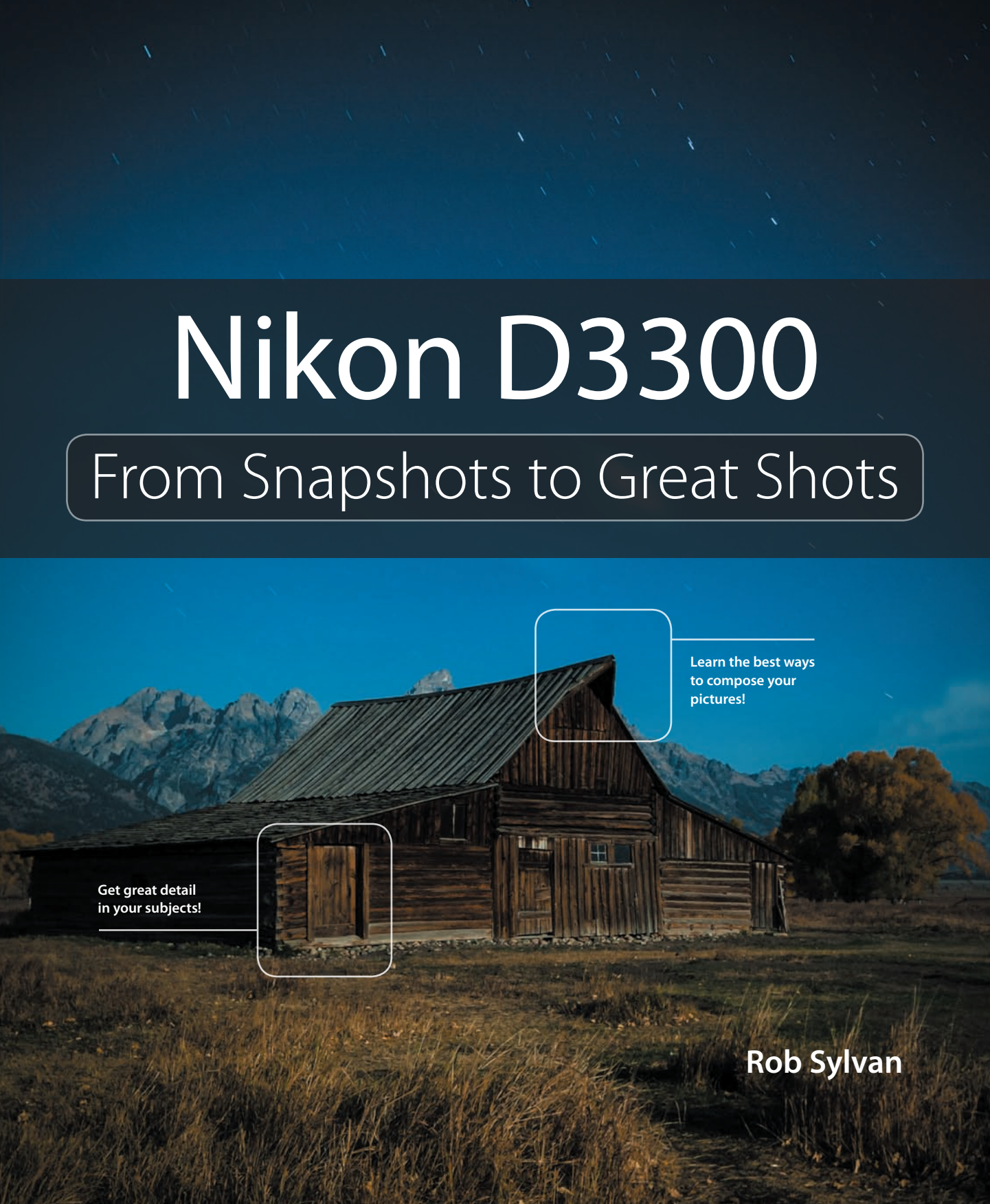
Nikon D3300

From Snapshots to Great Shots



Rob Sylvan

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Peachpit Press

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Dedication

For Paloma. I love you.

Acknowledgments

My deepest thanks go to Jeff Revell, the author of a number of books in the From Snapshots to Great Shots series, and specifically the book on the D3100, which I had the honor and pleasure of updating for the D3200 and D3300. Jeff is a tremendous photographer and gifted teacher. Thank you for providing such a sound foundation upon which to build.

Any book that has reached the final stage of being published is actually the work of many hands (eyes, brains, and hearts too) behind the scenes. I owe everyone at Peachpit a great deal of gratitude, but specifically Susan Rimerman, Ted Waitt, Lisa Brazieal, Suki Gear, Bethany Stough, Sara Jane Todd, Scott Cowlin, and Nancy Aldrich-Ruenzel, who were instrumental in getting this book finished, looking so darn fantastic, and out into the world. Thank you all.

A special thanks to David Brommer and B&H Photo Video for help in securing the D3300 I used to write this book.

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I also want to thank my wife, Paloma, for being the love of my life and my number one supporter during this project; my son, Quinn, for assisting me on many shoots and being the model in many more; and my family, friends, and neighbors—Ea, Avery, Otis, Hayley, Mark, Adrienne, Emma, Julia, Paige, Kris, Max, Chris, Anna, Dan, Jayda, Maggie, Jaylin, Alden, Hayden—for being a part of the book in large and small ways.

