the colours were fairly bland and have converted mostly into mid-grey tones, however, the black circles surrounding the white spots were pretty obviously going to stand out after conversion

The spots are evenly(ish) spaced but it's not "pleasingly regular".

I've cropped the image to remove distractions and concentrate attention on the pattern itself.



If you can find something with multiple characteristics, so much the better
Since coral tends to grow in colonies and each polyp tends to be a uniform size within the group, it's easy to find patterns and texture together like in this example.
It uses side-lighting but equally as important, there is consistent lighting across the surface.



Abstract patterns can be found everywhere but you'll often find animals have decent patterning too, be it stripes, spots, spirals, etc.

Yellow and black are well known to be of contrasting tones so this (yellow with black dots) box fish converts rather well to black and white.

In order to exclude any other *conflicting* patterns in the frame I've increased my shutter speed ($1/250^{\text{th}}$ second) and increased my flash power to darken the background.

What makes a good B&W subject?

Look for:

- Texture
- Pattern
- **Shape**

Third and perhaps more important than texture and pattern is Shape

If you can “explain” what your subject is just by showing it’s shape, you’ve got something which may convert well to black and white image.

Shapes are often defined by the darker areas so it’s important not to concentrate solely on what is brightly lit in your picture

Shape

- Geometric shapes (circles, spirals) eg Snell's window
- Animals with distinctive shapes
(Sharks, Fish, Rays, turtles, dolphins, seahorse, jellyfish, starfish)
- Distinct outlines
- Wrecks/structures
- Shapes as frames.

Whilst on a dive, the most easily found geometric shape has to be Snell's window - that circle of light you'll see at the surface (if conditions are right), beyond which refracted sunlight doesn't reach your eye. With a full frame camera and the right lens, you can capture the complete circle in a shot. With a cropped frame, it's still possible to show a large proportion of the circle. Your viewer's brain will tend to fill-in the missing parts for them.

Snell's window on it's own may not make the most interesting black and white shot but it can certainly be used to enhance a shot. Perhaps try to include something white against the darkness outside the window whilst photographing something dark against the lighter background within the circle.

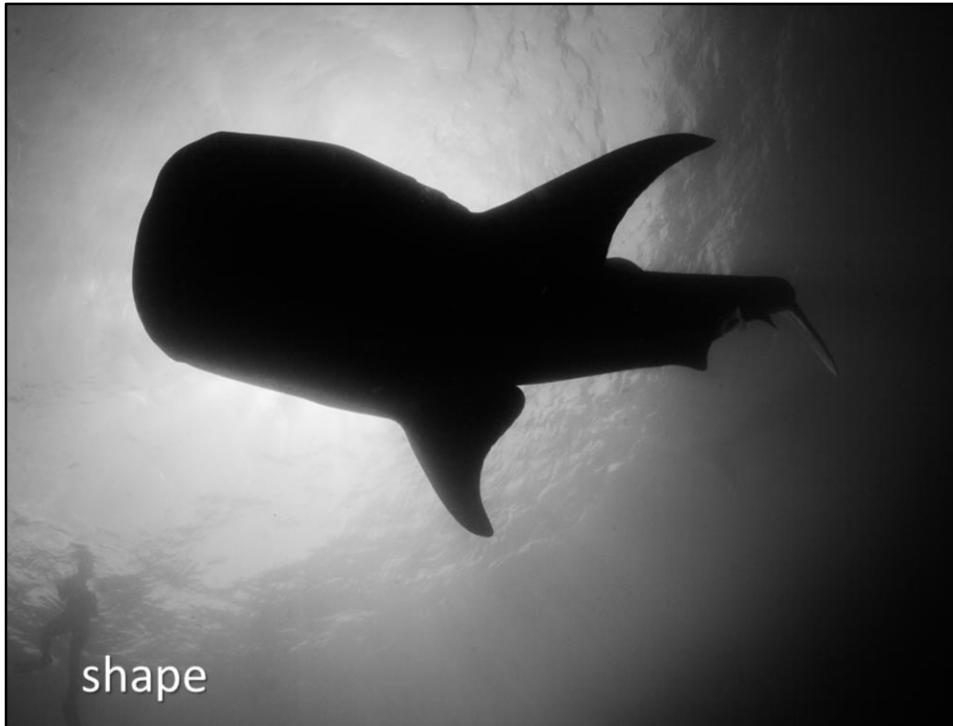
Animals which are easily recognised by their shape are great potentials for black and white conversion.

You're looking for anything which offers an outline which contrasts as much as possible with the background.

Wrecks work well but you need to be careful to include some detail of the wreck itself since they can be indistinct areas of black if they fall too much in shadow.

