Fuel BOOKS

Choosing the Right Lens for Nature and Landscape Photography

ROB SHEPPARD

Dedication

I dedicate this book to all of my students from around the country and the world who have taught me how people learn about nature and photography and how I can better share ideas about both.

Acknowledgements

My family is terrific. My wife is always so supportive and helpful, especially during these times of major changes in the photo business. My son loves education, that is his career, and I always learn something in my discussions with him. My daughter is also a writer and photographer and I find her fresh approaches inspiring. Now my son is married and I look forward to learning from my new daughter-in-law.

Second, I really have to acknowledge the folks at Peachpit Press for starting up photo e-books. I think we are just in the beginning stages of this fascinating way of combining words and photos in beautiful ways. I also thank all of them for the great work they do and the support they give to make sure their authors, like me, create a book that we can all be proud of.

About the Author

Rob Sheppard believes we all have a unique vision to share through photography. The craft of photography matters if you want your photos to communicate. Nature photography is not just about clever photos briefly shown on Facebook or Instagram. It's about finding ways to create meaning in your photography and connect people with the natural world. Black and white has the power to do exactly that.

Rob is a naturalist, nature photographer, and videographer. He has been busy over the years creating over 40 books related to photography, including *Landscape Photography: From Snapshot to Great Shot, The Magic of Digital Landscape Photography, The Magic of Digital Nature Photography*, and the *National Geographic Field Guide to Digital Photography. A Nature Photography Manifesto* and *Reports from the Wild* ebooks are available from Apple's iBookstore.

Rob is a speaker and workshop leader, and a Fellow with the North American Nature Photography Association. He was the long-time editor of the prestigious *Outdoor Photographer* magazine and presently is a contributing editor. His education was both as a photographer and a naturalist specializing in ecology and botany. Visit his website at robsheppardphoto.com and read his blog at natureandphotography.com.

Choosing the Right Lens for Nature and Landscape Photography

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Find a lens that fits your photography style

The big-range zoom lens that covers wide-angle to long telephoto has become very popular. Such lenses are convenient and can be used for many types of photography. Such lenses are also compromises that might be okay for a large variety of subjects, yet, they are not necessarily ideal or best for any one type of photography. This chapter will match what you learned in the last chapter to specific subject matter you may be interested in photographing.

Poring Over the Picture

With water all around its nest, this black-necked stilt is protected from predators ... and photographers! I definitely needed a long telephoto lens here in order to capture this bird sitting on its nest. I also used a wide aperture to combine with the telephoto for very shallow depth of field. What you like to photograph will influence the focal lengths you need.

A low angle combines with shallow depth of field to emphasize this bird on its nest. Merritt Island National Wildlife Refuge, Florida.

ISO 100, 1/350, f/5.6, 400mm (APS-C)

Landscapes

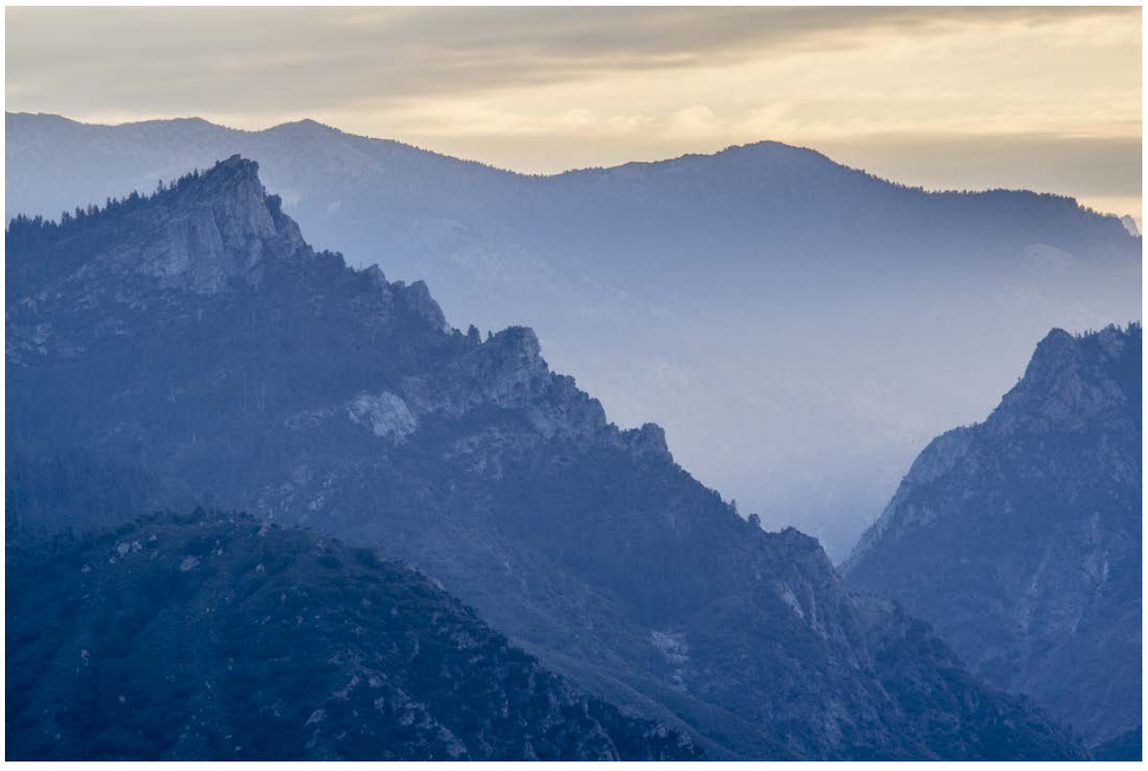
Landscape photography is one of the most popular types of photography of any kind. The landscapes around our country are spectacular and always different. This is true, too, as you travel the world. More photos of landscapes have been taken than any other kind of nature photography.

