

Chapter 1

Adjusting Image Brightness and Contrast

The foundation of a solid digital image begins with the tonal qualities of the file — the brightness and contrast. If these are not adjusted correctly, the rest of the process suffers. That's why our workflow begins here. Even if you already feel comfortable adjusting the tones in your images with these tools, you may want to look at this chapter. In addition to covering the basics, I show you some cool things that are new in Photoshop CS3.

Understanding Histograms

The primary tool that's used to evaluate the tones in a digital image is the *histogram*. A histogram is a graphical representation of the distribution of the tones in an image. It consists of a graph that ranges from pure black on the left to pure white on the right. In between are all the shades of gray from almost black to almost white.

Imagine 256 side-by-side columns, one for each of the individual tonal value that a histogram represents. The columns start with black (0) on the left and end with white (255) on the right. In between are 254 other columns representing all the shades of gray between black and white. Together these 256 levels equal the sum total of the tones in an image.

The height of a column is governed by the number of pixels in the image having that particular tone. If the image includes lots of neutral tones, then the columns around the middle of the histogram are taller. Because these columns are standing right next to each other, they form a graph when viewed as a graph. This graph is our histogram, as shown in Figure 1.1.

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Understanding histograms

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FIGURE 1.1

The range of tones in an image is represented in the histogram. All tonal ranges are represented, from black (0) on the left to white (255) on the right. (For the sake of this discussion, we don't care about the statistics that appear below the graph.)

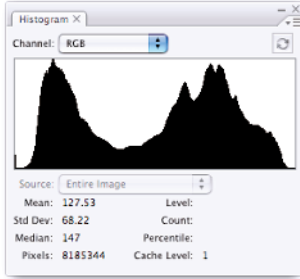


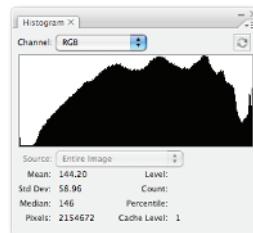
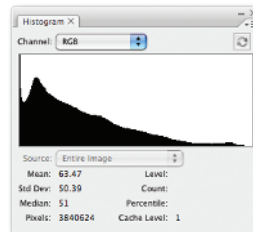
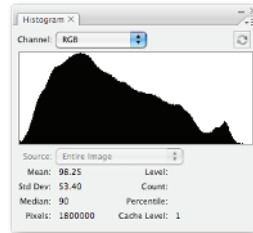
Figure 1.1 is the expanded view of the Histogram palette. The view can be changed in the Histogram Palette Menu that is accessed by clicking the three horizontal bars just below the “X” at the top right. A palette’s menu is always the place to go to modify the palette or to find hidden commands. (It’s also where you can turn off the statistics that show below the histogram by unchecking Show Statistics.)

To see the Histogram palette, go to Window ⇨ Histogram. If you leave this palette open, you’ll be able to see the histogram for any open image. This is handy when making adjustments because the display in the Histogram palette updates as you move the sliders in the adjustment tools, allowing you to monitor changes as you make them.

The shape of the histogram’s middle region doesn’t matter as much as what’s going on at its ends. If an image has full tonal range with detail in the shadows and highlights, the graph covers most of the space between 0 and 255, as shown in the first set of images in Figure 1.2. Each end comes to a stop before hitting the end. If an image is underexposed, then all the tones move to the left and all the tones that used to describe the dark shadows are *clipped* off the end forcing them to pure black, as show in the second set of images in Figure 1.2. If an image is overexposed, the opposite happens. The histogram moves to the right. All the tones describing bright highlights get clipped and become pure white, losing all detail, as shown in the third set of images in Figure 1.2.

FIGURE 1.2

When checking exposure, always pay attention to the endpoints of the histogram. A normal exposure provides a full range of midtones, as shown in the first set of images. An underexposure shifts the histogram to the left, clipping shadows, as shown in the second set of images. An overexposure shifts the histogram to the right, clipping highlights as shown in the last set of images.



Photos by Denyce Weiler

Whether you're using a digital SLR camera or a scanner, you need to pay attention to histograms. Many DSLR cameras have a feature that you can turn on to display a histogram every time you take a photo. This can be a great way to evaluate an exposure as soon as you shoot it. You don't even need to see the image preview to know whether your exposure is good. All you need to see is the histogram — which is great on a bright day when it's hard to see the image preview on the camera.

Not all scanner software provides a live histogram, but it's pretty easy to look at the histogram in Photoshop after the scan is done. In either case, if you see clipping in the shadows or highlights, you can make immediate adjustments and rescan.