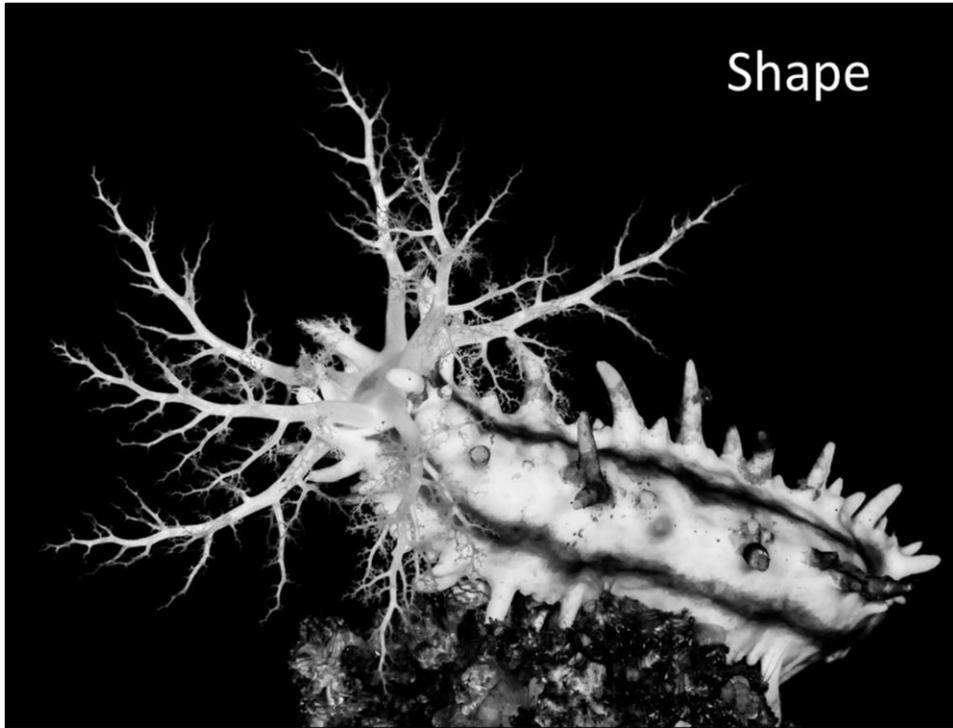


Good strong circular shape of Snell's window along with a distinct shape within it. This was taken on a calm evening in the Egyptian Red-Sea from a depth of approximately 8 metres. Several people on our boat offered to don mermaid tails and model for us. My model was male so I figured my best option was to take a shot in silhouette with the intention of preserving not only his dignity but also the grace and beauty of the image.

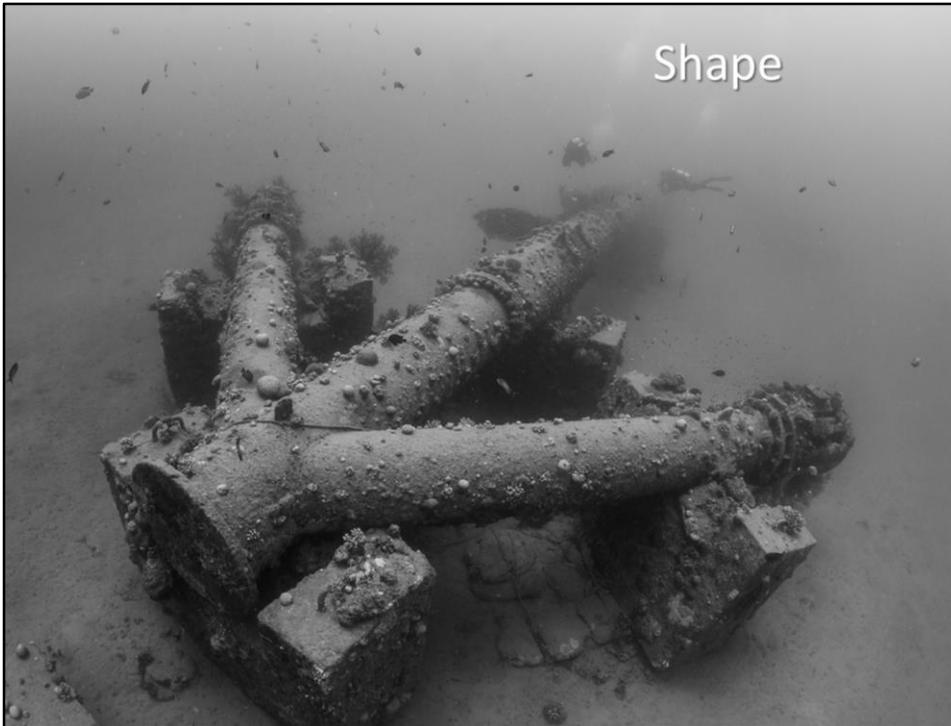


Whilst I'm not sure the snorkeler in the bottom left of the shot enhances this image, the bold shape of the whaleshark here is blocking out direct sunlight and a lot of contrast is created.

The human eye is naturally drawn to areas of high contrast so it's the fish here that draws the attention. If it's pectoral fins were not spread equally from the body or if the tail was lost more in the shadows, the shape would be less recognisable and it's likely the image would not hold the same appeal.

