

SYBEX Sample Chapter

Photoshop[®] CS2 Workflow: The Digital Photographer's Guide

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Chapter 5: Basic Tone and Color

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Basic Tone and Color

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As you start working on the actual adjustments to optimize your images, basic tonal and color adjustments provide the foundation for building the final result. Having a firm understanding of how to apply these basic adjustments will ensure you are working toward the best quality from the beginning. For many images, these may be the only adjustments you need. For other images, these adjustments represent the first step toward producing an image that matches the vision you had when you first clicked the shutter release.

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Interface Tools for Evaluation

In Chapter 2, “Download and Sort,” I presented the navigation tools and explained how they could be used to evaluate your images for sharpness and other image-quality considerations. As you get started with the basic tonal and color adjustments for photographic images, it is helpful to know about some other methods for evaluating your images so you can make better decisions about the specific adjustments to make and image-quality issues to keep an eye out for (Figure 5.1).



Figure 5.1 Carefully evaluating your image provides the opportunity to ensure that your adjustments result in the image you envisioned, even when tricky lighting conditions create a challenge to achieving the desired result. (Photo by Gabby Salazar)

Evaluate Channels

An image in the RGB color space is defined not by color information directly, but rather by three individual grayscale channels—one each for red, green, and blue. Each of these defines the brightness value for their particular color for each pixel, and the three values combined determine the actual color of each pixel.

You may be tempted to ignore the underlying channel information, focusing your attention instead on the full-color version of the image as you evaluate it. However, looking at the individual channels can help you gain a better understanding of the overall quality of an image.

Note: Photoshop Elements doesn't include a Channels palette, so this method of evaluating can be used only in Photoshop.



Each channel contains a grayscale image—a black-and-white version of one of the three color components in your image. To view the channels, you'll first need to make sure the Channels palette is visible (Figure 5.2); if it isn't, choose Window > Channels.

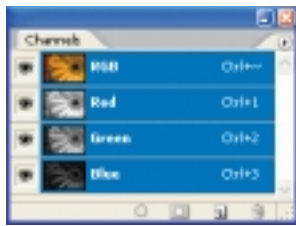


Figure 5.2
The Channels palette allows you to evaluate the individual color channels that make up your image.

To view an individual channel, simply click its thumbnail in the Channels palette. The document display will then be updated so you see only the grayscale information contained in that particular channel (assuming Color Channels in Color is *not* selected in Preferences > Display & Cursors), rather than the full-color version of the image (Figure 5.3).

You can use this grayscale view to evaluate the image for lost detail (much easier to do than when the channels display in color) or for quality problems on a particular channel. Each channel is used to define what color information is available within the image, so for example if there is a loss of detail in the blue channel, you can expect that blue or yellow (the opposite of blue) areas of the image may not have sufficient detail.

This is also a great opportunity to look for noise or other problems that can affect overall image quality. The blue channel is where you'll tend to find the most noise, so taking a close look at it can give you a much better sense of how much overall noise exists within the image. When you are finished evaluating each color channel, click the RGB thumbnail to return to the full-color view of your image.

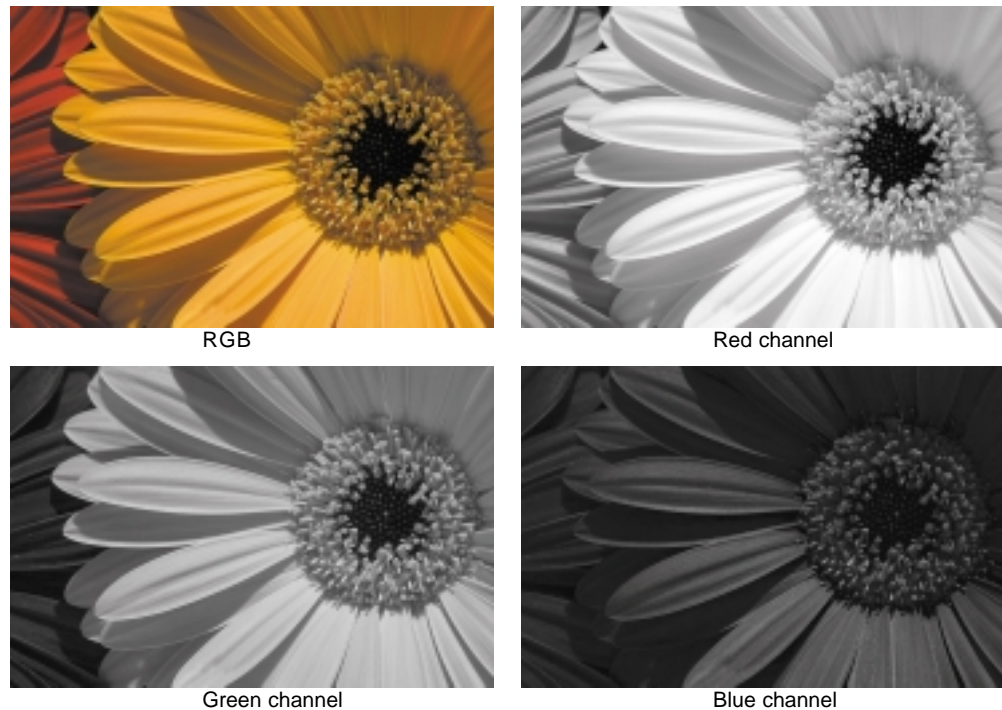


Figure 5.3 Besides looking at the overall color image, reviewing the individual color channels can give you a better idea of image quality.

