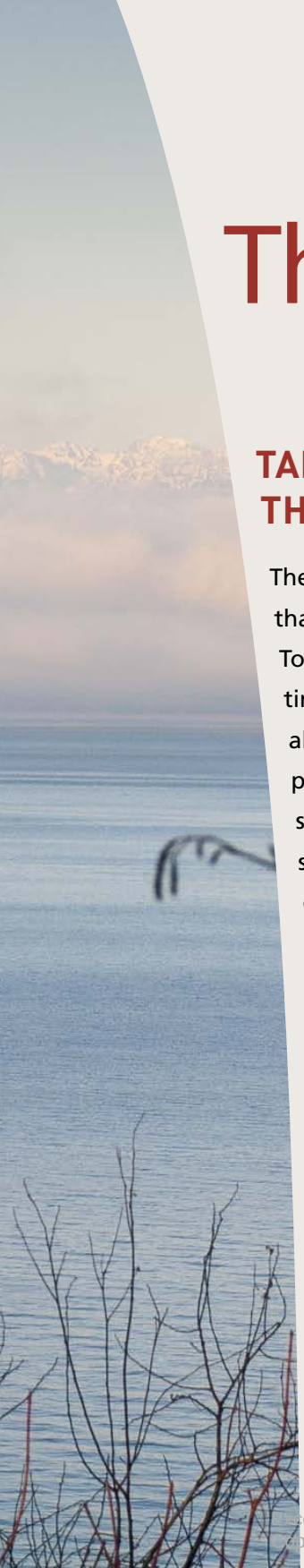
4

ISO 200
1/500 sec.
f/11
82mm lens



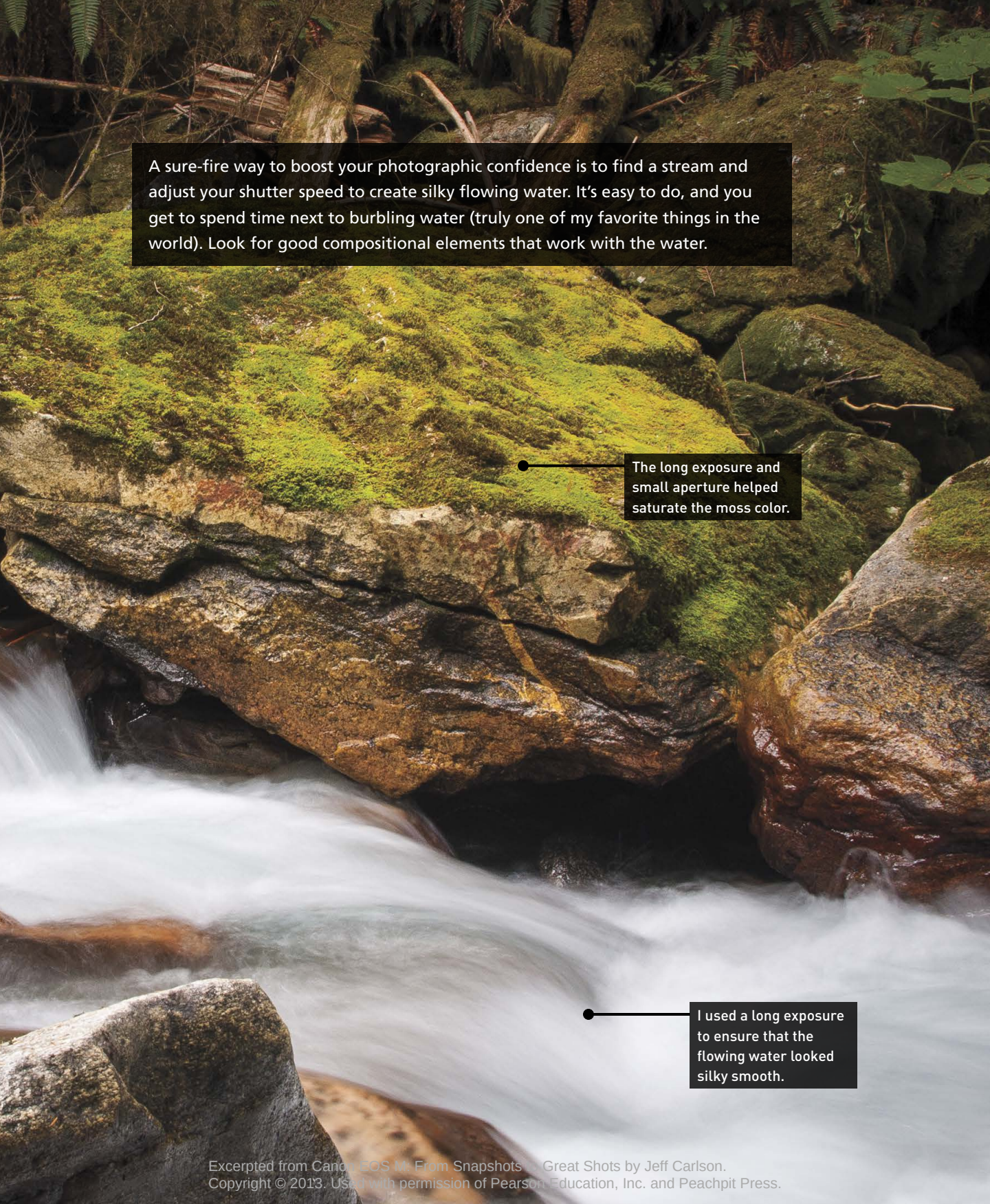
The Creative Zone

TAKING YOUR PHOTOGRAPHY TO THE NEXT LEVEL

The Creative zone is the name given by Canon to the shooting modes that offer you the greatest amount of control over your 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 for taking great photographs: *aperture* and *shutter speed*. To access these modes, you simply turn the Mode dial to the Creative mode of your choice 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 and when to adjust them so that you get the results you want. So let's move that Mode dial to the first of our Creative modes: Program mode.

PORING OVER THE PICTURE

ISO 200
0.4 sec.
f/13
35mm lens



PORING OVER THE PICTURE

Walking the docks on a foggy morning around the Puget Sound in Washington, the texture of this faucet caught my eye. But it wasn't until I got closer that I saw this dew-dappled spider web clinging to the ends. Having a tripod helped me set up the shot, careful not to bounce or breathe too hard and risk destroying the threads.

Although I used a relatively small f/8 aperture, the shoreline is far enough away that it became a soft background texture.

I used the selective focus point to focus on just the right spot without having to move the camera.

ISO 200
1/200 sec.
f/8
62mm lens

P: PROGRAM MODE

There is a reason that Program mode is only one click away from the Basic 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 it is very rare that I will use Program mode, because it just doesn't give as much control over the image-making process as the other Creative 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 Basic modes? Because it gives me choices and control that none of the Basic modes, including Creative Auto, can deliver.

Manual Callout

To see a comparison of all of the different modes in the Basic and Creative zones, check out the tables on pages 296–297 of your owner's manual.

WHEN TO USE PROGRAM (P) MODE INSTEAD OF THE BASIC ZONE MODES

- When shooting in a casual environment where quick adjustments are needed
- When you want control over the ISO
- If you want to make corrections to the white balance
- If you want or need to shoot in the Adobe RGB color space

Let's go back to our picnic scenario. As I said, the light is moving from deep shadow to bright sunlight, which means 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 change it, 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 that we provide enough sensitivity for those shadows while allowing the camera to use shutter speeds that are fast enough to stop motion.

With the ISO selected, we can now make use of the other controls built into Program mode. By rotating the Main dial, we have the ability to shift the program settings. Remember, your camera is using the internal light 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**). 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 Main dial clockwise. Do you want a smaller aperture so that you get a narrow depth of field? Then turn the dial counterclockwise 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.