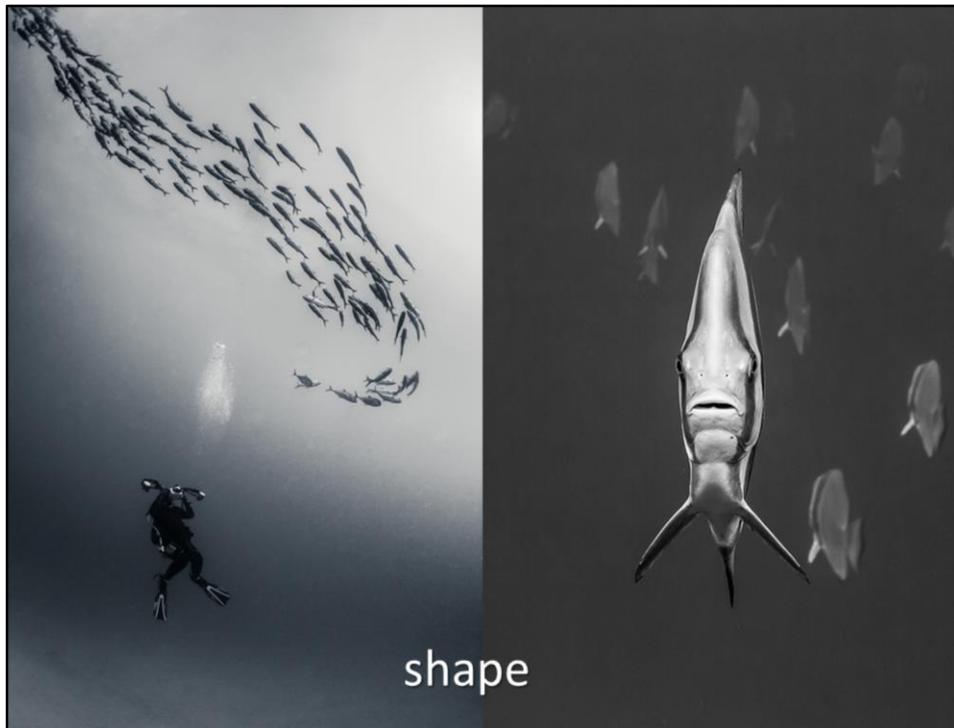


This sea cucumber has a very obvious outline. It's intricate structure wouldn't work so well against a cluttered or even a lighter background. There's about as much difference in tone as is possible around the outline of this animal.



This is a dive-site called (unsurprisingly perhaps) “pipeline” near Nuweiba in the Red-Sea. I’ve taken the picture from above, not only to show it’s distinct arrow shape but also to keep the background tones fairly even.

If I’d included the very bright surface in the shot, the camera would have struggled to record all the shadow details. Notice that the tone of the pipe is very similar to the tone of the background. The shadows help the viewer understand the shape (and the texture) of the structure.



In the left image here, the diver has a distinct shape but the real appeal is the sweeping curve of the fish that the diver is photographing.

In the right hand image, the symmetry of the fish is where the appeal lies. The outline of the batfish is obvious since it contrasts substantially against the background.

Some shapes are clearly less predictable than others!



Silhouettes make great black and whites as you're using just shape to define your subject.

This image was taken looking up toward the surface through a hole in the roof of an overhang. Although there are several shapes here, the ones which have most appeal (in my opinion) are the moorish idols. Even as just a silhouette, there are some shapes which are more "interesting" than others.

What makes a good B&W subject?

Look for:

- Textures
- Patterns
- Identifiable shapes
- **Isolation**

Another important concept for black and white is Isolation. It helps your audience to understand what they're seeing and can help convey a feeling or emotion.

Often referred to as "negative space", the amount of space around your subject can affect the emotional impact. Ideally, this area should create as little distraction as possible from the main subject.

Isolation/Separation

- Subject separation:
 - Don't overlap with other strong features.
 - Consider the tone, not the colour of the subject
 - Negative space
- Background:
 - Plain black/grey/white
 - Textured
 - Patterned

By separating your subject from it's environment, you allow the outline of the subject to be more easily distinguished.

If you're not considering converting to black and white, you can use colour to separate subject from background.

For example, a turtle swimming along a reef wall covered in red and purple soft-corals... The yellow and green colours of the turtle can easily be distinguished from the reds and purples of the corals.

When you view the image in black and white, many different colours may appear as the same tone so you must instead consider light and dark tones

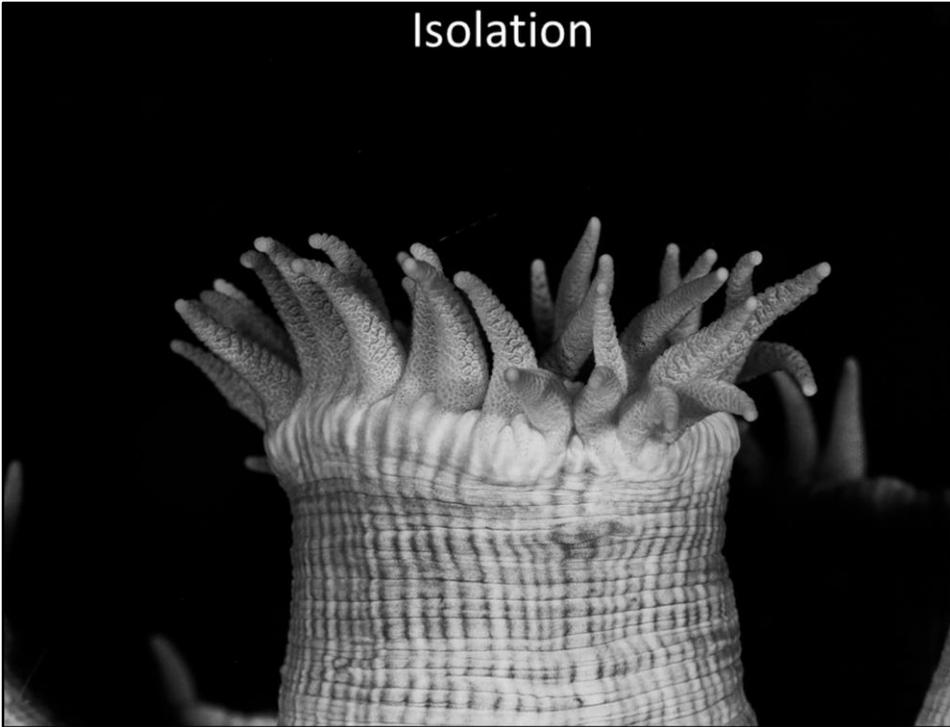
The amount of space around the subject can often affect the impact of an image. This is the case with colour photography but is perhaps more important in black and white photography, especially when dealing with large subjects which move a great deal such as sharks, dolphins, etc. Providing an extended area around your subject helps draw the eye to the shape/form which you are aiming to highlight.