Evaluating the individual color channels for your image gives you a much better feel for how much detail you've retained, how much color information exists for each color channel, and other issues affecting overall quality. If you have any concerns about the detail or quality of a particular image, a quick review of the individual channels can address those concerns.



Note: For those who like keyboard shortcuts, you can also view the individual channels by holding the Ctrl/Command key and pressing 1 for red, 2 for green, or 3 for blue. To return to the full-color version of the image, press Ctrl/Command plus the tilde key (~). The title bar will indicate which channel you are currently viewing.

Display Full Saturation

If you ever have a difficult time evaluating the overall color in your images, temporarily boosting the saturation to its maximum value can provide a dramatic indication of exactly what colors exist in various areas. Besides exaggerating the colors that obviously exist within the image, this technique often reveals colors you weren't expecting to see. In particular, it can be a great tool for discovering subtle color casts in areas you thought were neutral.

To apply this adjustment, choose Image > Adjustments > Hue/Saturation from the menu (Photoshop) or Enhance > Adjust Color > Adjust Hue/Saturation (Photoshop Elements). This will bring up the Hue/Saturation dialog box (Figure 5.4), which will be addressed in great detail later in this chapter and in Chapter 8, “Advanced Color Adjustments.” Move the Saturation slider all the way to the right, producing a value of +100. This will boost all colors in the image to their maximum saturation. Leave this dialog box open as you evaluate the image, moving it aside if needed by clicking and dragging on the dialog’s title bar.

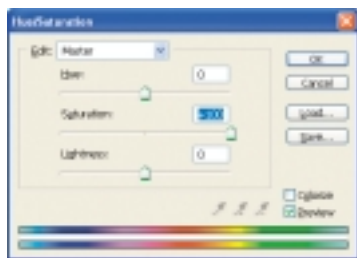


Figure 5.4 The Hue/Saturation dialog box allows you to adjust the saturation of all the hues in your image or of individual hues. To saturate the hues to their maximum potential, move the Saturation slider all the way to the right.

Review the full-saturation display of your image to get a sense of the colors in various areas (Figure 5.5). Pay particular attention to colors you feel don’t belong where they are showing up. Don’t worry that the colors temporarily look much worse. Instead, use this as an evaluative tool for making decisions about what color corrections might be necessary later, and what color issues to keep in mind as you work to optimize your images. When you’re finished evaluating the image, click Cancel to close the Hue/Saturation dialog box without applying an adjustment to your image.



Figure 5.5 By temporarily increasing saturation to the maximum value, you can get a better idea of what color influences can be found in your image.

Prioritizing Adjustments

In any image-optimization workflow, it makes sense to perform the most basic adjustments first and then move on to more advanced adjustments that allow you to exercise better control over your images. Taking this approach tends to simplify the process and allows you to gradually build to more advanced adjustments as needed.

Some images may require only minor adjustment, and in those cases only the basic tools need to be employed. For other images you may need to pull every trick out of your bag to get the result you are looking for. That doesn't mean you should be focusing on fixing problem images. In fact, I typically recommend working on only your very best images. The advanced methods, which will be discussed later in this book, are still applicable to those images, allowing you to realize your true vision for them.

Starting the image-optimization workflow with the most basic adjustments also makes sense because that fits well with the typical process of learning to optimize your images. It is normal to start with the basics as you gradually start your trek up the learning curve. With a firm grasp on the basic adjustments you'll want to apply, you can produce pleasing results for the vast majority of your images. As you progress to more advanced techniques, your results will only improve, and you'll be able to better achieve your goals.

In this section and the following ones, I'll be talking about the basic tonal and color adjustments. I often refer to these as the *mini-lab* adjustments, because they represent about the degree of adjustment you could expect from a good film-processing lab. If the image was captured with proper exposure in the camera, these adjustments may be all you need. More likely, however, you'll want to move beyond these basic adjustments to produce even better results, as I'll discuss in later chapters.

The adjustments are presented here in what I consider to be the most logical order. However, that doesn't mean that this order is right for every image. My general philosophy for performing adjustments is to solve the biggest problem first and then move on from there—in other words, prioritizing the adjustments based on the significance of each adjustment to the final result.

For most images, the tonal adjustment tends to be the most significant. Most digital cameras do an excellent job of capturing accurate color, and saturation tends to be good. Therefore, the standard order for me is tonal adjustment, color balance adjustment, and saturation adjustment.



Note: You should feel comfortable changing the order in which you apply adjustments to your images if the situation warrants it. Focus on solving the most significant problem with your image first and then working onward from there.