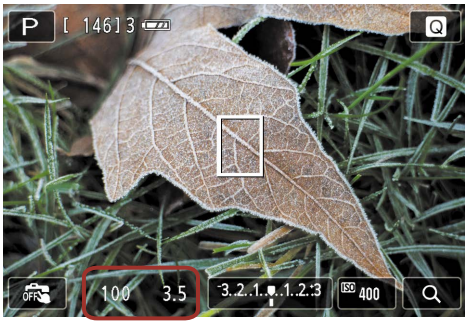
FIGURE 4.1
(left) With a lot of gray sky visible in the shot, the overall exposure is dark.

FIGURE 4.2
(right) With more of the building in the frame, the light meter provides a better exposure.

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

SETTING UP AND SHOOTING IN PROGRAM MODE

1. Tap the Mode button on the LCD, choose P, and tap the Return button (↩).
2. To select your ISO, tap the ISO button in the lower-right corner of the screen, turn the Main dial or drag to the desired setting, and tap the Return button.
3. Point the camera at your subject and then activate the camera meter by depressing the shutter button halfway.
4. View the exposure information in the bottom of the LCD, to the left of the Exposure Compensation control (**A**).
5. Use your index finger to roll the Main dial left and right to see the changed exposure values.
6. Select the exposure that is right for you and start shooting. (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.)



A

STARTING POINTS FOR ISO SELECTION

There is a lot of discussion concerning ISO 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 some 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
- 800–1600: 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.

TV: SHUTTER PRIORITY MODE

Tv mode is what we photographers commonly refer to as Shutter Priority mode. If you dig deep in your manual, you will see that Tv stands for Time Value. I'm not sure who came up with this term, but I can tell you that it wasn't a photographer. In all my years of shooting, I don't ever recall thinking, "Hey, this would be a great situation to use Time Value mode." But you don't need to know why it is called Tv mode; the important thing is to know why and when to use it.

Like Program mode, Tv 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 less.

WHEN TO USE SHUTTER PRIORITY (TV) 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 silky-looking water in a waterfall (**Figure 4.6**)

FIGURE 4.3
A fast shutter speed can freeze action.

FIGURE 4.4
Slowing down the shutter speed allows your photographs to convey a sense of movement.

FIGURE 4.5
A long exposure combined with a small aperture and a steady tripod pulled light out of this late-dusk setting.

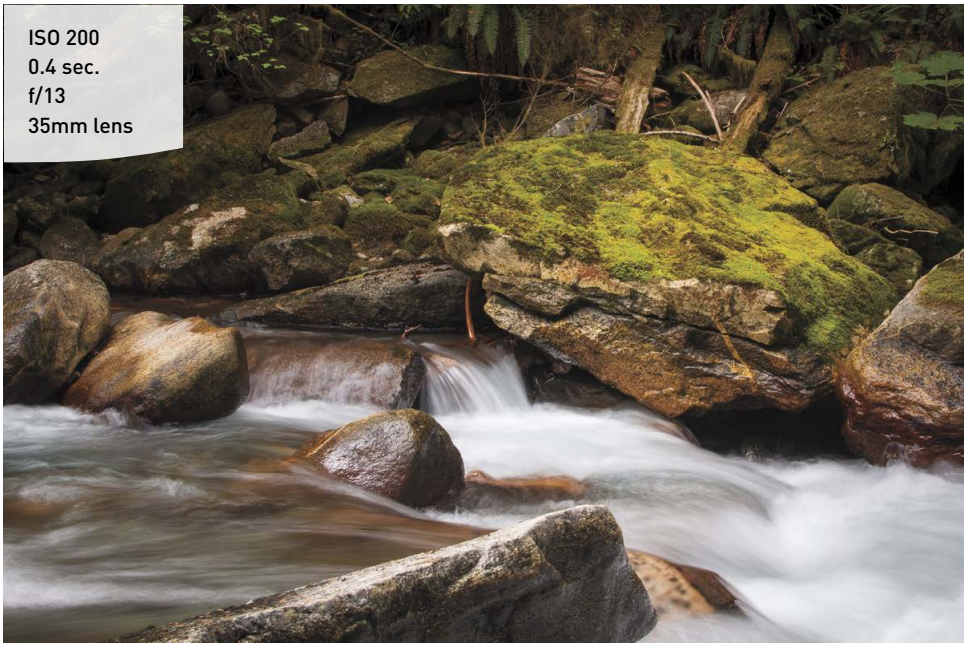


FIGURE 4.6
Increasing the length of the exposure gives flowing water a silky look.