When composing your black and white photo, using plain backgrounds (eg blue-water) is an advantage since there are no distractions from the main subject however, it is possible to make clever use of patterns and/or textures as backgrounds to enhance the interest in your shot.



This cuttlefish is lit well enough to create separation from the background but the background is still messy and rather distracting. I've included it to provide an example of poor isolation.

Isolation



This cup coral is more isolated than the cuttlefish in the last image due to the plain black background which contrasts well against the subject. There are still some distractions from the other coral polyps nearby but these could be removed using an adjustment brush in Lightroom for example.

Isolating your subject by creating a dark or black background can be achieved by increasing your shutter speed (along with either your strobe power or your aperture). You could also make use of a focused light such as a snooted strobe.



The left image makes use of a patterned background. I've rotated the camera so that the light-beams come from one corner, thus creating a pleasing composition. The diver is very isolated with a great deal of surrounding space being included in the picture. As such, I think the image conveys a feeling of spaciousness (perhaps also, freedom, loneliness, exhilaration, feeling small)

The black background in the image on the right hides anything which might have been distracting. There's a decent shape to the subject too – fairly recognisable (at least to those who have seen a ribbon-eel)

This image is a great example of a subject which converts well to black and white but which loses something in the process. The beautiful complementary blue and yellow colours of this ribbon-eel are totally lost and I would consider it a shame to present as black and white.



These spinner dolphins stayed with us for about 30 minutes as we snorkelled in the red-sea. They are predominantly grey animals but have obvious light and dark toned areas of skin.

In this image, the background is not entirely plain, thanks to some patches of coral/seagrass on the seabed but it doesn't distract the eye too much. There is plenty of isolation around the subjects although it's not entirely obvious that there are 3 dolphins in this shot



This image has good subject isolation – both the school of barracuda and the diver. They are separated from background features and also from each other.

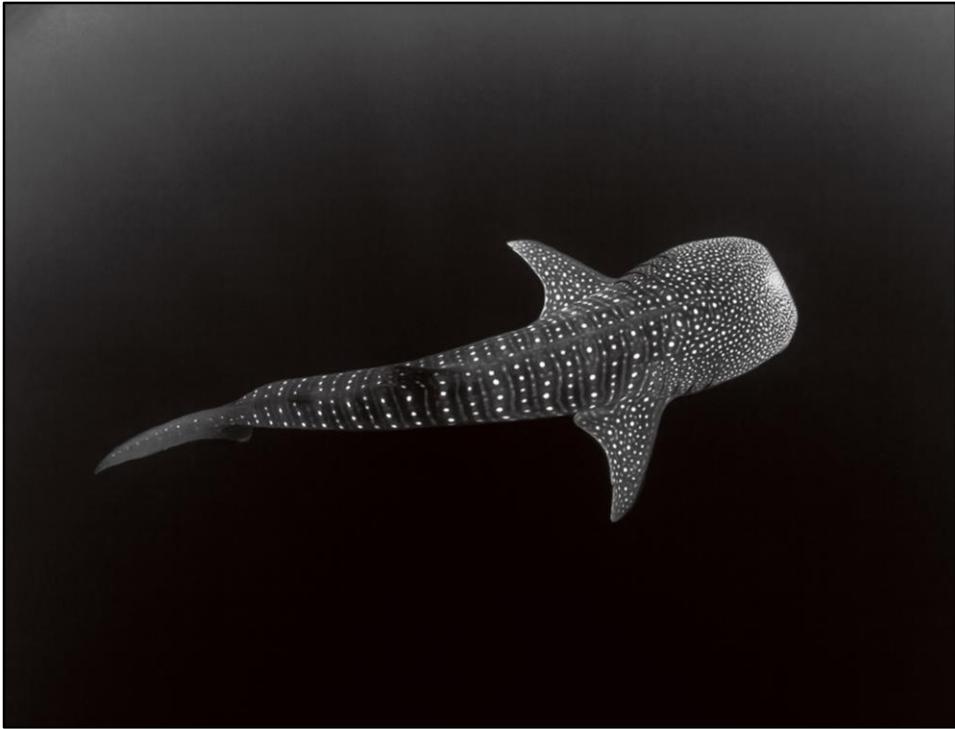
Converting this image to black and white has not had a detrimental effect since the fish are grey in colour to start with. In fact, the conversion has helped disguise the fact that the blue water fades from very dark in the shadow area below the fish to very bright at the top where I've included the surface.

The diver gives a sense of scale to the image. Without which, I don't believe the photo would be as interesting.

Remember...

(A few reminders)...

There are a number of other points to bear in mind when looking for a black and white photo.



First – look for a difference in tones, bearing in mind that just because 2 colours are different, doesn't mean there is a big tone difference.



If you make a note of where the light is falling, you can avoid images which lack detail. In the above images, the one on the left shows far greater detail on the deck and makes for a more interesting image.

Decent black and white images often contain a full range of tones (greys). Examine your histogram after taking a shot to check whether you've achieved this. Ideally you want to be seeing information at both the left (dark) and right (light) ends.

If you exclude the surface from your shot, you can meter for the shadowy areas, giving you a greater possibility of enhancing shadow-details in your editing software.