So what do you need for landscape work? For many photographers, their thoughts immediately go to wide angles. They want to capture the big picture of the scene and a wide angle seems to be the way to do that. Don't arbitrarily think a wide-angle lens is always best though. It helps to look at what a wide angle can or cannot do for you when shooting a landscape.

By getting up close and down low with a wide-angle lens, I could make the landscape stretch into the distance. Central Coast, California.

ISO 100, 1/40, f/16, 14mm (Four Thirds)

I like to work a landscape with a range of focal lengths. I find I use more moderate wide and telephoto focal lengths most of the time, such as 24-200mm for 35mm full-frame, 16-135mm for APS-C, and 12-100mm for Four Thirds.



A telephoto lens here lets me reach out into the landscape of Kings Canyon National Park, California.

ISO 200, 1/40, f/11, 200mm (Four Thirds)

Shorter focal lengths strengthen the effects of a wide-angle focal lens. Wide focal lengths give you:

- A wider view of the scene. That can be important to show off the whole area.
- Stronger emphasis to the foreground. A wide-angle makes the foreground look closer and the background look farther away. That gives more emphasis to what is nearby. (More on this perspective effect later in the book). Extreme wide-angle lenses make for very dramatic foregrounds, but this is also a reason why they can be a problem. They can make the foreground way too important.
- Stronger emphasis to the sky. A wide-angle not only captures a wider view of the landscape, it also reveals a wider view of the sky. Tilt your camera up when the skies look good over the scene. Extreme wide-angles can capture a bold view of the sky.
- Reduced emphasis for the background. The wide-angle makes the background smaller so more of it fits into the image, but this also reduces its impact on the photo.
- The ability to photograph a larger area from a fixed position. Sometimes you are stuck in a spot that cannot be changed much as you photograph a landscape in front of you. You might be at the edge of water or perhaps a cliff is behind you. The wide-angle lets you bring in the view without having to step back, which you might not be able to do.

- The challenge of more foreground and sky. As you try to get more and more of a landscape into the scene from left to right, you also pick up more and more ground and sky. This can start to make the landscape itself seem less important, no matter your intent, because of the dominance of the sky and foreground.

A wide-angle focal length adds foreground and sky, besides width. Here, the sky and foreground help show off the setting. Red Rock Canyon Conservation Area, Nevada.

ISO 100, 1/30, f/16, 18mm (APS-C)

A telephoto can also give you great landscape shots. This is missed by photographers who believe that the wide-angle is what they have to use for a landscape. A telephoto can change the way you see a landscape and give you increased opportunities for excellent images.

Longer focal lengths strengthen the effects of a telephoto focal lens. Telephoto focal lengths give you:

- Details of a landscape. With a telephoto, you can stand in one spot and capture interesting details in the landscape in front of you. This can be especially important when the landscape is quite a distance away, though it is also fun to do this with any landscape. Just putting on a telephoto or zooming lens to a telephoto setting and then looking around the landscape can help you discover new images that might otherwise be missed. The stronger the telephoto, the smaller the details revealed. Less foreground. The telephoto will emphasize distant details by its narrow angle of view. That means it is seeing less of the foreground, sometimes very little at all.

