

Depth of Field Effects

In this lesson, we'll be taking a look at
Depth of Field Effects.

Estimated Completion Time: 8 minutes.

Depth of Field Effects

Depth of Field. **Depth of Field** refers to that part of the image that is in focus. It is narrow, wide, or somewhere in between.

The depth of field is determined by several factors - sometimes a combination of them. Main factors are *aperture*, and *focal length*.

The image on the left has a very narrow depth of field. Very little is in focus. On the right, this image has a wide depth of field - everything is in focus.



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Aperture. If you are using a DSLR, setting depth of field is best controlled by adjusting aperture.

We have a dedicated lesson on aperture - please see this for more information. In this lesson, we are going to look at a technique that will allow for depth of field on cameras without, or with, very little aperture control.



Aperture: F/3.5



Aperture: F/8

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Focal Length. The focal length on a camera is how far you've zoomed in on a subject. Generally, the more you zoom in, the narrower the depth of field.

Focal length is generally measured in millimeters. Short focal lengths, on most consumer cameras, start from 20mm or so, and range to 100mm - or up to 300mm or more. Many cameras have a focal length of more than 500mm.



*Focal length: 44mm
(approximately 2x)*



*Focal length: 110mm
(approximately 5x)*

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On most consumer cameras, zoom is not denoted in mms, but more an x (times) figure. 2x, 4x, 8x, are common settings. This is also referred to as the optical zoom.

If your camera has 2x, 3x, or 4x zoom capability, well, this is not a lot. But enough to use this effect. If you have a camera with 10x, or more, optical zoom, then you can really use this optical zoom to create some interesting depth of field effects.

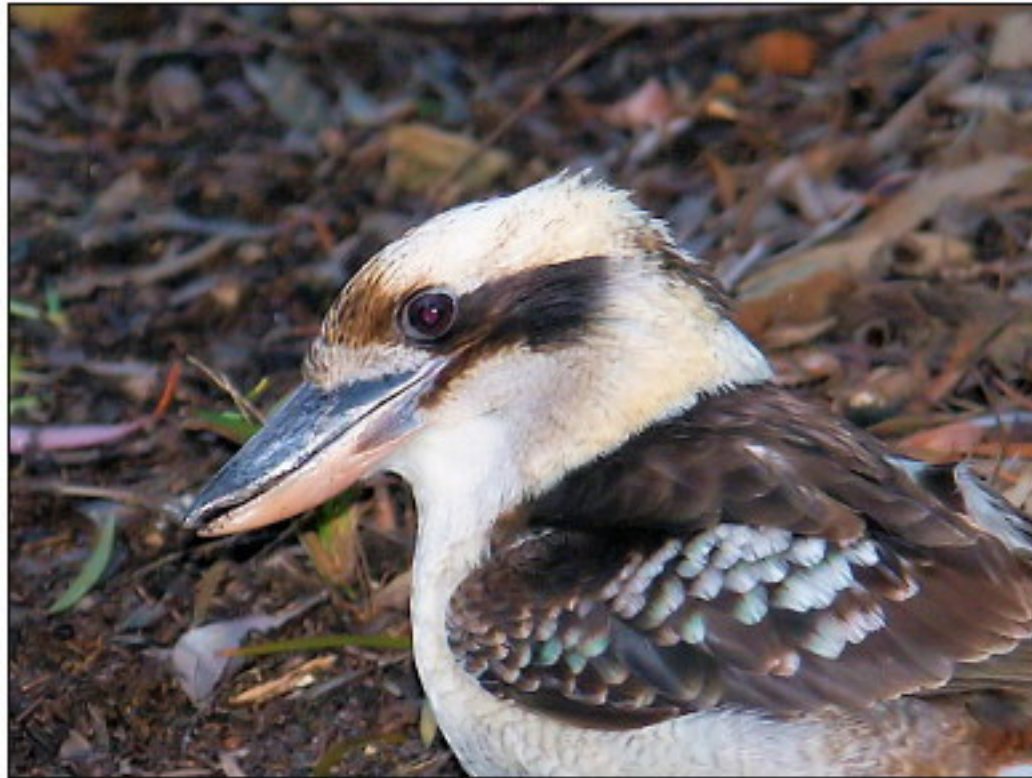


See how this image has a deliberately out of focus background?

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Take a look at the examples below.

See that with a high focal length (i.e. zoomed in) on the right, we get the soft, out of focus background? Not only does this look good, but it also draws the attention to the subject in the photo.



*Here we have used a low focal length
(i.e. not zoomed in)...*



*...and here, we have a high focal length
(i.e - we've zoomed in a lot!)*

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To get this effect, you simply have to follow a few simple steps - first, move back from the subject, and second, set the zoom on the camera so that the subject fills the frame.

Alternatively, if you don't have much zoom - move in close - make sure there is a small distance between you and the subject, and a large distance between the subject and what will be the background.



Step back, and zoom in!

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Below, this technique is illustrated on an inexpensive digital pocket camera, with no manual aperture control, and only 3x optical zoom.



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Below, you can see the same camera, the same subject, the same aperture. On the left, we walked up close and took a shot. On the right, we stepped back, and zoomed in. See how the zoomed in version gives us the blurry background.



Same camera, same subject, same aperture. Different focal length.

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A couple of things to note when zooming in nice and close.

First, it is much harder to get a focus. The more the camera is zoomed in, the smaller the focal area. This means there is a much narrower depth that will remain in focus - so you have to ensure that your subject is the part in focus.

An obvious way to get around this is to use a monopod, or tripod - this helps steady the camera.

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If you are not using a tripod - and often, even if you are - you should set the shutter speed up quite high. Perhaps even select sports, or action mode on the camera. This will also help reduce any blur, or camera shake.

When you've zoomed in, any minor camera movements can result in major blurring. So it's also a good idea to take more than one shot.



See the narrow depth of field when you zoom in? The wasps at the front are in focus - and the wasps - just an inch or so behind - are out of focus.

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*A somewhat similar effect - but with much more control - can be achieved in a slightly more complex manner using camera **aperture**. Camera aperture settings, measured in f-stops, determine how wide the camera shutter opens, and hence how much light is let in when a photo is taken. **Most compact cameras either have a very poor aperture range, or aperture cannot be set manually at all.***

Lower aperture settings decrease the focal length, and can give blurry backgrounds. Higher aperture settings can help make almost everything appear in focus. Above, on the left, we took a shot at F/3.5. On the right, the identical shot was taken at F22. Note that the depth of field increases as the F-Stop goes up. In the F/22 shot, nearly everything is in focus - whereas in the F/3.5 shot, only the tree is.

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This effect was achieved with a large aperture setting (F/3.5).

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If your camera has a close-up (macro) capability, you can achieve a very narrow depth of field that can yield an interesting effect - but again, you have to be careful to get the focus correct. Remember, if your camera supports it, adjusting the aperture will also serve to change the depth of field as well.



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*Many software packages allow you to create a pseudo depth of field effect after the photo has been taken. On the left you see the original photo, and on the right, we've used the **Depth of Field** effect in **Corel Paint Shop Pro** to create this effect.*

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Using Photoshop, we've gone one step further. We've selected just the cockatoo, using the Photoshop tools. We then reverse the selection, so that only the background is selected. Finally, we blur that background.

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You've now completed this lesson.

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