I owe a deep debt of gratitude to Nikki McDonald, who took a chance on me a few years ago and invited me into the Peachpit family. This is all your fault. ☺

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Introduction

The D3300 is a wonderful bit of camera technology and a very capable tool for creating photographs that you will be proud to show others. The intention of this book is not to be a rehash of the owner's manual that came with the camera, but rather to be a resource for learning how to improve your photography while using your D3300. I am very excited and honored to help you in that process, and to that end I have put together a short Q&A to help you get a better understanding of what you can expect from this book.

Q: Is every camera feature going to be covered?

A: Nope, just the ones I felt you need to know about in order to start taking great photos. Believe it or not, you already own a great resource that covers every feature of your camera: the owner's manual. Writing a book that just repeats this information would have been a waste of my time and your money. What I did want to write about was how to harness certain camera features to the benefit of your photography. As you read through the book, you will also see callouts that point you to specific pages in your owner's manual (either the small printed manual or the more complete PDF found on the disc that comes with the camera) that are related to the topic being discussed. For example, I discuss the use of the AE-L button, but there is more information available on this feature in the manual. I cover the function as it applies to our specific needs, but I also give you the page numbers in the manual so you can explore it even further.

Q: What about video?

A: While the focus of this book is on creating still photographs, I have devoted one chapter (Chapter 10) to helping you get started with the video functions of the D3300.

Q: So if I already own the manual, why do I need this book?

A: The manual does a pretty good job of telling you how to use a feature or turn it on in the menus, but it doesn't necessarily tell you *why* and *when* you should use it. If you really want to improve your photography, you need to know the whys and whens to put all of those great camera features to use at the right time. To that extent, the manual just isn't going to cut it. It is, however, a great resource on the camera's features, and it is for that reason I treat it like a companion to this book. You already own it, so why not get something of value from it?

Q: What can I expect to learn from this book?

A: Hopefully, you will learn how to take great photographs. My goal—and the reason the book is laid out the way it is—is to guide you through the basics of photography as they relate to different situations and scenarios. By using the features of your D3300 and this book, you will learn about aperture, shutter speed, ISO, lens selection, depth of field,

and many other photographic concepts. You will also find plenty of full-page photos that include captions, shooting data, and callouts so you can see how all of the photography fundamentals come together to make great images. All the while, you will be learning how your camera works and how to apply its functions and features to your photography.

Q: What are the assignments all about?

A: At the end of most of the chapters, you will find shooting assignments, where I give you some suggestions as to how you can apply the lessons of the chapter to help reinforce everything you just learned. Let's face it—using the camera is much more fun than reading about it, so the assignments are a way of taking a little break after each chapter and having some fun.

Q: Should I read the book straight through, or can I skip around from chapter to chapter?

A: Here's the easy answer: yes and no. No, because the first four chapters give you the basic information you need to know about your camera. These are the building blocks for using the camera. After that, yes, you can move around the book as you see fit because the remaining chapters are written to stand on their own as guides to specific types of photography or shooting situations. So you can bounce from portraits to shooting landscapes and then maybe to a little action photography. It's all about your needs and how you want to address them. Or you can read the book straight through. The choice is up to you.

Q: Is there anything else I should know before getting started?

A: In order to keep the book short and focused, I had to be selective about what I included in each chapter. The problem is that there is a little more information that might come in handy after you've gone through all the chapters. So as an added value for you, I have written a bonus chapter: Chapter 12, called "Accessorize." It is full of information on accessories that will assist you in making better photographs. You will find my recommendations for things like filters, tripods, and much more. To access the bonus chapter, just log in or join Peachpit.com (it's free), then enter the book's ISBN (9780133-854428) on this page: www.peachpit.com/store/register.aspx. After you register the book, a link to the bonus chapter will be listed on your Account page under Registered Products. Note: If you purchased an electronic version of this book, you're set—Chapter 12 is already included in it.

Q: Is that it?

A: One last thought before you dive into the first chapter. My goal in writing this book has been to give you a resource you can turn to for creating great photographs with your Nikon D3300. Take some time to learn the basics, and then put them to use. Photography, like most things, takes time to master and requires practice. I have been a photographer for many years and I'm still learning. Always remember that it's not the camera that makes beautiful photographs—it's the person using it. Have fun, make mistakes, and then learn from them. In no time, I'm sure you will transition from a person who takes snapshots to a photographer who makes great shots.

ISO 100 • 1/80 sec. • f/2.5 • 50mm lens

4

The Professional Modes

Taking Your Photography to the Next Level

If you talk to professional photographers, you will find that the majority of them use a few selective modes that offer the greatest amount of control over their photography. To anyone who has been involved with photography for any period of time, these modes are known as the backbones of photography. They allow you to influence two of the most important factors in taking great photographs: aperture and shutter speed. To access these modes, you simply turn the Mode dial to one of the letter-designated modes and begin shooting. But wouldn't it be nice to know exactly what those modes control and how to make them do our bidding? Well, if you really want to take that next step in controlling your photography, it is essential that you understand not only how to control these modes but why you are controlling them. So let's move that Mode dial to the first of our professional modes: Program mode.

Poring Over the Picture

I love the mix of moving water and long exposures. The key is having something solid in the scene to provide contrast against the movement of the water, and these river stones were perfect. I used the Bulb setting in Manual mode, which we'll cover in Chapter 11, to get the extremely long exposure duration.