Identifiable shape, isolation, patterned/textured background



Keep an eye open for patterns or textures which might work well with a strong subject shape. This image by Alex Mustard is a prime example.

Image courtesy of Alex Mustard www.amustard.com

Converting to Black and White

Part 2 of this document is about methods of converting an image to black and white.. It's expected that you'll be importing a raw image and whether or not your camera was set to "monochrome" mode, the raw image will always contain colour information.

As such, you're able to manipulate the brightness of the tone to which the colour is converted.

Conversion Software...

- Manual methods
 - Lightroom
 - Photoshop
 - Photoshop elements
 - Most other photo editing software!
- Automatic methods (plug-ins)
 - Silver Efex Pro – available for £90 from www.google.com/nikcollection
 - Topaz B&W effects
 - onOne Perfect B&W
 - Lightroom presets
 - Many others!

There are lots of options when it comes to converting an image to black and white...

Most photo editing software packages give you at least one method for creating a black and white. Photoshop provides at least 7 methods, Lightroom at least 4. Each method gives a varying amount of control over how the original colours are converted to greys in your final image. In each case, the process feels rather manual and it can be a bit frustrating unless you're fairly familiar with the software. However, this approach is good if you have a firm idea of how you wish the final image to appear.

If you'd prefer a more "automatic" approach, there are a good many plug-ins which will convert your image at the touch of a button. These are ideal when you're not too sure what final result you're after and need a little inspiration since they give you the option to test conversions quickly. Once you've chosen something you like, you can generally tweak things a little further.

Plug-ins generally provide tools which are dedicated to the task and therefore they make a black and white conversion easy to achieve.

Although I've mentioned a couple here, Silver Efex Pro is often regarded as the best black and white conversion plug-in available. You can download and trial it for 30 days free of charge to get an idea whether it works for you. (no, I'm not earning any commission for saying this)

Lightroom Conversion Options

- Desaturate (Basic panel)
- Desaturate (HSL panel)
- Instant convert ('V' button)
- Preset

I'm going to cover 4 methods of creating a black and white image using Adobe's Lightroom software. It's a very popular application and is arguably simpler to use than photoshop.

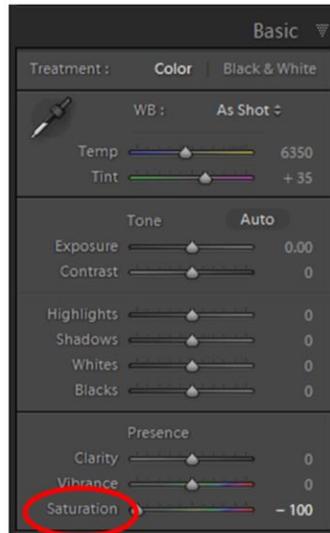
Each method I cover is available within the Develop module... If you're not familiar with Lightroom, you access the develop module simply by clicking on the word Develop at the top of the screen.

Once there, you'll need to click the arrow to the right of the word "Basic" to show (or hide) the basic panel. The other panels work in the same way.

I'm going to be making use of the "sliders". The idea is you click and drag the marker left and right in order to change the setting.

Each slider can be set between -100 and +100. The default value for each is generally 0 and the value can be reset to 0 by double-clicking the word next to the slider (eg "saturation")

Option 1 –Desaturate (Basic)

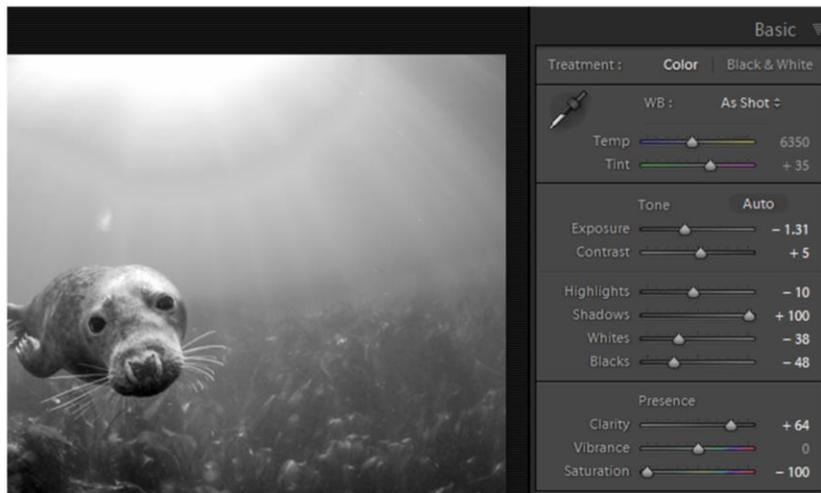


Move the saturation slider all the way to the left to remove all the colours from your image. Since the update happens “live”, you can watch the effect this has on your image whilst you change the slider’s position.

Although this method is quick and easy, it doesn’t offer much control over the conversion of individual colours.

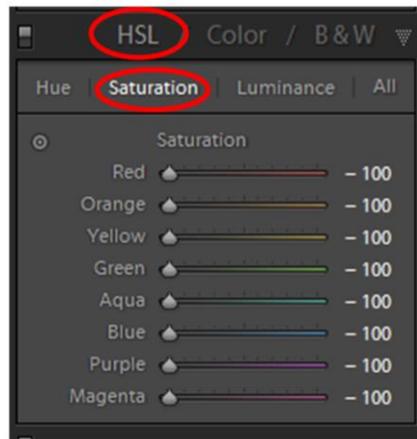
No matter what the conversion method, the option always exists to come back to this panel and tweak the image using any of the sliders. Moving the contrast slider to the right will increase the difference between lights and darks – effectively spreading out the tones in your image. If you increase contrast too much, you’ll find many tones go completely black or white and thus, information appears lost.