One more thing to consider when evaluating a histogram is the tonal key of the image. When an image is a bright scene (high-key) or a dark scene (low-key), the histogram can fool us. Figure 1.3 shows two photos and their accompanying histograms. At first glance, the histogram for the top set of images appears normal, and the histogram for the darker, bottom set of images appears to be underexposed. The first clue to indicate this isn't the case is that we don't see any shadow clipping in the second histogram.

In fact, both of these images were made with exactly the same exposure. The difference in the histograms is from the differences in subject matter. The second portrait contains more dark tones while the first portrait contains mostly medium tones. I can prove they were exposed the same by drawing a similar selection around the same areas of both faces. When I do that, the histogram displays information only about the tones inside the selections. (We take a close look at selections in Chapter 7.)

Figure 1.4 shows a closeup of the selections and their resulting histograms. Now we can be sure that these two images have the same exposure. The dark tones were throwing off the histogram. This technique is useful any time you want to evaluate the main subject tones in an image.

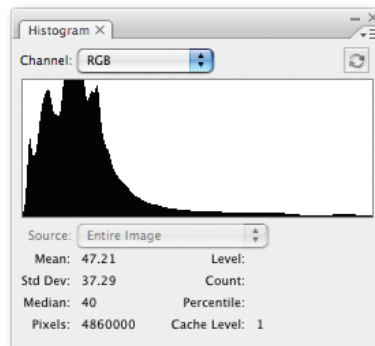
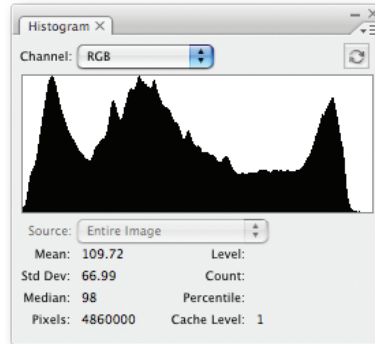
TIP

You may be asking “What’s up with that little exclamation icon in the Histogram palette?” I get that question often. What it means is that the currently displayed histogram is being created with cached information — not the latest info. Click the icon, and the histogram updates so it’s using the most current information.

Even with the best exposure, the scene may not contain the darkest and brightest tones we would like to see. In these cases, it becomes necessary to adjust the histogram of the image. You can do this in a couple of ways: using the Levels command and using the Curves command.

FIGURE 1.3

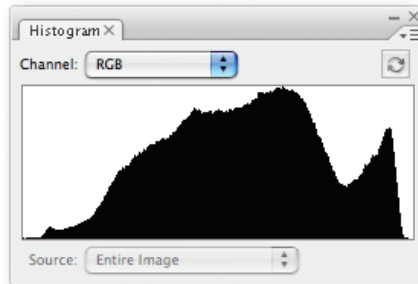
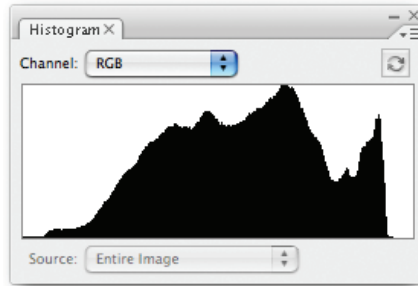
When evaluating a histogram, consider the tonal content of the image. These images were exposed exactly the same. The image with the darker content has a histogram that is weighted to the left.



Photos by Denyce Weiler

FIGURE 1.4

Using a selection to isolate important information allows us to effectively evaluate the tones in an image because the histogram displays information only inside of the selection.



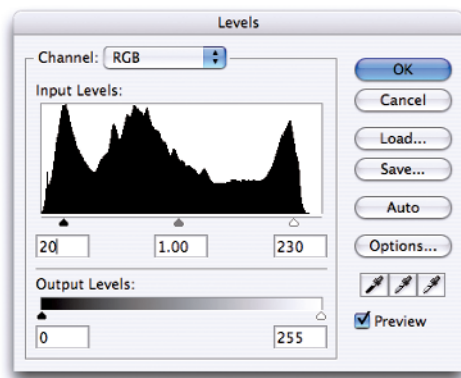
Adjusting Brightness and Contrast with Levels

The Levels command is one of the primary tools for tonal adjustment in Photoshop CS3. It allows you to pinpoint the darkest and lightest tones in an image. That way, you know whether you're losing detail in a highlight or a shadow, and you also know exactly where it's happening in the image.

The first thing you notice about the Levels command is that it uses the histogram to display information about the image, as shown in Figure 1.5. The small triangles below the histogram at each end allow you to control where the ends of the histogram stop. The numbers below the sliders tell you exactly which tones are being affected. These triangles are called *input sliders*. When you click and drag them inward, you modify the histogram by moving the endpoint. Look at the Histogram palette, and you see the effects that your changes have on the histogram as you make adjustments to the Levels Input sliders.

FIGURE 1.5

The Levels command allows you to modify the histogram by clicking and dragging the Input sliders.