ISO 200 • 120 sec. • f/11 • 35mm lens

P: Program Mode

There is a reason that Program mode is only one click away from the automatic modes: With respect to apertures and shutter speeds, the camera is doing most of the thinking for you. So, if that is the case, why even bother with Program mode? First, let me say that I rarely use Program mode because it just doesn't give as much control over the image-making process as the other professional modes. There are occasions, however, when it comes in handy, like when I am shooting in widely changing lighting conditions and don't have the time to think through all of my options, or when I'm not very concerned with having ultimate control of the scene. Think of a picnic outdoors in a partial shade/sun environment. I want great-looking pictures, but I'm not looking for anything to hang in a museum. If that's the scenario, why choose Program over one of the scene modes? Because it gives me choices and control that none of the scene modes can deliver.

Manual Callout

To see a comparison of all the different modes, check out the table on page 326 of the electronic Reference Manual.

When to use Program (P) mode instead of the automatic scene modes

- When shooting in a casual environment where quick adjustments are needed
- When you want more control over the ISO
- When you want to make corrections to the white balance
- When you want to change shutter speeds or the aperture to achieve a specific result

Let's go back to our picnic scenario. As I said, the light is moving from deep shadow to bright sunlight, which means that the camera is trying to balance our three photo factors (ISO, aperture, and shutter speed) to make a good exposure. From Chapter 1, we know that Auto ISO is just not a consideration, so we have already turned that feature off (you did turn it off, didn't you?). Well, in Program mode, you can choose which ISO you would like the camera to base its exposure on. The lower the ISO number, the better the quality of our photographs, but the less light sensitive the camera becomes. It's a balancing act, with the main goal always being to keep the ISO as low as possible—too low an ISO, and we will get camera shake in our images from a long shutter speed; too high an ISO means we will have an unacceptable amount of digital noise. For our purposes, let's go ahead and select ISO 400 so we provide enough sensitivity for those shadows while allowing the camera to use shutter speeds that are fast enough to stop motion.

Starting points for ISO selection

We discuss ISO quite often in this and other chapters, but it might be helpful if you know where your starting points should be for your ISO settings. The first thing you should always try to do is use the lowest possible ISO setting. That being said, here are good starting points for your ISO settings:

- **100:** Bright sunny day
- **200:** Hazy or outdoor shade on a sunny day
- **400:** Indoor lighting at night or cloudy conditions outside
- **800:** Late night, low-light conditions or sporting arenas at night

These are just suggestions, and your ISO selection will depend on a number of factors that will be discussed later in the book. You might have to push your ISO even higher as needed, but at least now you know where to start.

With the ISO selected, we can now make use of the other controls built into Program mode. By rotating the Command dial, we now have the ability to shift the program settings (Nikon calls this "flexible program"). Remember, your camera is using the internal meter to pick what it believes are suitable exposure values, but sometimes it doesn't know what it's looking at and how you want those values applied (**Figures 4.1** and **4.2**).

Figure 4.1 This is my first shot, using Program mode.

ISO 100 • 1/1600 sec. • f/2 • 50mm lens

Figure 4.2 I decreased the size of the aperture by rotating the Command dial to the left to get a greater depth of field, and the shutter speed slowed down to maintain the same exposure value.

ISO 100 • 1/80 sec. • f/9 • 50mm lens

With the program shift, you can influence what the shot will look like. Do you need faster shutter speeds in order to stop the action? Just turn the Command dial to the right. Do you want a smaller aperture so you get a greater depth of field? Then turn the dial to the left until you get the desired aperture. The camera shifts the shutter speed and aperture accordingly in order to get a proper exposure, and you will get the benefit of your choice as a result.

You will also notice that if you rotate the Command dial, a small star will appear above the letter P in the viewfinder and the rear display. This star is an indication that you modified the exposure from the one the camera chose. To go back to the default Program exposure, simply turn the dial until the star goes away, or switch to a different mode and then back to Program mode again.

Let's set up the camera for Program mode and see how we can make all of this come together.

Setting up and shooting in Program mode

1. Turn your camera on, and then turn the Mode dial to align the P with the indicator line.
2. Select your ISO by pressing the **i** button on the lower-left portion of the back of the camera (if the camera's info screen is not visible, press the i button to turn it on, and then press it again).
3. Highlight the ISO option, and then select OK.
4. Use the Multi-selector to select the desired ISO setting, and then press OK to lock in the change.
5. Point the camera at your subject, and then activate the camera meter by depressing the shutter button halfway.
6. View the exposure information in the bottom of the viewfinder or by looking at the display panel on the back of the camera.
7. While the meter is activated, use your thumb to roll the Command dial left and right to see the changed exposure values.
8. Select the exposure that is right for you and start clicking. (Don't worry if you aren't sure what the right exposure is. We will start working on making the right choices for those great shots beginning with the next chapter.)

S: Shutter Priority Mode

S mode is what we photographers commonly refer to as Shutter Priority mode. Just as the name implies, it is the mode that prioritizes or places major emphasis on the shutter speed above all other camera settings.

Just as with Program mode, Shutter Priority mode gives us more freedom to control certain aspects of our photography. In this case, we are talking about shutter speed. The selected shutter speed determines just how long you expose your camera's sensor to light. The longer it remains open, the more time your sensor has to gather light. The shutter speed also, to a large degree, determines how sharp your photographs are. This is different from the image being sharply in focus. Two of the major influences on the sharpness of an image are camera shake and the subject's movement. Because a slower shutter speed means that light from your subject is hitting the sensor for a longer period of time, any movement by you or your subject will show up in your photos as blur.