As you can see, the subject of your photo usually determines whether or not you will use Tv 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 that you get instant feedback by checking your shot on the LCD. 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 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 ability to stop the action.

First, let's examine just how much control you have over the shutter speeds. The EOS M has a shutter speed range from 1/4000 of a second all the way down to 30 seconds. With that much latitude, you should have enough control to capture almost any subject. The other thing to think about is that Tv mode is considered a "semi-automatic" 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 to know because there will be times that 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 see your aperture value begin to blink. 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 (too dark).

Another case where you might run into this situation 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 not longer. If your waterfall is in full sunlight, you may get that blinking aperture display once again because the lens you are using only closes down to f/22 at its smallest opening. In this instance, your camera is warning you that you will be overexposing your image (too light). 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 Tv mode.

SETTING UP AND SHOOTING IN TV MODE

1. Tap the Mode button on the LCD, choose Tv, and tap the Return button (⮌).
2. Select your ISO: Tap the ISO button in the lower-right corner of the screen, turn the Main dial or drag to the desired setting, and tap the Return button.
3. Point the camera at your subject and then activate the camera meter by depressing the shutter button halfway.
4. View the exposure information in the bottom area of the LCD.

5. While the meter is activated, use your index finger to roll the Main 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.

AV: APERTURE PRIORITY MODE

You wouldn't know it from its name, but Av mode is one of the most useful and popular modes in the Creative zone. Av stands for Aperture Value, and like Time Value, it's another term that you'll seldom hear a photographer toss around. Av, more commonly referred to as Aperture Priority mode, is also deemed a semiautomatic mode because it allows you to once again control one factor of exposure while the camera adjusts for the other.

WHEN TO USE APERTURE PRIORITY (AV) 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 fairly large aperture coupled with a long focal length created a very blurry background, so all the emphasis was left on the subject.

FIGURE 4.8
The smaller aperture setting brings sharpness to near and far objects.

FIGURE 4.9
Small apertures give more sharpness in macro images.