Adjustments with the “Basic” tools



In this image, you can see several sliders have been used to obtain the tones shown. Notably, the shadows value has been increased to reveal any information stored in darker areas. Highlights and whites are slightly decreased so that the water doesn't appear over-exposed. Increasing the clarity can help to make your subject stand out as it cleverly increases the contrast between light and dark outlines. The more heavily you apply clarity, the more obviously processed the image becomes. It's worth applying subtly.

Option 2 –Desaturate (HSL)

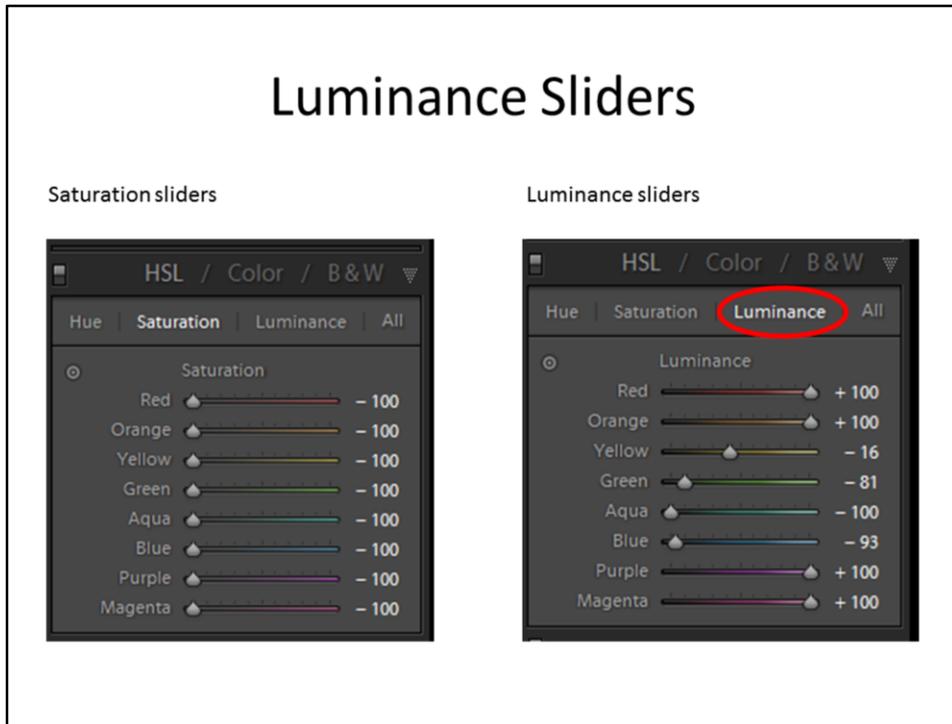


Move all the sliders into the -100 position.

HSL stands for Hue Saturation Luminance. By clicking “HSL”, then “saturation” and then setting each slider to -100, you can draw individual colours from the image. It’s worth noting that where it says “Red”, the word “reds” might be more appropriate as it will remove a range of colours which could be termed “red”.

You never lose information by making these adjustments. Lightroom shows you the original image overlaid with any adjustments you’ve made so even when your image is grey in appearance, you’re still able to manipulate the brightness level of each area based on its original colour. If you’re keen to know what the original colour was, you can return the saturation sliders back to the 0 position.

Luminance Sliders



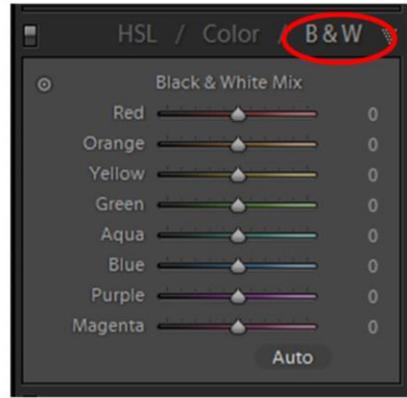
Having set all the saturation sliders to -100 you should now be looking at a greyscale image.

In order to adjust the brightness levels of areas of your image based on their original colour, you can use the luminance sliders

In the example above, all the areas which are red, orange, purple and magenta in the original image are lightened whilst areas which are green, aqua and blue are darkened.

Just as a reminder, you still have the option of using the exposure, brightness, shadows, highlights sliders in the Basic panel. You can jump between the panels at any stage.

Option 3 – Instant convert



Hit the 'V' key!

Lightroom provides shortcut keys for just about every function.

“Black and White” mode is no exception.

Just hit the “V” key and you’ll see a greyscale representation of your image.

You also get the same effect by clicking “B&W” as shown.

(You can hit “V” again to swap back to colour mode)

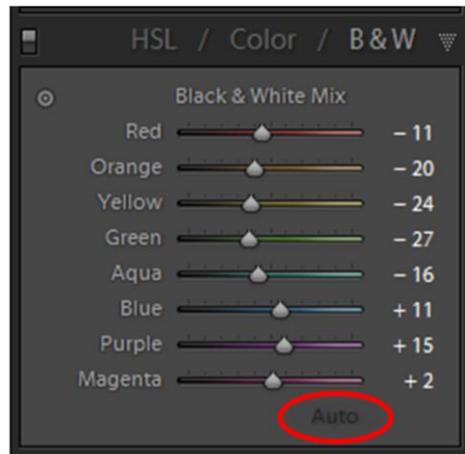
Once you’re in black and white mode, you’ll see the “Black and White Mix” sliders which operate in a very similar way to the luminance sliders previously mentioned. That is, you move a slider to the left and areas of the corresponding colour will get darker. Move a slider to the right and those colours will get lighter. The colours are not shown so you’re just adjusting the tone of the pixels which are that colour in the original image.