CAUTION

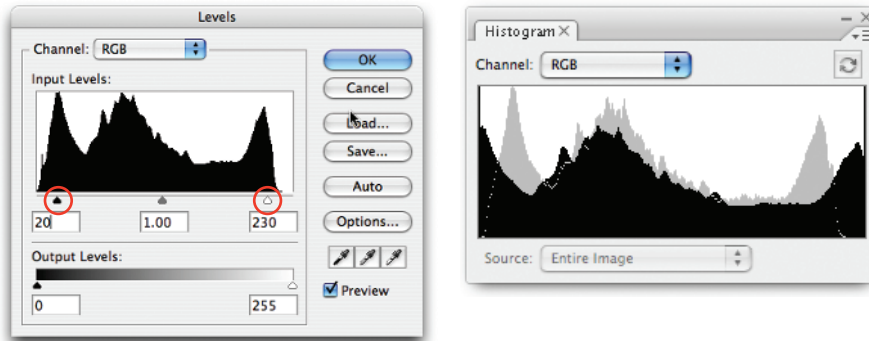
The Levels window includes another set of sliders at the bottom. These sliders are called *output sliders* because they're used to limit the tones in an image for specific printing scenarios (output). We normally don't use them for image adjustment at this point.

When the black and the white Input sliders are moved, they have a similar effect on their respective endpoints. The black slider controls what the darkest tone in the image is — a value of 0, or pure black. The white slider controls what the lightest tone in the image is — a value of 255, or pure white. This means that whatever values these sliders are set on become the new blackest black (the black-point) and the whitest white (the white-point).

In Figure 1.6, the black and the white Input sliders have been moved inward. The black slider is set at 26, and the white slider is set at 232. If you click OK at this point, the current tone of 26 becomes 0 and the current tone of 232 becomes 255. This can be verified by looking at the display in the Histogram palette that shows us what the resulting histogram is going to look like.

FIGURE 1.6

The Histogram palette displays an updated histogram as the Levels Input sliders are moved. The new histogram is the gray one in the background.



If we looked at the resulting image, we would see that it looks contrastier—the darkest tones are too dark, and the lightest tones are blown out, losing all detail. This is because we eliminated tonal information from the image by moving the sliders inward. This is called *clipping*: We clipped information from the extreme tonal ranges of our image. In this case the resulting effect is not really desirable, although sometimes it can be.

Let's take the Levels command for a spin so you can get a feel for the three main sliders:

1. Open the practice file titled `snow_dog.tif` from the downloadable practice files on the Web site.

NOTE

Remember, all of the practice files used in the hands-on exercises can be downloaded from the Web site.

2. Open Levels, Image ⇨ Adjustments ⇨ Levels. You also may access the Levels dialog box by pressing Command/Ctrl+L.

The histogram for `snow_dog` clearly shows that the image includes no deep black or bright white; the histogram data does not extend all the way to either end. This is borne out in the image. Its contrast is flat, and the overall brightness is a little dark.

If the Histogram palette isn't showing on your desktop, go to Windows ⇨ Histogram.

3. Click and drag the black Input slider until the value is 23.

4. Click and drag the white Input slider until the value is 226.
Notice how much richer the image looks. The blacks have been punched up, and the whites look much cleaner.
5. Now click and drag the black slider to 45 and the white slider to 200.
Notice how the image's contrast has gone too far. The darkest tones and the lightest tones are losing detail because tonal information is being clipped.
6. Click Cancel.

When we work with Levels, we need to be careful about clipping shadows and highlights when moving the endpoints. It's not only important to know when clipping is happening; it's also important to know where it's happening in the image.

Let's try adjusting snow_dog again. This time I show you a way to target the clipping in your image. Follow these steps to clip the image in just the right places:

