Wide Apertures: Technique, Lenses & Settings

You've probably seen plenty of photos taken with wide apertures. They are easy to recognise because of the shallow depth-of-field. Normally, these photos are taken with a prime lens, but you don't have to use a prime lens to get this effect. It certainly helps – but the world of wide aperture photography is open to everybody that owns a digital SLR, regardless of which lenses you have.

What do you get when you use your lens's widest aperture setting? The main advantage is that you can take photos with out-of-focus backgrounds. This is a creative technique that focuses the attention on your subject by reducing the background to a blur. The actual sharpness of the part that *is* in focus is not quite so important because of the relative *unsharpness* of the background.

Your eye is attracted to sharp areas in a photo before it goes to unsharp areas. So selective focus becomes a useful tool to emphasise the part of the subject where you want the viewer to look first.

Of course, wide open lens apertures mean fast shutter speeds, so you're at an advantage already.

Portraits

Photos of people often benefit from an out-of-focus background. The important thing is to focus on the eyes. You can create some magical effects by getting in close, focusing on the eyes and using the widest aperture on your lens.

Try this with the longest focal length lens that you have. If you are shooting in colour, look for colourful backgrounds that add atmosphere to the photo when they are out of focus.

Flowers

Flowers also look good with out-of-focus backgrounds. The trick here is to find flowers that are located some distance from whatever is behind them. This ensures that the background will be as out-of-focus as possible.

Green backgrounds are good because they look natural and also enhance the bright colours of the flowers.

Animals

Animals are another subject that benefit from an out-of-focus background. Zoos and other places where animals are kept are great places to practice this technique. You'll always find some problem but also somewhere to rest the camera and wait until the right shot comes along. Animals get used to the presence of people and let you get quite close. You'll need a telephoto lens if you can't get so near.

Travel

A good technique for travel photos is to look for details that capture the atmosphere of the place that you're in. Again, it's the relative smoothness of the background that really brings up the detail in the subject.

By using a wide aperture, the background is thrown out-of-focus and the viewer's attention is directed to the subject.

Abstracts

You can also use wide apertures to create abstract images by focusing on a single point within the image and throwing the rest out of focus. If you are observant you can make surprisingly good images from everyday items.

Street Photography

There is an overlap with travel photography here, but the wide apertures of telephoto lenses are ideal for blurring potentially distracting backgrounds. A background that is out-of-focus, but still recognisable, can be very evocative and this is a technique used in movies to create mood.

Prime Lenses

One of the key differences between prime lenses and zoom lenses is the maximum wide aperture. Most prime lenses have a maximum aperture of anywhere between f1.4 and f2.

There are prime lenses with smaller maximum apertures too – they are generally telephoto lenses. But most primes have a maximum aperture of somewhere between f1.4 and f2 – perfect for taking photos with out-of-focus backgrounds.

Another advantage of prime lenses is that you have several aperture settings to choose from at the wide end of the range. If the maximum aperture of your lens is f1.8, for example, you can also use f2, f2.8 and f4. F1.8 may limit the depth-of-field by too much – the other settings give you more creative options.

Zoom Lenses

Zoom lenses have maximum apertures anywhere from f2.8 to f5.6. Again, it depends on the model. Lenses aimed at professionals tend to have the widest apertures (they are more expensive too). But it doesn't matter what the widest aperture of your lens is, you can still use it to creative effect. It's just a matter of understanding how depth-of-field works and how to utilise it to your advantage.

Depth-of-field

The depth-of-field in a photo depends on four things:

Focal Length

The longer the focal length, the less apparent depth-of-field. I say apparent because if you took a photo of the same subject using the same aperture with both a wide-angle and telephoto lens, and the subject was the same size in the frame in both images, the depth-of-field would be more or less the same in both photos. In practice though, telephoto lenses appear to give you less depth-of-field because they allow you to magnify the subject. Therefore, if you are using a zoom lens, you should set it to the longest focal length in the zoom range.

Aperture

Worth repeating – the wider the aperture, the less depth-of-field. Set your lens to its widest aperture to minimise depth-of-field.

Subject Distance

This is a major factor. The closer you get to your subject, the less depth-of-field you get at any given focal length and aperture. Get close enough and you will won't be able to get front-to-back sharpness even at f16 or f22, let alone at apertures like f4 or f5.6.

This means that close-up photography is a good area to explore if you want photos with minimal depth-of-field, but don't have a prime lens.

Subject to Background Distance

This is another major factor. The greater the distance between your subject and the background, the more out-of-focus the background will be at any given aperture, focal length and subject distance.

Putting It Together

To make the most of the shallow depth-of-field effect you need to use the longest focal length possible, the widest aperture that your lens has, get as close to your subject as you can, and get as much distance as possible between your subject and the background.

The subject distance is limited by the minimum focusing distance on your lens (this is indicated on the lens barrel. This is the closest distance you can get to your subject and keep it in focus. But there is an easy way of overcoming this, so you can get closer to your subject and get even less depth-of-field in your photos.

The accessory you need is called a close-up lens (it is also sometimes called a close-up filter or supplementary lens). That's because it looks like a filter and you use it the same way. It screws into the filter thread on the front of your lens and reduces the minimum focusing distance so that you can get closer to the subject.

There are two types of close-up lens. Single-element close-up lenses can be quite cheap but do suffer from chromatic aberrations. You also lose image quality, especially at the edges. But they are a good way of trying close-up photography without spending much money.

Double-element close-up lenses are more expensive but the image quality is excellent. There is little or no chromatic aberration and the edge-to-edge sharpness is good. Double-element close-up lenses have two optical elements, one which corrects the aberrations caused by the first. They are more expensive but worth the extra money if image quality is a priority. The close-up lens in the photo above is a Canon 500D (not to be confused with the Canon camera of the same name) double element close-up lens.

Disadvantages of Wide Apertures

There is a disadvantage of using wide apertures that you should be aware of. Lens quality is always poorest at the lens's widest aperture. You will notice increased optical aberrations such as chromatic aberration (where points of contrast take on a green or magenta line), vignetting and a lack of sharpness at the edges of the image. More expensive lenses have less aberrations.

There's not a lot you can do about this except to be aware of it. One step you can take is to shoot using the RAW format. This is because most RAW converters can now correct chromatic aberrations and vignetting (except the 'lite' Adobe Camera Raw that works with Photoshop Elements). However, they can't do anything about the fall-off in image quality at the edges of the photo.

Photo Gallery

Using wide apertures is a great way of taking some unusual, moody photos. Here are some links to the Flickrstreams of three photographers that use wide apertures to great effect in their work. Their photos will inspire you and give you some ideas of how to use this technique in your own work. Admittedly, they are using prime lenses, but don't let this put you off using the widest aperture on your zoom lens if you don't own a prime lens.

Some Flickr Groups worth checking out....

CZ Contax Distagon 35mm f/1.4

Voigtlander Nokton 58mm f/1.4 SL

Canon Ef 85mm f/1.2 LII