Arguably, this B&W method is simpler to use than individually setting saturation levels to -100 and then adjusting luminance but there is another difference. Converting to black and white will disable the vibrance and saturation sliders in the Basic Panel, however, if you set all the saturation sliders in the HSL panel to -100, you still have the use of the vibrance and saturation sliders in the basic panel.

I’d encourage you to experiment with both methods to see which you prefer.

Auto-Mix

Click "Auto" to get Lightroom's best guess values for the image.
Double click "Black & White Mix" to reset.



Just to make life even easier, there's an "Auto" button on the Black and White Mix panel.

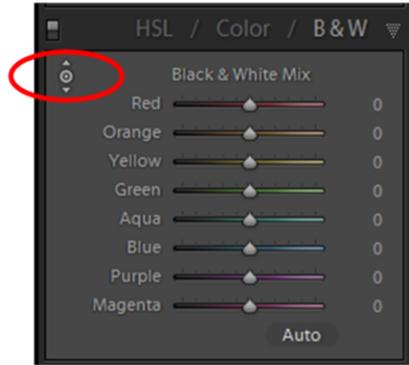
Click it to get Lightroom's "best guess" at how the colours should be converted to tones. Lightroom will calculate the values for each image individually.

If you want to reset all the sliders back to their starting positions, double click the "Black & White Mix" label.

This reset functionality works in a similar fashion throughout Lightroom. For example, in the Basic panel, you can reset Contrast back to '0' by double clicking the word contrast.

You'll also find that the label changes to say "Reset Black and White Mix" if you hold down the ALT key. Again this functionality appears throughout Lightroom.

Targeted Adjustment



Click the tool, then move your cursor over the image.



Click and drag on the image, the highlighted slider will move left or right

Lightroom provides a tool with which you can increase or decrease the brightness of the area under your cursor as you move about over the image.

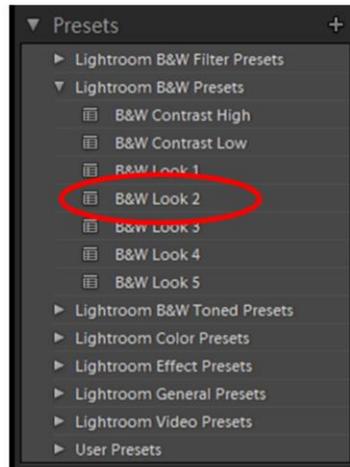
To start the Targeted Adjustment Tool, click the symbol shown, then move your cursor across the image. As you move about, the slider corresponding to the original colour of the image at your cursor position will be highlighted.

If you now hold down the mouse button and move right and left, you'll find the brightness of that area increase and decrease in response.

To turn off the targeted adjustment tool, click the symbol in the panel a 2nd time.

Option 4 – Use a Preset

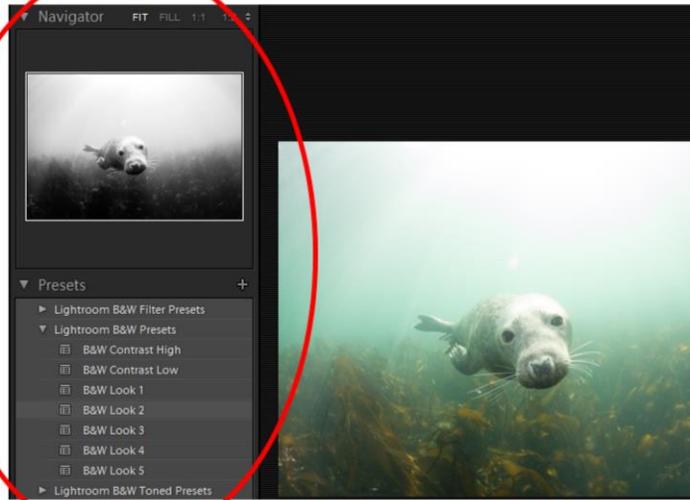
Click on a preset to instantly convert your image using those settings



A preset is a collection of settings which can be applied all at the same time. Several black and white presets are supplied with lightroom and there are hundreds more available on the internet.

You can also create your own presets

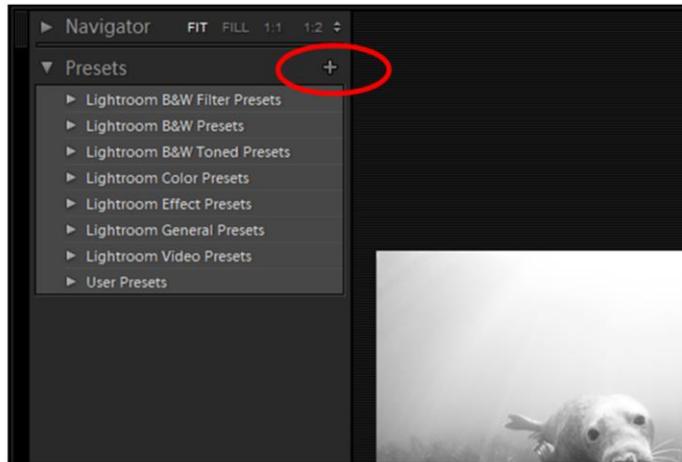
Option 4 – Use a Preset



The navigator panel will give you a preview of the converted image whilst you are hovering over a preset. In this case, I am hovering over “B&W Look 2”.