- Change in the sky. The narrow angle of the telephoto will not allow an expansive view of the sky, so you end up with a different relationship of sky to ground. Often that means focusing attention on a few clouds near the horizon instead of on what is happening across the sky.

- Dramatic setting and rising suns. A big telephoto will make the sun very big as it reaches the horizon at sunset and or comes above it at sunrise. You do have to be careful using a telephoto and staring at the sun through your camera's viewfinder. This can damage your eye. Live View can be a great help because none of the sun's rays will reach you directly through the camera.

- Emphasis on the background. You are pulling in details from the distance, so of course you are emphasizing the background of your scene.

- Increased haze. Since a telephoto has to cut through a lot of air to capture a distant scene, it will overemphasize any haze that happens to be in the air. This can be unattractive for most landscapes, though a fog that filters through the landscape can be interesting. Use a telephoto to intensify fog.

TIP:
A polarizing filter can have a big impact on how your lens deals with a landscape. It is designed to rotate in front of your lens for different amounts of its effect. When you shoot with the sun at your side, a polarizing filter can darken the sky and make clouds show up better. It can remove reflections from water and shiny objects, such as leaves, which can increase saturation, but also make a stream look weird without any reflection. This filter also helps reduce haze.

A telephoto focal length brings in a distant scene and makes foreground and background more equal. Alabama Hills, California.

ISO 100, 1/60, f/10, 55mm (APS-C)

Flowers

Flower photography is fun! One of the really great things about flowers is that when they are in bloom, you can find opportunities to photograph them nearly anywhere and at nearly any time of day. Yet, many photographers are disappointed in their flower photos. Understanding the possibilities of focal length choice can help change that.

All focal lengths work well with flowers. This is a limitation of shooting them with a macro lens—the macro lens is only one focal length. Check out how close you can photograph with all of your lenses. The way to do this is not to guess about close distance or even look at the focus scale on the lens. Do this by first setting your camera and lens to manual focus; next set the camera to the closest distance possible; then move in until the subject is in focus. I have found that often photographers have never used their lens at its closest focusing distance because they have never tried this.

A mid-range focal length on a wide-angle to telephoto zoom captured these California Poppies at its minimum focus distance. Montaña de Oro State Park, California.

ISO 100, 1/100, f/14, 50mm (APS-C)

I like to work flowers with a range of focal lengths, though most of the time that range is fairly limited, such as 24-200mm for 35mm full-frame, 16-135mm for APS-C, and 12-100mm for Four Thirds. I do find that fisheye lenses can give a wonderful look when you get super close (many of these lenses focus to inches), and if I have a long telephoto with me, I gain perspective and color not possible in any other way.

Being able to use multiple focal lengths with flowers changes how you approach them and can have a strong effect on results. This does not mean standing in one spot and zooming in. That doesn't change much other than cropping the scene in camera. It does mean choosing a focal length for what it does and then moving closer or farther way from the subject until it is in focus and looks good.

A wide-angle focal length up close gives you:

- A wider view of the close-up subject and its surroundings. This can help you show off the flower's environment, where it lives.

- A dramatic subject-to-background look. When you get up close to a subject with a wide-angle lens, you make the subject big against a small background.

- A more detailed background. The wide-angle gives more depth of field. That combined with a smaller background puts more visible detail back there. Regardless if it is in focus or not, this detail can either be complementary to the subject or extremely distracting.

Here, a wide-angle lens up close to yucca flowers shrinks the background so you get a strong feeling of setting. Santa Monica Mountains, California.

ISO 100, 1/100, f/13, 18mm (APS-C)

TIP:
Use achromatic close-up lenses with wide-angle lenses to allow them to focus closer, though you do need to have a close-up lens sized large enough to deal with the wide-angle of the lens.

A telephoto lens up close gives you (these effects are strengthened with longer focal lengths):

- An emphasis on the subject itself. The telephoto will blur the background because it has less depth of field, plus it will see less of the background, minimizing its impact.
- The ability to pick out single flowers or flower details without being as close.
- Soft backgrounds. No matter what you do, depth of field is always less up close. So add that to a telephoto, and backgrounds can gain wonderful, soft looks. Avoid stopping your lens down to small f-stops if you want this effect.

TIP:
Use achromatic close-up lenses or extension tubes with telephoto lenses to allow them to focus closer (more on working with lenses up close in Chapter 5, "Getting Close").