Shutter speeds

A *slow* shutter speed refers to leaving the shutter open for a long period of time—like 1/30 of a second or longer. A *fast* shutter speed means that the shutter is open for a very short period of time—like 1/250 of a second or shorter.

When to use Shutter Priority (S) mode

- When working with fast-moving subjects where you want to freeze the action (**Figure 4.3**); much more on this in Chapter 5
- When you want to emphasize movement in your subject with motion blur (**Figure 4.4**)
- When you want to use a long exposure to gather light over a long period of time (**Figure 4.5**); more on this in Chapter 8
- When you want to create that silky-looking water in a waterfall (**Figure 4.6**)

Figure 4.3
Even the fastest of subjects can be frozen with the right shutter speed.

ISO 299 • 1/500 sec. • f/4 • 70mm lens

Figure 4.4
Slowing down the shutter speed and following the motion conveys a sense of movement in the shot.

ISO 800 • 1/10 sec. • f/8 • 24mm lens

Figure 4.5
In this low-lit night environment, a long exposure was needed to capture the scene.
ISO 1000 • 30 sec. • f/8 • 24mm lens

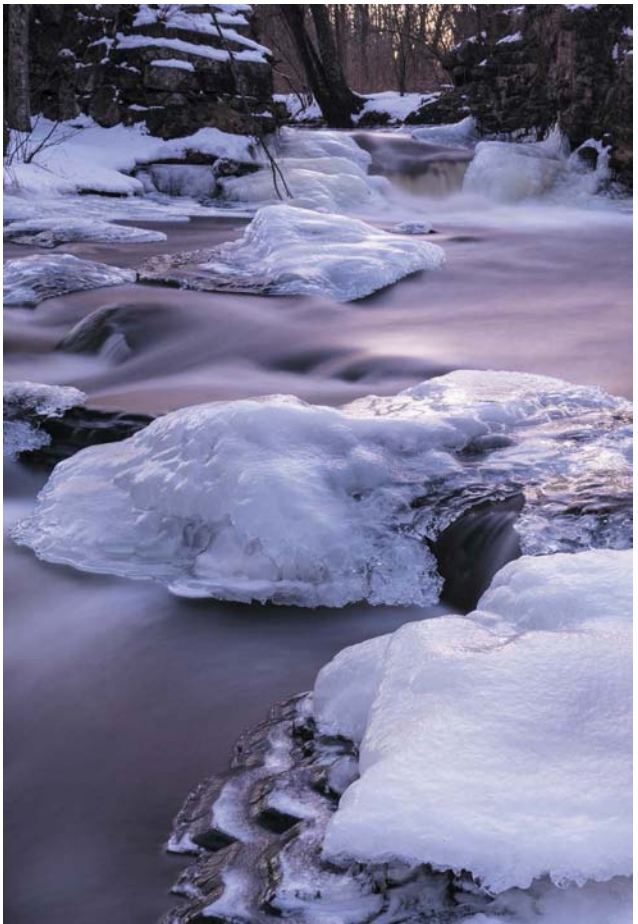


Figure 4.6
Increasing the length of the exposure time gives moving water a misty look.
ISO 100 • 15 sec. • f/16 • 85mm lens

As you can see, the subject of your photo usually determines whether or not you will use Shutter Priority mode. It is important that you be able to visualize the result of using a particular shutter speed. The great thing about shooting with digital cameras is you get instant feedback by viewing your shot on the LCD screen. But what if your subject won't give you a do-over? Such is often the case when shooting sporting events. It's not like you can go ask the quarterback to throw that touchdown pass again because your last shot was blurry from a slow shutter speed. This is why it's important to know what those speeds represent in terms of their capabilities to stop the action and deliver a blur-free shot.

First, let's examine just how much control you have over the shutter speeds. The D3300 has a shutter speed range from 1/4000 of a second to as long as 30 seconds. With that much latitude, you should have enough control to capture almost any subject. The other thing to think about is that Shutter Priority mode is considered a "semiautomatic" mode. This means that you are taking control over one aspect of the total exposure while the camera handles the other. In this instance, you are controlling the shutter speed and the camera is controlling the aperture. This is important, because there will be times when you want to use a particular shutter speed but your lens won't be able to accommodate your request.

For example, you might encounter this problem when shooting in low-light situations: If you are shooting a fast-moving subject that will blur at a shutter speed slower than 1/125 of a second, but your lens's largest aperture is f/3.5, you might find that your aperture display in the viewfinder and the rear LCD panel starts to blink, and you see "Subject is too dark" displayed on the LCD. This is your warning that there won't be enough light available for the shot—due to the limitations of the lens—so your picture will be underexposed.

Another case where you might run into this issue is when you are shooting moving water. To get that look of silky, flowing water, it's usually necessary to use a shutter speed of at least 1/15 of a second. If your waterfall is in full sunlight, you may get a message that reads "Subject is too bright" because the lens you are using only stops down to f/22 at its smallest opening. In this instance, your camera is warning you that you will be over-exposing your image. There are workarounds for these problems, which we will discuss later (see Chapter 7), but it is important to know that there can be limitations when using Shutter Priority mode.