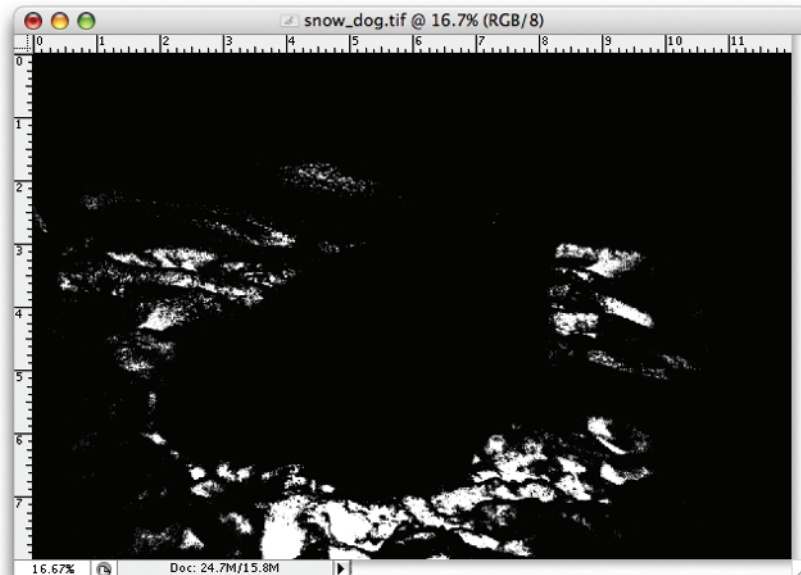
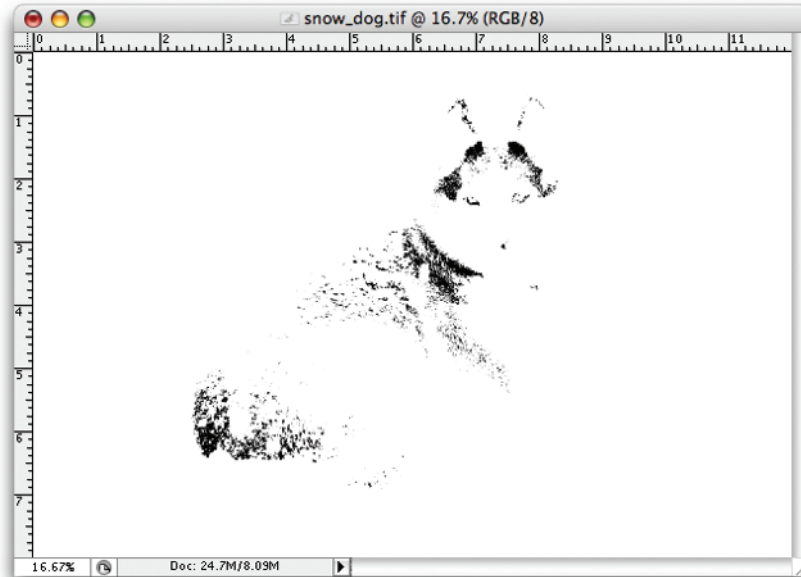
1. Open snow_dog again. If it's already open, be sure that no previous Levels adjustments have been applied.
2. This time hold down the Alt key before clicking and sliding the black slider. The first thing you notice is that the image goes completely white. Keep dragging the slider until you see some detail appear in the image, as shown in the first frame of Figure 1.7.
The areas that begin to appear are what will become the darkest tones in the image if you stop as soon as you see them. If these pure black tones are in an important part of the image, you want to stop just before you see them so that you know that the darkest tones still have some detail.
3. Move the black slider back to the left until the preview just becomes completely white, and release the mouse button.
4. Do the same thing with the whites. Hold the Alt key, and drag the white slider inward. Notice that the screen goes black. Keep dragging until some detail appears in the image, as shown in the second frame of Figure 1.7.
The areas that begin to appear are the brightest tones in the image. If they are showing in the preview, then you know you're beginning to blow out the highlights.
5. Move the white slider back to the right until the preview just becomes completely white, and release the mouse button.
Now you can be confident that the image has a full range of tones from almost pure white to almost pure black.
6. Uncheck the Preview box on the Levels window so that you can compare before and after. Be sure to recheck the box before clicking OK later.

TIP

Our brains get used to what's in front of them pretty fast. The Preview option in most Photoshop dialog boxes helps us to "remember" what an image looked like before any changes were made. This is a great way to see whether you're on the right track with your adjustments.

FIGURE 1.7

Preview clipping by holding down the Alt key when adjusting the black and white Input sliders in Levels. The top image shows the clipping preview when adjusting shadows. The bottom image shows the highlight preview.



7. The contrast of the image looks good, but the overall brightness is still a bit too dark. Click the middle Input slider. It's between the white Input slider and the black Input slider. Just below it is a readout displaying 1.00. Slide it to the left to lighten the image, and slide it to the right to darken.

Holding down the Option/Alt key here has no effect. Just move the slider until you like what you see.

8. Click OK.

Now the image has had its brightness and contrast fine tuned. We know where the darkest and lightest parts of the image are, and we know that we're holding detail in them. This valuable information is provided by the clipping preview function in the Levels command.

NOTE

When I use the terms “brightness” and “contrast,” I’m not referring to the Brightness/Contrast command in Photoshop. Instead, I’m referring to the qualities of the image. Most Photoshop teachers will advise you to stay away from the Brightness/Contrast command and use the more powerful Levels command instead.

Sometimes, I let the shadows of an image clip if I think it makes the image look better by providing deeper blacks. I just make sure that those shadows are not in my main subject. In this example, any detail loss in the shadows is in the dog's fur—which would be unacceptable to me. If it were in a dark background, I might let it go if I thought it gave the image a little more snap. However, I'll almost never allow a highlight to blow out if I can prevent it. When a highlight is blown out and it gets printed, it becomes the color of the paper it's printed on.