Click on the preset name to apply the settings to your image.

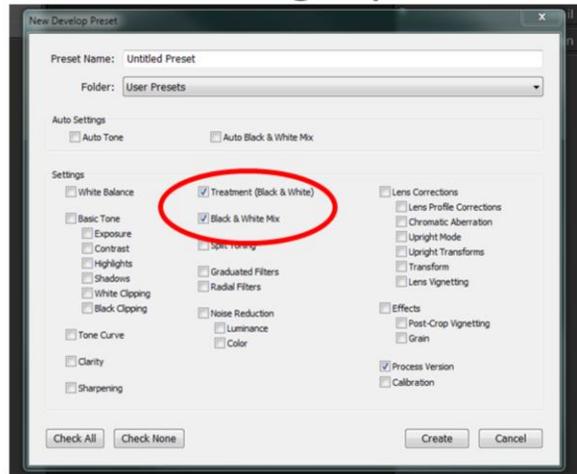
Save as a Preset



In order to save all the settings you've applied to an image such that you can apply them to another image at a later date, you can create your own preset..

To start, click the '+' button on the Presets panel.

Creating a preset



Once the preset is created, you can use it to apply the same settings to any other image in your catalog just by selecting it.

This panel appears, giving you the chance to specify which of your current settings you wish to be included in your new preset.

For black and white presets, you'll most likely wish to ensure the *"Treatment"* and *"Black&White Mix"* boxes are checked but of course it very much depends on how you've managed to create your black and white image.

Most importantly, you need to name your preset so you can identify it at a later date. Logically, if your preset converts an image to black and white, mention that in the name.

Personally, I tend to name my presets based on a description of the image I was adjusting at the time, for example *"B&W Manta at Surface"* or *"B&W diver and wreck from above"*

Once you've chosen your name, hit the *"Create"* button and your preset will be listed in the presets panel.

From then on, you can simply pick on the preset and the settings will be applied to the current image.



You may like the idea of creating a monochrome image as opposed to just a greyscale

The image on the left here is greyscale. The image on the right has had tone applied to it using the Tone Control panel. There are several ways of creating a monochrome image but the tone curve will allow you to maintain a relationship between the colours, effectively ensuring that the image remains monochrome.

It's a very subjective thing of course but you may well prefer a slight colouration in some images more than others. It seems reasonably common to hint at shades of blue when producing wide-angle underwater images.



In this image I've set the saturation sliders to -100 within the HSL panel. I've then used an adjustment brush with a saturation of +100 and I've "painted" over the amphipod.

It's not every one's cup of tea but it's worth experimenting with for a while. Bear in mind that similar techniques could be used to boost the saturation of certain parts of an image and/or to lessen the saturation elsewhere.



It's worth noting that many images are enhanced by their colour and do not make suitable candidates for black and white conversion.



On the other hand, there are images which do work well in black and white. Thanks to Alex Mustard for allowing me to use these images.

If you're interested in seeing more of my photography, find me at www.marinepix.co.uk or on facebook at www.facebook.com/marinepix

Image courtesy of Alex Mustard www.amustard.com

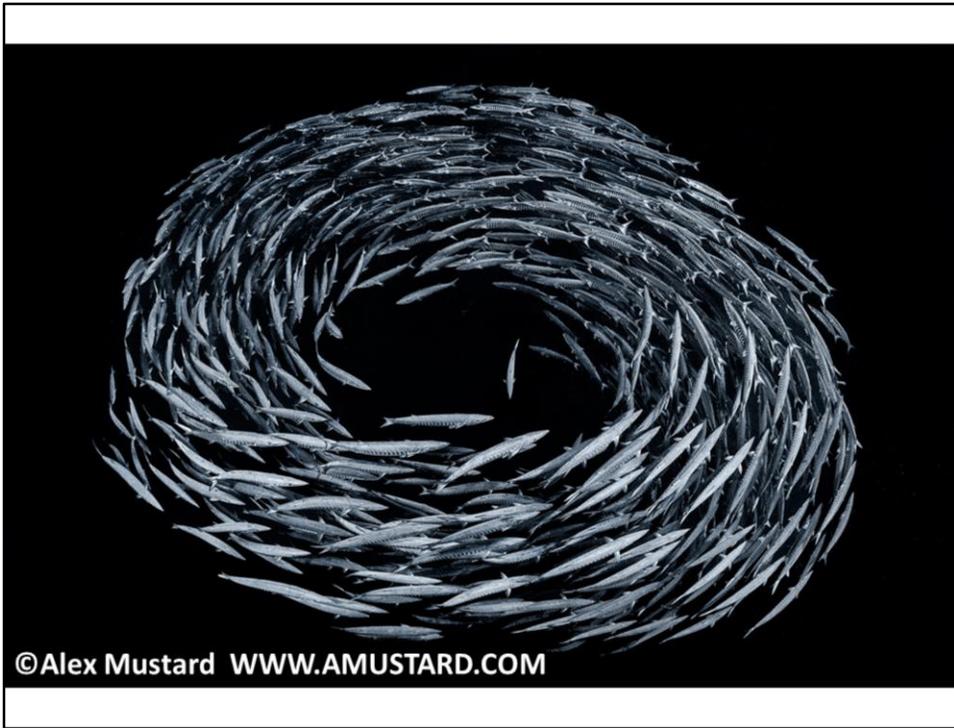


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