Setting up and shooting in Shutter Priority mode

1. Turn your camera on, and then turn the Mode dial to align the S with the indicator line.
2. Select your ISO by pressing the **i** button on the lower-left portion of the back of the camera (if the camera's info screen is not visible, press the i button to turn it on, and then press it again).
3. Highlight the ISO option, and then press OK.
4. Use the Multi-selector to select the desired ISO setting, and then press OK to lock in the change.
5. Point the camera at your subject, and then activate the camera meter by depressing the shutter button halfway.
6. View the exposure information in the bottom area of the viewfinder or by looking at the rear LCD panel.
7. While the meter is activated, use your thumb to roll the Command dial left and right to see the changed exposure values. Roll the dial to the right for faster shutter speeds and to the left for slower speeds.

A: Aperture Priority Mode

You wouldn't know it from its name, but Aperture Priority mode is one of the most useful and popular of all the professional modes. The mode is one of my personal favorites, and I believe that it will quickly become one of yours as well. Aperture Priority mode is deemed a semiautomatic mode because it allows you to control one factor of exposure while the camera adjusts for the other.

Why, you may ask, is this one of my favorite modes? It's because the aperture of your lens dictates depth of field. Depth of field, along with composition, is a major factor in how you direct attention to what is important in your image. It is the controlling factor of how much area in your image is in focus. If you want to isolate a subject from the background, such as when shooting a portrait, you can use a large aperture to keep the focus on your subject and make both the foreground and background blurry. If you want to keep the entire scene sharply focused, such as with a landscape scene, then using a small aperture will render the greatest depth of field possible.

When to use Aperture Priority (A) mode

- When shooting portraits or wildlife (**Figure 4.7**)
- When shooting most landscape photography (**Figure 4.8**)
- When shooting macro, or close-up, photography (**Figure 4.9**)
- When shooting architectural photography, which often benefits from a large depth of field (**Figure 4.10**)

Figure 4.7
A large aperture created a very blurry background so all the emphasis was left on the subject.
ISO 400 • 1/250 sec. • f/2 • 50mm lens

Figure 4.8
The smaller aperture setting brings sharpness to near and far objects.
ISO 100 • 1/60 sec. • f/11 • 16mm lens

Figure 4.9 **A small aperture was used to capture all the detail on the heads of the bees as they emerged from the hive.**

ISO 4000 • 1/320 sec. • f/8 • 400mm lens

Figure 4.10 **I typically like to use smaller apertures for architectural shots, to keep everything in focus.**

ISO 100 • 1/200 sec. • f/11 • 50mm lens

F-stops and aperture

As discussed earlier, the numeric value of your lens aperture is described as an *f-stop*. The f-stop is one of those old photography terms that, technically speaking, relates to the focal length of the lens (e.g., 200mm) divided by the effective aperture diameter. These measurements are defined as "stops" and work incrementally with your shutter speed to determine proper exposure. Older camera lenses used one-stop increments to assist in exposure adjustments, such as 1.4, 2, 2.8, 4, 5.6, 8, 11, 16, and 22. Each stop represents about half the amount of light entering the lens iris as the larger stop before it. Today, most lenses don't have f-stop markings since all adjustments to this setting are performed via the camera's electronics. The stops are also now typically divided into 1/3-stop increments to allow much finer adjustments to exposures, as well as to match the incremental values of your camera's ISO settings, which are also adjusted in 1/3-stop increments.

So we have established that Aperture Priority (A) mode is highly useful in controlling the depth of field in your image. But it's also pivotal in determining the limits of available light that you can shoot in. Different lenses have different maximum apertures. The larger the maximum aperture, the less light you need in order to achieve an acceptably exposed image. You will recall that, when in Shutter Priority mode, there is a limit at which you can handhold your camera without introducing movement or hand shake, which causes blurriness in the final picture. If your lens has a larger aperture, you can let in more light all at once, which means you can use faster shutter speeds. This is why lenses with large maximum apertures, such as f/1.4, are called "fast" lenses.

On the other hand, bright scenes require the use of a small aperture (such as f/16 or f/22), especially if you want to use a slower shutter speed (**Figure 4.11**). That small opening reduces the amount of incoming light, and this reduction of light requires that the shutter stay open longer.

Setting up and shooting in Aperture Priority mode

1. Turn your camera on, and then turn the Mode dial to align the A with the indicator line.
2. Select your ISO by pressing the **i** button on the lower-left portion of the back of the camera (if the camera's info screen is not visible, press the i button to turn it on, and then press it again).
3. Highlight the ISO option, and then select OK.
4. Use the Multi-selector to select the desired ISO setting, and then press OK to lock in the change.
5. Point the camera at your subject, and then activate the camera meter by depressing the shutter button halfway.
6. View the exposure information in the bottom area of the viewfinder or by looking at the rear display panel.
7. While the meter is activated, use your thumb to roll the Command dial left and right to see the changed exposure values. Roll the dial to the right for a smaller aperture (higher f-stop number) and to the left for a larger aperture (smaller f-stop number).

Zoom lenses and maximum apertures

Some zoom lenses (like the 18–55mm kit lens) have a variable maximum aperture. This means that the largest opening will change depending on the zoom setting. In the example of the 18–55mm zoom, the lens has a maximum aperture of f/3.5 at 18mm and only f/5.6 when the lens is zoomed out to 55mm.