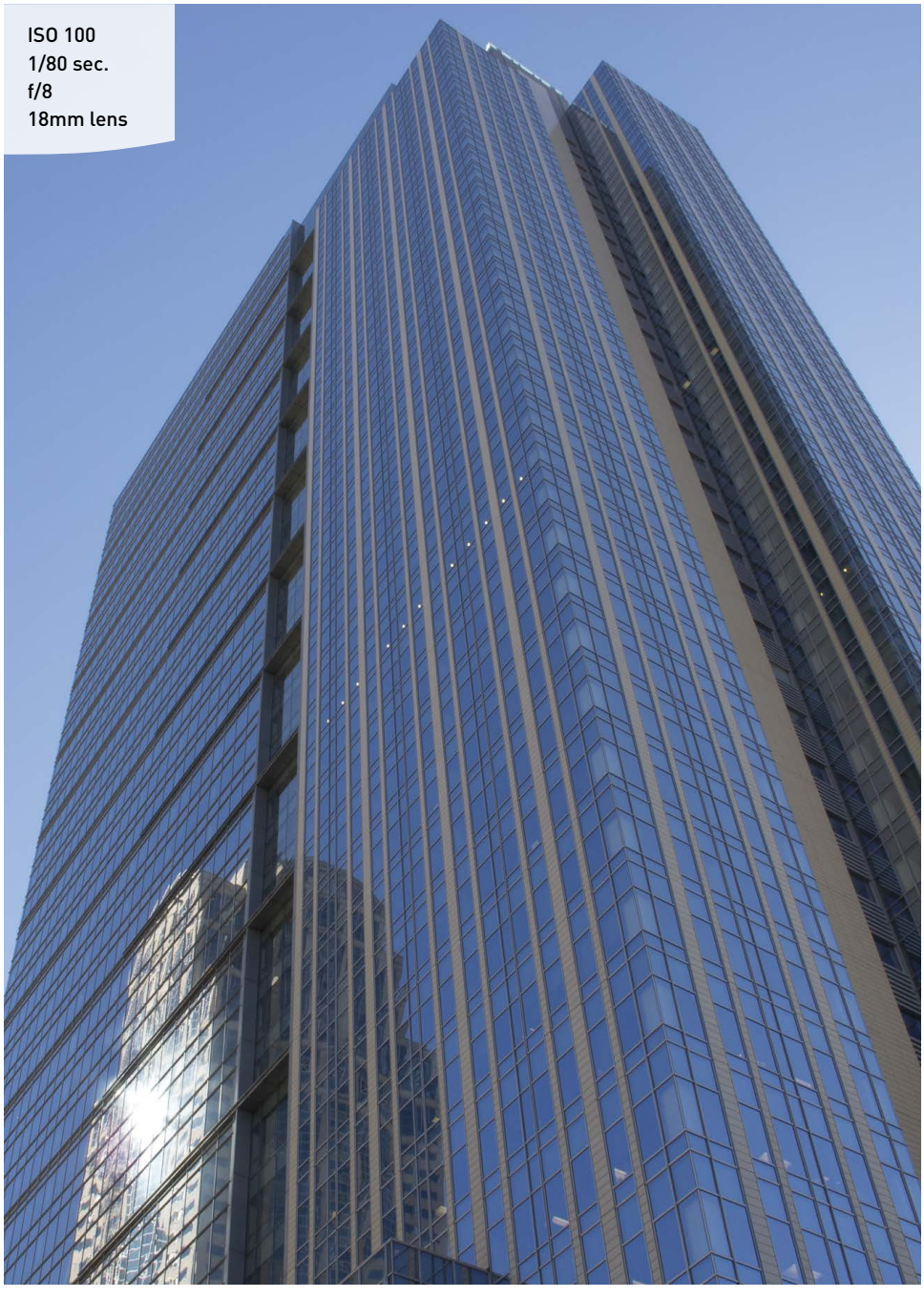


FIGURE 4.10
A wide-angle lens combined with a small aperture makes for a large depth of field.

Aperture Priority is probably my favorite shooting mode, 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 factor that controls how much of 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, then using a small aperture will render the greatest possible depth of field.

Aperture Priority mode is 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 a properly exposed image. You will recall that, when in Tv 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 that 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. That small opening reduces the amount of incoming light, and this reduction of light requires that the shutter stay open longer.

F-STOPS AND APERTURE

As discussed earlier, when referring to the numeric value of your lens aperture, you will find it described as an *f-stop*. The f-stop is one of those old photography terms that, technically, 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 create 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.

SETTING UP AND SHOOTING IN AV MODE

1. Tap the Mode button on the LCD, choose Av, and tap the Return button (⮌).
2. Select your ISO: Tap the ISO button in the lower-right corner of the screen, turn the Main dial or drag to the desired setting, and tap the Return button.
3. Point the camera at your subject and then activate the camera meter by depressing the shutter button halfway.
4. View the exposure information in the bottom area of the LCD.
5. While the meter is activated, use your index finger to roll the Main 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. Fixed-aperture zoom lenses maintain the same maximum aperture throughout the zoom range. They are typically much more expensive than their variable maximum aperture counterparts.

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 these adjustments yourself. But 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, it's also an essential tool to have in your photographic bag of tricks.

When your camera is 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 Tv or Av, 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 that you use the other modes. (It also helps that the LCD does its best to preview the exposure before you take the shot.)