With a telephoto lens, the camera can isolate and emphasize these wooly blue curls by seeing less of the background. Santa Monica Mountains, California.

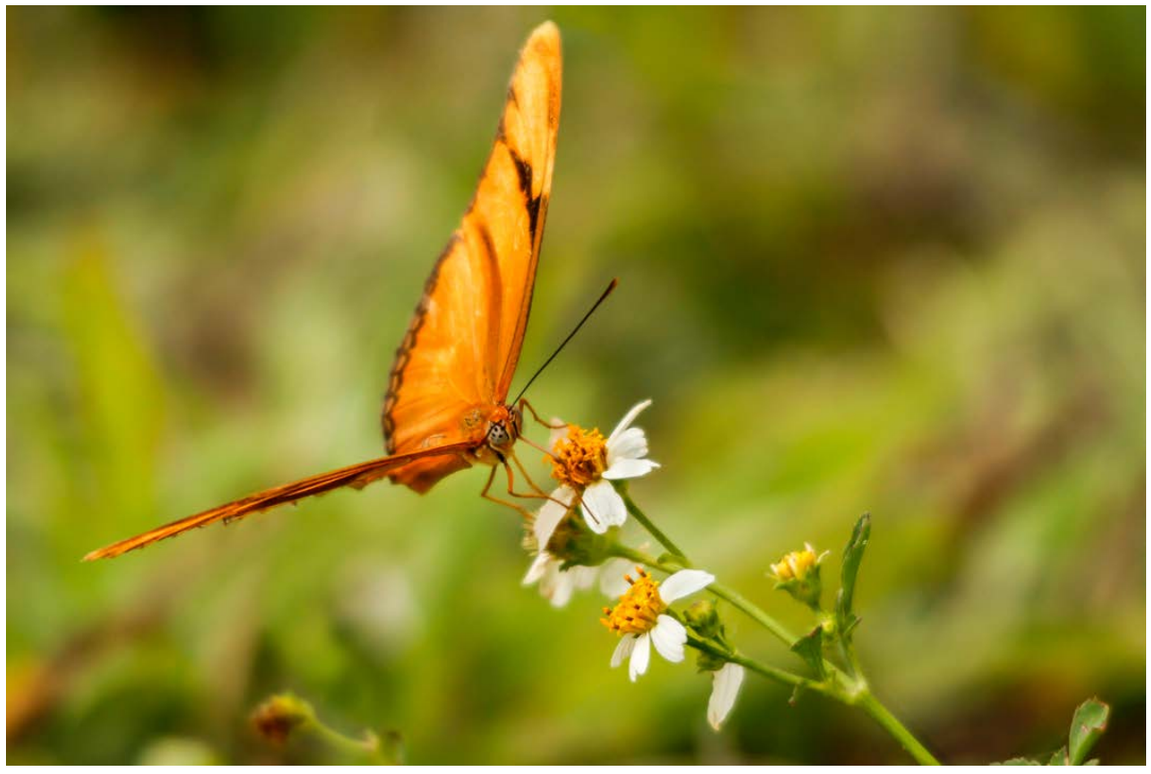
ISO 100, 1/125, f/8, 100mm (MFT)

Insects and Small Critters

Africa is an amazing place filled with wonderful wildlife. Yet, you can find some incredible wildlife in places as close as your backyard. Butterflies, bees, and other small critters like spiders offer similar examples of life to Africa—life-and-death struggles, stunning beauty, herds of animals avoiding predators, hunting predators, and much more.

By getting in close, you explore a world that many other people never see. That immediately gives your images impact beyond the average photo. But this is tricky. It is not as simple as putting on a macro lens or even using extension tubes so you are good to go. Small wildlife can be just as wary as big animals, though on a different scale. Often they do not let you get close.

I find that I need strong telephoto focal lengths most of the time for these critters. That allows me to put at least a little space between them and the camera. Yet, you often still have to work slowly and stealthily to get close. I will often put extension tubes on a telephoto focal length, typically 180-400mm for 35mm full-frame, 120-270mm for APS-C, and 90-200mm for Four Thirds.



This Julia heliconian butterfly would not tolerate a close approach, so a long telephoto was needed. Everglades National Park, Florida.

ISO 400, 1/250, f/5.6, 400mm (APS-C)

There is a big challenge with such lenses up close: camera movement during exposure. When you are magnifying small details of close-ups with a telephoto, you are also magnifying camera movement that can degrade image quality. I have found that a lot of photographers on the Internet who think they have discovered bad lenses are in reality not locking down the camera sufficiently. Camera movement is causing the problem, not the lens.