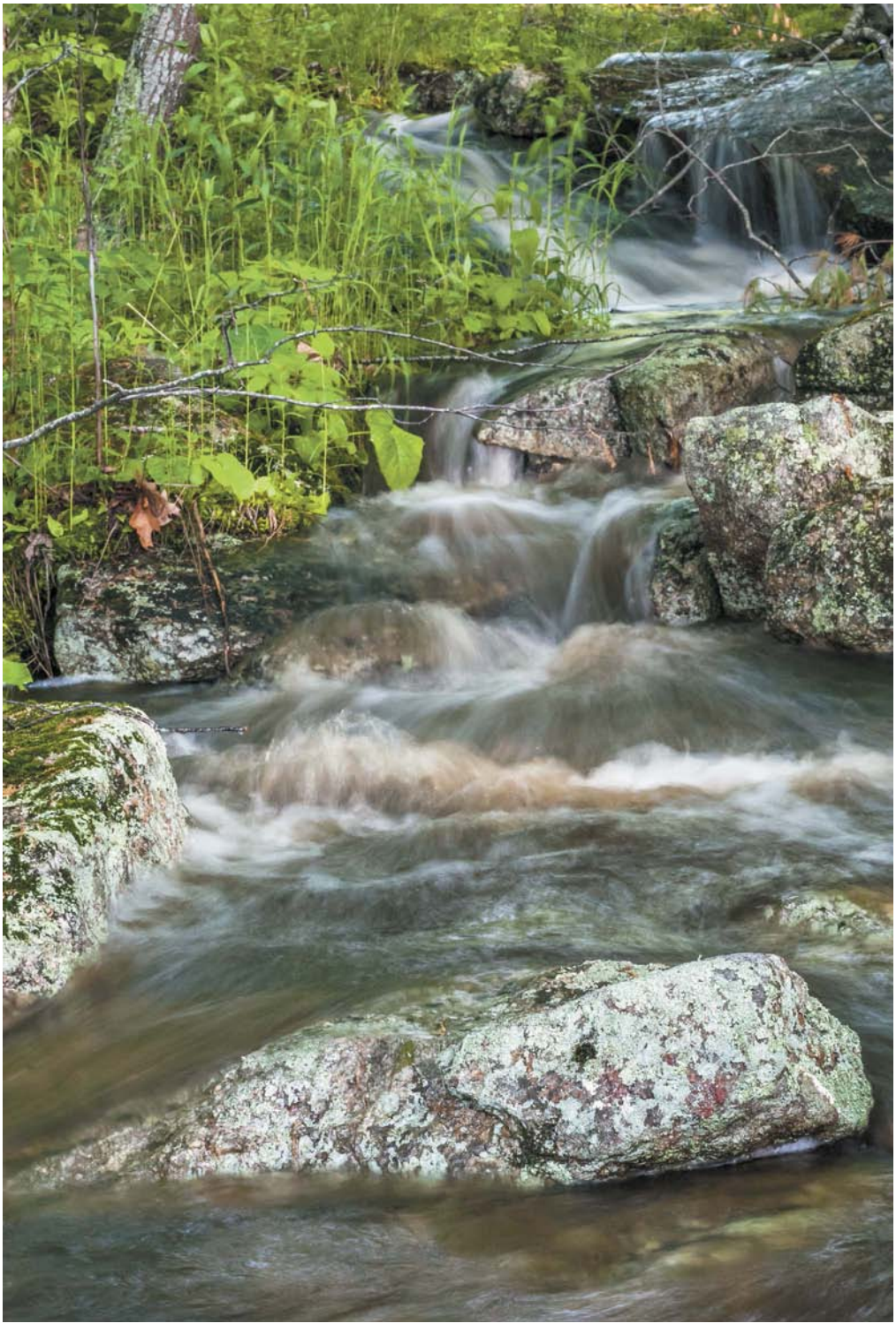


Figure 4.11
A small aperture created the need for a long shutter speed, which helped add fluidity to the flowing water.

ISO 800 • 1/4 sec. • f/22 • 60mm lens

M: Manual Mode

Once upon a time, long before digital cameras and program modes, there was Manual mode. In those days it wasn't called "manual mode" because there were no other modes—it was just photography. In fact, many photographers cut their teeth on completely manual cameras. Let's face it—if you want to learn the effects of aperture and shutter speed on your photography, there is no better way to learn than by setting those adjustments yourself. However, today, with the advancement of camera technology, many new photographers never give this mode a second thought. That's truly a shame, as not only is it an excellent way to learn your photography basics, but it's also an essential tool to have in your photographic bag of tricks.

When you have your camera set to Manual (M) mode, the camera meter will give you a reading of the scene you are photographing. It's your job, though, to set both the f-stop (aperture) and the shutter speed to achieve a correct exposure. If you need a faster shutter speed, you will have to make the reciprocal change to your f-stop. Using any other mode, such as Shutter Priority or Aperture Priority, would mean that you just have to worry about one of these changes, but Manual mode means you have to do it all yourself. This can be a little challenging at first, but after a while you will have a complete understanding of how each change affects your exposure, which will, in turn, improve the way you use the other modes.

When to use Manual (M) mode

- When learning how each exposure element interacts with the others (**Figure 4.12**)
- When your environment is fooling your light meter and you need to maintain a certain exposure setting (**Figure 4.13**)
- When shooting silhouetted subjects, which requires overriding the camera's meter readings (**Figure 4.14**)

Figure 4.12
I set the camera to Manual so I could ensure the exposure for the lit signs was correct while also using the slowest possible shutter speed to blur the motion of the people.

ISO 100 • 1/5 sec. • f/22 • 80mm lens

Figure 4.13
Beaches and snow are always a challenge for light meters. Add to that the desire to have exact control of depth of field and shutter speed, and you have a perfect scenario for Manual mode.