WHEN TO USE MANUAL (M) MODE

- When you need to maintain exposures between different frames for a panorama
- When your environment is fooling your light meter and you need to maintain a certain exposure setting (**Figure 4.11**)
- When shooting silhouetted subjects, which requires overriding the camera's meter readings (**Figure 4.12**)

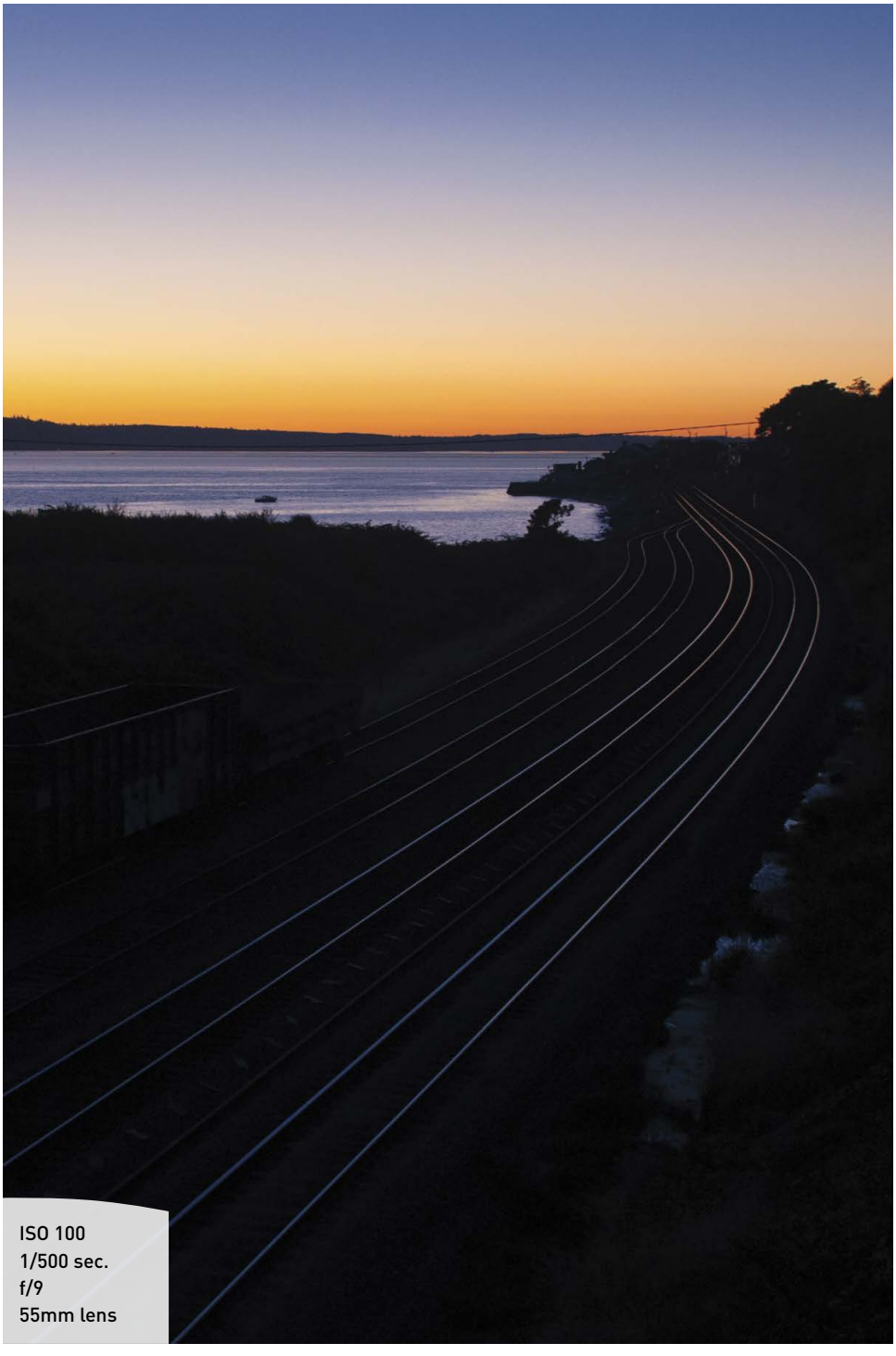
SETTING UP AND SHOOTING IN MANUAL MODE

1. Tap the Mode button on the LCD, choose Av, and tap the Return button (⮌).
2. Select your ISO: Tap the ISO button in the lower-right corner of the screen, turn the Main dial or drag to the desired setting, and tap the Return button.
3. Point the camera at your subject and then activate the camera meter by depressing the shutter button halfway.
4. View the exposure information in the bottom area of the LCD; notice that the Exposure Compensation display is no longer a button.
5. While the meter is activated, roll the Main dial left and right to change your shutter speed value until the mark at the bottom of the Exposure Compensation scale is lined up with the zero mark. The exposure information is displayed by a scale with marks that run from –3 to +3 stops. A "proper" exposure will line up with the arrow mark in the middle. As the indicator moves to the left, it is a sign that you will be underexposing (there is not enough light hitting the sensor to provide adequate exposure). Move the indicator to the right and you will be providing more exposure than the camera meter calls for; this is overexposure.
6. To set your exposure using the aperture, depress the shutter release button until the meter is activated. Then, using your thumb, press the physical Exposure Compensation button to highlight the aperture value, and then turn the Main dial right for a smaller aperture (large f-stop number) or left for a larger aperture (small f-stop number).

ISO 400
1/60 sec.
f/14
24mm lens

FIGURE 4.11
Bright scenes, such as this white dog in snow, can present a challenge to your light meter.

FIGURE 4.12
I really wanted to catch the sunset reflected in these train tracks, so I placed my camera in Manual mode and underexposed the shot.



HOW I SHOOT: A CLOSER LOOK AT THE CAMERA SETTINGS I USE

Whether it's isolating my subject with a large aperture or trying to maximize the overall sharpness of a sweeping landscape, I always keep an eye on my aperture setting. If I do have a need to control the action, I use Shutter Priority. If I'm trying to create a soft waterfall effect, I can depend on Tv to provide a long shutter speed. When trying to grab a shot of my toddler, I definitely need the fast shutter speeds that will freeze the action. While the other camera modes have their place, I think you will find yourself using the Av and Tv modes for 90 percent of your shooting.