Cameras today let you readily shoot with high ISO settings and get great image quality. Set your camera to at least ISO 400 (and higher might be better) then use f-stops that keep your shutter speed high. How high depends on if you are handholding the camera or using a tripod. If you are handholding, work for shutter speeds of 1/500 and faster to stop camera movement during exposure. Use any image stabilization you have.

If you are shooting from a tripod, you can shoot at much slower shutter speeds, though you still have to be careful because typically you will be following an insect with a loose tripod head. Use 1/125 and faster. Experiment with slower shutter speeds to see what your set up is capable of.

Avoid using very small apertures such as f/22 even if you think you need the depth of field. It is better to have less depth of field and a sharp photo than a fuzzy photo that has “more” depth of field.

A skipper butterfly poses momentarily in a garden in Los Angeles. A telephoto helps keep the butterfly relaxed.

ISO 400, 1/2500, f/5.6, 90mm (MFT)

Wildlife

Wildlife photography is one type of photography that demands some very specific focal lengths. It can be very difficult to get close to animals in the wild, even if you shoot from some sort of blind that keeps the animals from seeing you. Wildlife requires telephotos and fairly strong telephotos.

The type of wildlife, location and how used to people the animals are influences the focal length needed. Here are some things to consider:

Large animals, such as bison or elk, in national parks where they accept people being there

- You can often get by with a telephoto as short as 200mm for full-frame, 135mm for APS-C, and 100mm for MFT when you are shooting whole animals and herds.

- Never use wider focal lengths with large animals unless you are protected in some sort of vehicle or structure. Large wild animals are wild and if you approach closer than what a 200mm (full-frame) can give you, you are endangering both of you.

Two white-tailed deer near the road in Shenandoah National Park, Virginia.

ISO 400, 1/45, f/4, 150mm (MFT)

- For detail shots of the animals, you need longer focal lengths starting at 300mm for full-frame, 180mm for APS-C, and 150mm for MFT.

- When animals are at a distance, you are going to need either very long telephotos or you can simply use the animals as part of a larger composition of the landscape.

Moderate to large animals photographed while hiking through landscape

- A telephoto zoom is very useful for working an area for wildlife.

- A focal length range of 200-400mm (full-frame), 135-300mm (APS-C), and 100-200mm (MFT) is great for this type of shooting.

- Longer focal lengths may be useful, but they can be a problem to handle in these conditions. They are increasingly sensitive to camera movement during exposure, so you have to shoot with very fast shutter speeds. They are also heavier and more tiresome to carry.

Elk relax in a meadow in Prairie Creek Redwoods State Park, California.

ISO 400, 1/2500, f/5.6, 200mm (APS-C)

Birds at a refuge

- How close you can get to birds in a wildlife refuge will depend on the refuge and the season. Ducks and other waterfowl can be easy to get close to most of the year, but then become skittish during hunting season.

- You are often limited as to your position in a refuge because of water, access, and observation platforms. This means you generally need pretty long telephoto lenses.

- The minimum focal lengths needed are 300mm (full-frame), 200mm (APS-C), and 150mm (MFT), but these truly are minimums. You will often find you need 400mm and above (full-frame), 300mm and above (APS-C), and 200mm and above (MFT). MFT cameras have a real advantage here because you can get very high magnification with smaller, lighter lenses.

Egrets fly to their roost at sunset in the Merritt Island National Wildlife Refuge, Florida.

ISO 400, 1/500, f/14, 300mm (APS-C)

Birds at a feeder or man-made water

- You can usually get reasonably close to birds on a feeder, especially when you are inside a house (or other “blind”). However, these are generally small birds, so you still need some power in your telephoto.

- Focal lengths of 300mm and above (full-frame), 200mm and above (APS-C), and 150mm and above (MFT) are needed for this type of photography.

- Many of such telephoto lenses do not allow you to focus close enough so you will need extension tubes to allow you to do that.

TELE-EXTENDERS

Tele-extenders or teleconverters are accessory lenses that fit between your lens and camera and then provide additional magnification for your lens. They can be an inexpensive and compact way of gaining more focal length. They typically come in 1.4x and 2.0x strengths. One challenge with them is that they reduce the light to the sensor. The 1.4x halves the amount of light; the 2.0x cuts light by one fourth.

A blue-jay bathes in a backyard pond near Alma, Illinois.

ISO 400, 1/100, f/10, 800mm (APS-C)

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