ISO 100 • 1/400 sec. • f/6.3 • 22mm lens

Figure 4.14
I used Manual mode to push the person into silhouette.
ISO 100 • 1/250 sec. • f/8 • 200mm lens

Setting up and shooting in Manual mode

1. Turn your camera on, and then turn the Mode dial to align the M with the indicator line.
2. Select your ISO by pressing the **i** button on the lower-left portion of the back of the camera (if the camera's info screen is not visible, press the i button to turn it on, and then press it again).
3. Highlight the ISO option, and then select OK.
4. Use the Multi-selector to select the desired ISO setting, and then press OK to lock in the change.
5. Point the camera at your subject, and then activate the camera meter by depressing the shutter button halfway.
6. View the exposure information in the bottom area of the viewfinder or by looking at the display panel on the rear of the camera.
7. While the meter is activated, use your thumb to roll the Command dial left and right to change your shutter speed value until the exposure mark is lined up with the zero mark. The exposure information is displayed by a scale with marks that run from –2 to +2 stops. A "proper" exposure will line up with the arrow mark in the middle. As the indicator moves to the right, it is a sign that you will be underexposing (there is not enough light on the sensor to provide adequate exposure). Move the indicator to the left and you will be providing more exposure than the camera meter calls for; this is overexposure.

8. To set your exposure using the aperture, depress the shutter release button until the meter is activated. Then, while holding down the Exposure Compensation/Aperture button (located behind and to the right of the shutter release button), rotate the Command dial to change the aperture. Rotate right for a smaller aperture (large f-stop number) and left for a larger aperture (small f-stop number).

Remember that when you are using Manual mode, it is up to you to decide what is the most important thing to worry about. Do you need a fast shutter? Do you want narrow depth of field? You decide and then you take control. It's really one of the best ways to learn how each change affects your image.

How I Shoot: A Closer Look at the Camera Settings I Use

The great thing about working with a DSLR camera is that I can always feel confident that some things will remain unchanged from camera to camera. For me, these are the Aperture Priority (A) and Shutter Priority (S) shooting modes. Regardless of the subject I am shooting—from landscape to portrait to macro—I am almost always going to be concerned with my depth of field. Whether it's isolating my subject with a large aperture (**Figure 4.15**) or trying to maximize the overall sharpness of a sweeping landscape, I always keep an eye on my aperture setting. If I do need to control the action, I use Shutter Priority. If I am trying to create a silky waterfall effect, I can depend on Shutter Priority mode to provide the long shutter speed that gets the desired result. Or perhaps I am shooting a baseball game—I definitely need fast shutter speeds that will freeze the fast-moving action.

While the other camera modes have their place, I think you will find that, like me and most other working pros, you will use the Aperture Priority and Shutter Priority modes for 90 percent of your shooting.

The other concern I have when I am setting up my camera is just how low I can keep my ISO. This is always a priority for me because a low ISO will deliver the cleanest image. I raise the ISO only as a last resort, because each increase in sensitivity is

Figure 4.15 **I wanted to blur the background as much as possible to reduce the clutter in the scene.**

ISO 200 • 1/640 sec. • f/2 • 50mm lens

an opportunity for more digital noise to enter my image. To that end, I always have the Noise Reduction feature turned on (see Chapter 7).

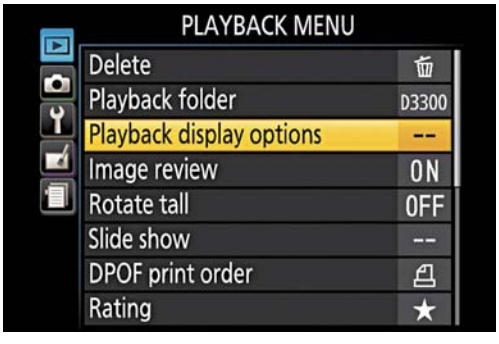
To make quick changes while I shoot, I often use the Exposure Compensation feature (covered in Chapter 7) so I can make small over- and underexposure changes. This is different from changing the aperture or shutter; it is more like fooling the camera meter into thinking the scene is brighter or darker than it actually is. To get to this function quickly, I simply press the Exposure Compensation/Aperture button and dial in the desired amount of compensation. Truth be told, I usually have this set to –1/3 so there is just a tiny bit of underexposure in my image. This usually leads to better color saturation. (Note: When shooting in Manual mode, the Exposure Compensation feature must be set by using the **i** button.)

One of the reasons I change my exposure is to make corrections when I see the "blinkies" in my rear LCD. Blinkies are the warning signal that part of my image has been overexposed to the point that I no longer have any detail in the highlights. When the Highlight Alert feature is turned on, the display will flash wherever the potential exists for overexposure. The black-and-white flashing will appear only in areas of your picture that are in danger of overexposure and that might suffer from a loss of detail.

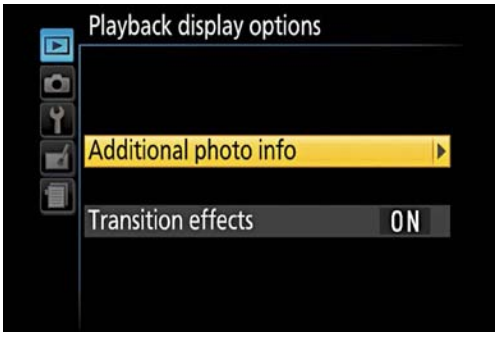
Setting up the Highlight Alert feature

1. Press the Menu button, and then use the Multi-selector to access the Playback Menu.
2. Once in the Playback Menu, move the Multi-selector to the Playback display options and press OK (**A**).
3. Select Additional photo info, and press the Multi-selector to the right (**B**).