The other concern I have when I'm setting up my camera is just how low I can keep my ISO. I raise the ISO only as a last resort because each increase in sensitivity is an opportunity for more digital noise to enter my image.

To make quick changes while I shoot, I often use the Exposure Compensation feature (covered in Chapter 7) so that I can make small over- and underexposure changes. This is different than 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.

One of the reasons I change my exposure is to make corrections when I see the "blinkies" while looking at my images on the LCD, which indicate that part of my image has been overexposed to the point that I no longer have any detail in the highlights. The only unfortunate thing about this feature is that it doesn't work with the full-screen preview mode. You have to set your camera display to the histogram display mode (see Chapter 1) to see the highlight alert (**Figure 4.13**).

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 understand the features of your camera so that you can leverage the technology in a knowledgeable way. This will result in better photographs.

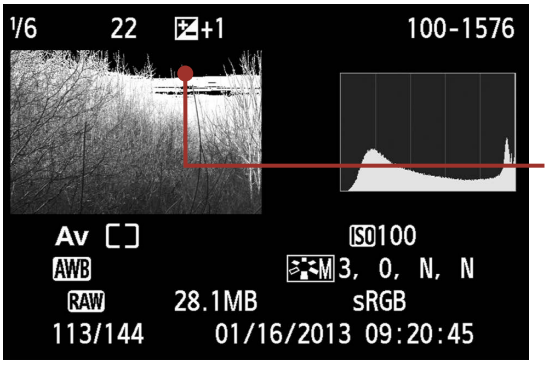


FIGURE 4.13
The EOS M's highlight alert

Chapter 4 Assignments

The information covered in this chapter will define how you work with your camera from this point on. Granted, there may be times that you just want to grab some quick pictures and will resort to the Basic zone, but to get serious with your photography, you should learn the modes in the Creative zone.

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 Main dial. While shooting, make sure to keep an eye on your ISO setting.

Learning to control time with Tv mode

Find some moving subjects and then set your camera to Tv 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. Start with your shutter speed at something fast like 1/500 of a second and then work your way 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.

Controlling depth of field with Av mode

The name of the game with Av mode is depth of field. Set up three items at different distances 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 that 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

Go outside on a sunny day, and with 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 to 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. Just 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.

Share your results with the book's Flickr group!

Join the group here: flickr.com/groups/eosmfromsnapshotstogreatshots