So here's the lowdown on Levels. When adjusting an image with Levels, always start with either the black slider or the white slider. Do both ends, and get the black-point and the white-point set before adjusting the image's brightness with the gray slider in the middle. If you begin with the gray slider before working with the ends, you'll most likely have to revisit it later to readjust it.

Adjusting Brightness and Contrast with Curves

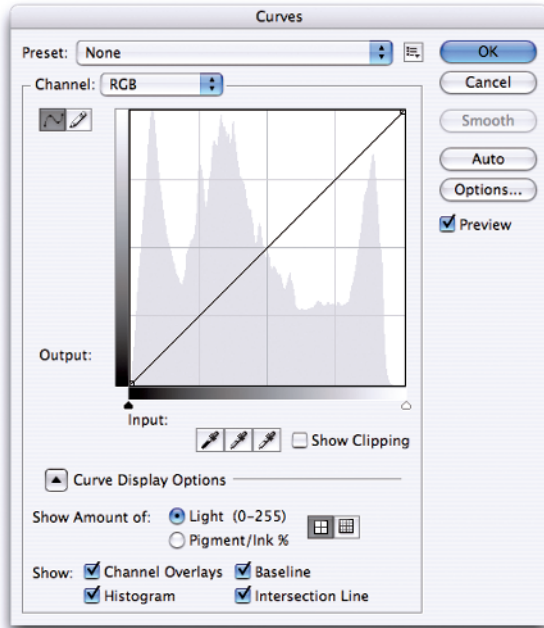
If the Levels command is a chisel for refining an image's tonal range, then the Curves command is a scalpel. With Curves, you can target small ranges of an image's tonal qualities with much more control than the Levels command. Figure 1.8 shows the Curves dialog box.

Curves works along the same lines as Levels. You set the black point and the white point and then adjust midtone values. The main difference with Curves is that you have much greater control when adjusting midtone values.

The interface can be intimidating, but after you understand what the various adjustments do, it begins to make sense. Let's give it a try with these steps:

FIGURE 1.8

The updated Curves dialog box in Photoshop CS3 sports a number of improvements like Show Clipping and a histogram overlay. To see all the options, be sure to click Curve Display Options at the bottom left of the dialog box.



1. Open the snow_dog practice file again.
2. Open the Curves command by choosing Image ⇨ Adjustments ⇨ Curves. You also may access the Curves dialog box by pressing Command/Ctrl+M.
Make sure that Light (0-255) is checked under Show Amount of: in the Curve Display Options. That way, the Curves dialog box will be oriented the way I have it in Figure 1.8.
3. Grab the black Input slider on the left, and drag it horizontally toward the middle. Notice that the blacks get blacker just like the black slider in Levels.
4. Grab the white Input slider on the right, and slide it horizontally toward the middle. The whites get whiter just like the white slider in Levels.
5. Click the check box next to Show Clipping to turn on the clipping preview.

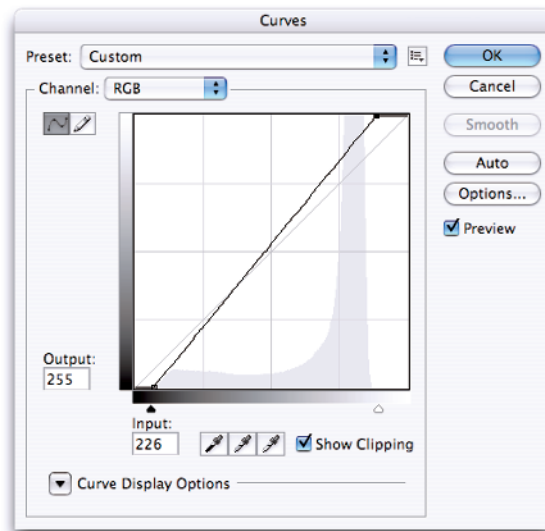
NEW FEATURE

In earlier versions of Photoshop, there was no way to preview clipping while using Curves. Because of that, in versions of Photoshop prior to CS3, it was best to set black and white points with Levels before moving to Curves to work on the midtones.

6. Slide the black and white sliders inward until you almost see clipping in the preview. (Remember that it can be okay to clip shadows a bit to get richer blacks, but you never want to clip highlights if you can help it.) After you have both sliders set to where you want them, uncheck the Show Clipping box to return the image to its normal appearance. In my case, I ended up with a black value of 23 and a white value of 226, as shown in Figure 1.9.

FIGURE 1.9

Here are the black-point and white-point adjustments using Curves. Notice that the points are dragged straight to the side horizontally. To preview clipping in Curves, check Show Clipping.