A



B



4. Move the Multi-selector down to select the Highlights option, and then press the Multi-selector to the right to place a checkmark next to the word "Highlights" (**C**).
5. Repeat the process to include any of the other display options, and then press OK to lock in the changes and exit.

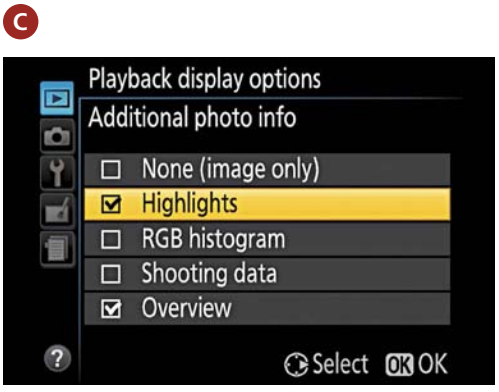


Figure 4.16 **The blinking black areas in the highlights are a warning that part of the image is overexposed with the current camera settings.**

Once the highlight warning is turned on, I use it to check my images on the rear LCD after taking a shot. If I see an area that is blinking (**Figure 4.16**), I will usually set the Exposure Compensation feature to an underexposed setting like –1/3 or –2/3 stops and take another photo, checking the result on the screen. I repeat this process until the warning is gone.

Sometimes, such as when shooting into the sun, the warning will blink no matter how much you adjust the exposure, because there is just no detail in the highlights. Use your best judgment to determine if the warning is alerting you to an area where you want to retain highlight detail.

To see the highlight, or "blinkie," warning, you will need to change your display mode. To do this, press the Image Review button on the back of the camera, and then press up or down on the Multi-selector until you see the word "Highlights" at the bottom of the display screen. This will now be your default display mode unless you change it or turn off the highlight warning.

As you work your way through the coming chapters, you will see other tips and tricks I use in my daily photography, but the most important tip I can give is that you should understand the features of your camera so you can leverage the technology in a knowledgeable way. This will result in better photographs.

This will be more of a mental challenge than anything else, but you should put a lot of work into these lesson assignments because the information covered in this chapter will define how you work with your camera from this point on. Granted, there may be times when you just want to grab some quick pictures and will resort to the automatic scene modes, but to get serious with your photography, you will want to learn the professional modes inside and out.

Starting off with Program mode

Set your camera on Program mode and start shooting. Become familiar with the adjustments you can make to your exposure by turning the Command dial. Shoot in bright sun, deep shade, indoors—anywhere that you have different types and intensities of light. While you are shooting, make sure you keep an eye on your ISO and raise or lower it according to your environment.

Learning to control time with Shutter Priority mode

Find some moving subjects and set your camera to S mode. Have someone ride a bike back and forth, or even just photograph cars as they go by. Start with a slow shutter speed of around 1/30 of a second, and then start shooting with faster and faster shutter speeds. Keep shooting until you can freeze the action. Now find something that isn't moving, like a flower, and work your way down from a fast shutter speed, like 1/500 of a second. Don't brace the camera on a steady surface. Just try to shoot as slowly as possible, down to about 1/4 of a second. The point is to see how well you can handhold your camera before you start introducing hand shake into the image, making it appear soft and somewhat unfocused.

Controlling depth of field with Aperture Priority mode

The name of the game with Aperture Priority mode is depth of field. Set up three items in a line moving away from you. I would use chess pieces or something similar. Now focus on the middle item, and set your camera to the largest aperture that your lens allows (remember, large aperture means a small number, like f/3.5). Now, while still focusing on the middle subject, start shooting with ever-smaller apertures until you are at the smallest f-stop for your lens. If you have a zoom lens, try doing this exercise with the lens at the widest and then the most telephoto settings. Now move up to subjects that are farther away, like telephone poles, and shoot them in the same way. The idea is to get a feel for how each aperture setting affects your depth of field.

Giving and taking with Manual mode

Manual mode is not going to require a lot of work, but you should pay close attention to your results. Go outside on a sunny day and, using the camera in Manual mode, set your ISO to 100, your shutter speed to 1/125 of a second, and your aperture to f/16. Now press your shutter release button to get a meter reading. You should be pretty close to that zero mark. If not, make small adjustments to one of your settings until it hits that mark. Now is where the fun begins. Start moving your shutter speed slower, to 1/60, and then set your aperture to f/22. Now go the other way. Set your aperture on f/8 and your shutter speed to 1/500.

Now review your images. If all went well, all the exposures should look the same. This is because you balanced the light with reciprocal changes to the aperture and shutter speed. Now go back to our original setting of 1/125 at f/16 and try just moving the shutter speed without changing the aperture. Make 1/3-stop changes (1/125 to 1/100 to 1/80 to 1/60), and then review your images to see what 1/3 stop of overexposure looks like. Then do the same thing going in the opposite way. It's hard to know if you want to over- or underexpose a scene until you have actually done it and seen the results.

With each of the assignments, make sure you keep track of your modes and exposures so you can compare them with the images. If you are using software to review your images, you should also be able to check the camera settings that are embedded within the images' metadata.

Share your results with the book's Flickr group!
Join the group here: flickr.com/groups/nikond3300_fromsnapshotstogreatshots

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