HOW DOES EXPOSURE AFFECT IMAGES

Your eye can comfortably handle a brightness range of 11 stops. This doesn't sound like much until you realise that the light from the brightest highlights has doubled 11 times from that of the darkest shadows. This means that the highlights are 2000 times brighter than the shadows.

Your camera, on the other hand can only handle a brightness range of about 6 stops, a change in brightness of 64 times. If the brightness of the shadows is no more than 64 times (6 stops) less than the brightest highlights, your camera will faithfully record detail and colour in the shadows and the highlights.

Clearly the camera cannot capture what the eye can see beyond this rather limited brightness range. If the exposure is set to capture the highlights correctly, the shadows will be completely black and show no detail. If the exposure is set to capture the shadows correctly, the highlights will be pure white with no detail or colour (blown out). On automatic, your camera will attempt to choose an exposure that avoids blowing out the highlights. However, if the brightness range is too large it will sacrifice the shadows and they will be darker that you expect.

If you want to do a better job of capturing the detail and colour in the shadows and you are prepared to sacrifice the highlights, you must increase the exposure – but by how much?

An increase in exposure of less than ½ Stop is barely detectable.

½ Stop will brighten the mid tones and have a small effect on the shadows.

1 Stop will brighten shadows appreciably but lighter colours may lose saturation.

2 Stops will change shadows to mid tones but the brighter areas will blow out.

As a general rule, if you have to make an exposure correction of more than 1 Stop to achieve what you want in the shadows, recompose the picture to exclude the bright parts of the image.

Using your camera's histogram display is the most convenient way of checking the impact of changes in exposure on the important parts of your image.