7. To lighten the image, click the middle of the diagonal line to place a point. Then drag that point straight up. To darken, drag the point downward.

This point is like the gray slider in the Levels command. It represents the tones in the middle of the image. The big difference, however, is in the effect that adjustments have on this point as compared to the Levels command. When we move the gray slider in the Levels command, the effect on the tones around it is linear. With the Curves command, the effect of the adjustment is stronger on tones that are close to the point and weaker on tones that are further away. That's why the command is called Curves—because the adjustment slopes away.

TIP

If you want to nudge the settings on the black and white sliders, you can use the up and down arrows on the keyboard to move them one point at a time after you make them active by clicking them. This works with almost any slider in Photoshop, including Levels.

Notice how much steeper the diagonal line in the Curves dialog box is now that we moved the endpoints inward. Something to be aware of with the Curves command is that the steeper the diagonal line is, the more contrast the image has. Keep that in mind as we look at the midtones.

Now that the overall tonal range of the image has been established with the Input sliders, we want to unleash the real power of the Curves command. Whereas the Levels command has only two endpoint sliders and one grayscale slider in the middle, the Curves command allows up to 14 different adjustment points to be placed onto the curve line — although you rarely need more than a few.

To add an adjustment point to the diagonal line, simply click it. The higher up on the line you place the point, the lighter the tones that will be adjusted. To lighten the tones around the point, drag the point upward. To darken that region, drag the point downward.

Because the points represent tonal regions in our image, we want to be informed about the tones they represent before placing them. The best way to see how the tones of your image correspond to the points on the curve is to click the image while the Curves dialog box is open. When you do so, small circles temporarily appear on the Curves line to indicate where the tones you're clicking are located on the line. To place one of these preview points on the curve, Command/Ctrl-click the tone in the image.

TIP

To remove a point from the Curves line, click it and drag it out of the Curves window, or click it and press the Delete key on your keyboard.

Typically, the Curves command is used to increase midtone contrast. This is done by increasing the slope of the middle of the curve line where most of the midtone detail is located. A side effect of this is that we flatten out the curve on the toe (shadows) and the shoulder (highlights), and reduce contrast in those areas. The result of this type of adjustment is called an S-curve, as shown in the top set of images in Figure 1.10.

Follow these steps to clip the image using the Curves dialog box:

1. Open snow_dog.jpg one more time. Open the Curves dialog box, and drag the black and white Input sliders inward until you almost see clipping.

You may notice that the new input values are similar to the values you used for black and white input values with the Levels command (23 and 226, in my case).

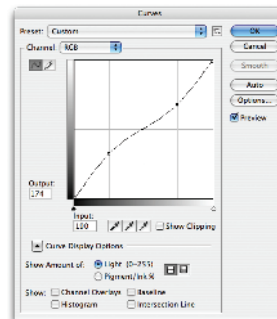
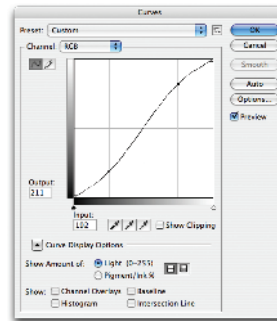
2. Start clicking in the darker regions of the fur on the dog's hip. When you get an input value near 55, Command/Ctrl-click to place a point on the line. This point represents the lower end of the darker regions that we want to adjust in the midtones.

3. Now click the side of the dog's face until you find an input value close to 150. When you do, Command/Ctrl-click to set a point on the Curves line. This represents the upper end of the highlights that we want to adjust. We don't want to go much higher than 150 because we don't want to have too great of an effect on the snow, which is mostly in the range of 200 and above.
4. Carefully drag the upper point that represents 150 straight up until the value for the output is 160. Drag the lower point that represents 55 down until its output value is 40.

The midtone contrast has increased slightly, just enough to add some snap to the mid-tones while the snow retains most of its detail. Try dragging the two points even further. Notice how easy it is to go too far.

FIGURE 1.10

With a typical S-shaped curve, midtone contrast is increased while shadow and highlight contrast is slightly reduced, as shown in the top set of images. An inverted S-curve decreases midtone contrast, as shown in the bottom set of images.



NOTE

The Output value in the Curves dialog box is what the Input becomes when the OK button is clicked. In this case, the dark region around 55 becomes 40 (darker), and the light region around 150 becomes 160 (lighter). If we make the darker regions of the midtones darker and the lighter regions lighter, then it makes sense that we're increasing midtone contrast because we're pulling the tones between 55 and 150 apart so that they now cover the area between 40 and 160.

I'm sure you've already figured this out by now — just as an S-curve increases midtone contrast, an inverted S-curve decreases midtone contrast (refer to the bottom set of images in Figure 1.10), because it reduces the slope in the midtones.

Now that we've taken a good look at the Curves command, there's something I need to tell you. You can do most of your tonal adjustment with the Levels command. Quite often, you may not even need Curves. When you're first starting out with Photoshop, you should master the Levels command before going too deep into the Curves command. For that reason, we'll use the Levels command as our tonal adjustment tool of choice until we get to Chapter 16.

Remember when I said that the Curves command is like a scalpel? Well, a scalpel in the hands of someone who doesn't know how to use it can make a real mess. The same is true for Curves. If you aren't careful, you can do more harm than good with the Curves command. So take it easy with Curves, and begin by making small adjustments until you become more comfortable and confident with this powerful tonal adjustment tool.

Balancing Dynamic Range with the Shadow/Highlights Command

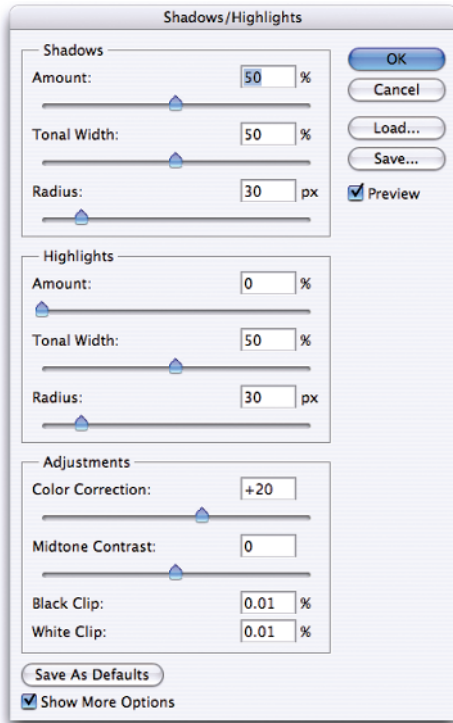
Sometimes, we can make a perfect exposure, but the *dynamic range* of the scene being photographed is too wide for us to get an exposure that looks good in the shadows and highlights. Dynamic range refers to the distance between the brightest tones and the lightest tones. We often run into this scenario when we photograph a scene with bright backlighting where the main subject is in a shadow. Usually, the best way to solve this problem is to use a fill flash on your camera when you shoot the original scene so that you fill in the shadows with some light. Sometimes, though, a flash isn't an option, and we have to deal with what we have.

When editing a file that suffers from this problem, making the image look its best with Levels or Curves can be hard. That's why Adobe introduced a new command a few years ago in Photoshop CS. The command is called Shadows/Highlights, and it's used to balance discrepancies between extreme shadows and highlights. Figure 1.11 shows the Shadows/Highlights dialog box.

The first thing you notice in Figure 1.11 is that the Shadows/Highlights command allows you to work on the shadows and highlights independently via the two areas marked Shadows and Highlights. Each of these areas is controlled by three sliders labeled Amount, Tonal Width, and Radius. Let's look at what each of these sliders is used for:

FIGURE 1.11

The Shadows/Highlights command with Photoshop's default settings. To see all the options shown, be sure to check the Show More Options box at the bottom left.



- **Amount** controls the amount of adjustment. Higher values in Shadows lighten the shadows more. Higher values in Highlights darken the highlights more.
- **Tonal Width** controls the range of tones that are affected by changes in amount. Higher settings in Shadows affect a larger range of shadow tones. Lower settings affect a narrower range. The opposite happens when adjusting Tonal Width in the Highlights; higher values affect larger ranges of highlight tones, and lower values affect smaller ranges of tones.
- **Radius** works like this: When the Shadows/Highlights command looks at an image, it decides whether a pixel is a shadow or a highlight by evaluating its surrounding pixels. The Radius slider allows us to fine tune this decision-making. Lower values restrict the area that is looked at when evaluations are made, and higher settings expand that range. Too large of a setting darkens or lightens the entire image rather than the area you are working on.

TIP

If you start seeing halos around dark or light edges, you need to lower the Tonal Width setting for the respective halos — Shadows for dark tone halos and Highlights for light tone halos.

In addition to the Shadows and Highlights areas on the Shadows/Highlights command, there is an area labeled Adjustments. Here we have additional sliders that help to undo any unwanted shifts that might occur when the shadows and highlights are adjusted. We're most interested in these three:

- **Color Correction:** When tonal values are changed, colors can shift. For example, when shadows are lightened, a color that was dark before becomes lighter. The Color Correction slider allows you to control color *saturation* — the intensity of the color. Increasing the value of the Color Correction slider tends to increase saturation, and lowering it tends to decrease saturation. This command is available only when working on color images.

Keep in mind that the Color Correction affects only portions of the image affected by the Shadows and Highlights sliders. When those adjustments are more extreme, the range of adjustment to Color Correction is greater.

- **Brightness:** This command is available only when working on grayscale images. It works something like the Color Correction slider. Moving the slider to the right lightens, and moving it to the left darkens the affected areas in the image.
- **Midtone Contrast:** Slider movement to the right increases midtone contrast, and movements to the left reduce it.

In most cases, I'd rather change this with a Curves adjustment. However, if you're working quickly on some images, it may be faster to take care of it here.

Let's take a look at how all this works:

1. Open the practice file titled `bike_racing.tif` from the downloadable practice files on the Web site, as shown in the first frame of Figure 1.12.

This exposure isn't bad, but it could be better. I want to lighten the faces of the riders and darken the track in the background.

2. Choose Image ⇨ Adjustments ⇨ Shadows/Highlights.

When the dialog box opens, it most likely will have the default settings shown back in Figure 1.11. These tend to be way over the top, and you'll notice that the adjustment in the shadows is too strong. Also, the track is still too light.

TIP

The default settings on the Shadows/Highlights command tend to be too strong in the shadows and too weak in the highlights. After you've used the command a couple of times, you'll get a feel for the kinds of settings you like. When you do, open the command and dial in the settings you like. Then click the Save As Defaults button on the lower left of the dialog box. The next time you open the Shadows/Highlights command, you can begin with more normal settings as a starting point.

FIGURE 1.12

Before and after using the Shadows/Highlights command. In the second image the highlights are darker and the shadows are lighter, completely changing the feel of the image.



3. Let's adjust the Shadows first. Start with the Radius slider. Move it to the right until you see the shadows begin to look more realistic. Moving it to the right limits the range of tones being affected. I moved it to 190px.
4. Now adjust the Amount in Shadows. I moved it down to 35% to back it off a bit.
5. Try experimenting with Tonal Width to see the effect this slider has on the image. I left it at 50%.
6. Now that the shadows are looking pretty good, let's address the highlights. Go down to the Highlights area, and move the Amount slider to the right until the track darkens. I stopped at 60%.

If you notice any haloing around the riders, try adjusting the Radius slider in the Highlights area. If you decrease the Radius to 0px, the haloing goes away, but the image takes on a flat, fake look. Instead, try raising the Radius. I turned it up to 95px. There is still a slight haloing effect, but I like the way it looks.

7. Again, try experimenting with Tonal Width here. I left it at 50%.
8. Click the Preview check box a couple of times to toggle back and forth between before and after. If you want to fine tune your adjustments, do so now.
9. Now let's look at the Color Correction slider. Try moving it to the left. As you do so, pay attention to the colors on the riders' jerseys. When you get close to a value of 0, the colors on the chests of riders 1 and 3 are *desaturated*—the colors lose some of their richness. Values of much less than 0 have little more effect. If you move the slider to the right, the colors on riders 1 and 3 chests get more saturated.

Notice that the effect of saturating and desaturating with the Color Correction slider affects only the areas that were affected by adjustments in the Shadows portion of the Shadows/Highlights command.

10. When you like what you see, click OK, as shown in the second frame of Figure 1.12.

CAUTION

The Black Clip and White Clip boxes are used to clip shadow and highlight tones. Increasing these settings causes the image to become more contrasty. Generally, I would prefer to use the Levels or Curves commands to better control clipping.

Be sure to look for two side effects when using the Shadows/Highlights command. The first is that your image can become flat in contrast if you overdo it. If this happens, try making a Levels or Curves adjustment to compensate for it. In fact, if you think you'll need to make a tonal adjustment with the Levels or Contrast commands, try to do it after using the Shadows/Highlights command.

The second side effect is that when you open up shadows with any tonal adjustment tool, you reveal noise because noise tends to live in the shadows. If you watch for this as you adjust the Shadows sliders, you know when to take it easy on areas of extreme noise.

Summary

After you know how to read a histogram, you can make sense of the tonal values in an image. Dark tones are on the left, and light tones are on the right. The most important part of a histogram is what's going with its endpoints. The main thing we want to avoid with a histogram is having the data graph stop abruptly against either end. When we see this, we know we're clipping shadow or highlight information.

The Levels and Curves commands allow us to shape the histogram of an image so we take advantage of its tonal strengths. With these commands, we can accurately set the black and white points and adjust midtone brightness and contrast. With the advent of Photoshop CS3, we can preview clipping in either Levels or Curves. The Curves command is a very powerful one. Like any powerful tool, it can be destructive in the untrained hand. Learn to master Levels before moving to Curves. When you do begin to use Curves, do it with a light hand.

The Shadow/Highlight command gives us a different approach for tonal adjustment. This command is perfectly suited to bringing deep shadows and bright highlights into parity. Use the Shadow/Highlight command before using the Levels or Curves commands to get the most from it.