If you have an image for which the exposure was very good but the color is a bit off, you should feel perfectly comfortable making your color balance adjustment first before moving on to the tonal adjustments. Although the basic workflow presented in

this chapter will work best for the majority of images, you should think of each adjustment as a modular piece of the full workflow. When the situation warrants, you shouldn't hesitate to change the order in which you perform the specific adjustments for your images.

Tonal Adjustments

The broad category of tonal adjustments includes any change in overall brightness or contrast within an image. Even more broadly, this category includes any adjustment that changes the luminosity values of an image, without emphasis on changes to the colors within an image. Tonal adjustments can most certainly affect colors—for example, darkening an image tends to saturate the colors, and brightening makes the colors appear less saturated. However, when making tonal adjustments your focus is on the brightness and contrast, not the color.

Although there are a virtually unlimited number of methods you could use to perform tonal adjustments, many of which will be covered later in this book, this section focuses on the most basic tonal adjustments.

Brightness/Contrast

The most basic tonal adjustment available in Photoshop is the Brightness/Contrast adjustment (Image > Adjustments > Brightness/Contrast). This dialog box contains only two sliders—one for Brightness and one for Contrast (Figure 5.6).

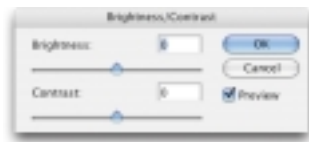


Figure 5.6

The Brightness/Contrast dialog box provides two simple sliders that allow you to easily perform tonal adjustments, but doesn't provide the control necessary to produce the very best results.

The Brightness/Contrast adjustment has a bit of a bad name among photographers. In many respects, the control provides the same general capabilities as other tonal adjustment options. There is nothing wrong with a basic brightness slider that allows you to adjust the tonality of your image, and this control is very similar to other adjustments you'll look at later.

However, the Contrast slider in the Brightness/Contrast dialog box can be a bit of a problem. This is because it affects both the highlights and shadows within your image to the same extent, brightening highlights to the same degree that it darkens shadows. This may not seem like a significant problem, but when you consider the importance of preserving highlight detail within your images, the limitations of this adjustment tool become more clear.

One of the advantages of other tonal adjustment methods is that, unlike the Brightness/Contrast adjustment, you are able to adjust black point (shadows) and white point (highlights) independently. In other words, you can increase the overall perceived contrast by sacrificing shadow detail, which isn't generally a problem, without sacrificing highlight detail. You can achieve the same degree of perceived contrast without producing highlight areas that look “wrong” because too much detail has been lost.

Another side effect of using the Brightness/Contrast control is that it can be difficult to produce pleasing contrast. Often, the choice seems to be between not enough contrast and an image that looks a bit harsh (Figure 5.7).

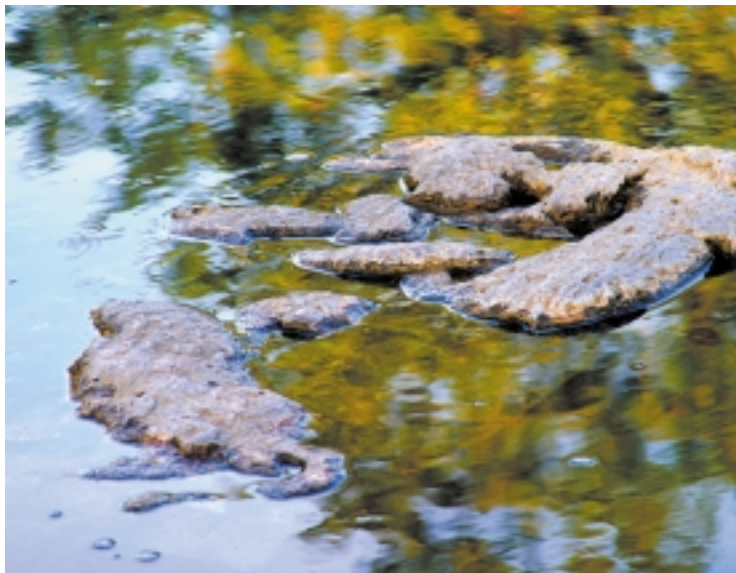


Figure 5.7
The Brightness/Contrast adjustment makes it easy to perform basic tonal adjustments on an image that looks flat (top). However, there is a considerable risk of producing images that have a little too much contrast (bottom) with too much detail sacrificed in highlights or shadows.

Having said all that, there are still times when you will want to use the Brightness/Contrast dialog box. For one thing, it is a good way to get started when you aren't yet familiar with the other options available to you. Also, at times simplicity may be important, either because you are trying to quickly prepare an image for sharing on the Web or via e-mail, or because you are having a difficult time using the more advanced controls on a given image. It is a convenient control to use when an image needs a simple contrast boost (Figure 5.8).



Figure 5.8
When an image requires a simple boost in contrast, the Brightness/Contrast adjustment may provide all the control you need to improve the image.

As you'll see throughout this book, I feel strongly that all adjustments should be performed on a separate layer, rather than adjusting the pixel values in your image directly. *Adjustment layers* are special layers that don't contain pixel data, but instead hold instructions on how the actual pixels in the image should be changed in appearance. Therefore, the first step toward making a Brightness/Contrast adjustment (or any other adjustment for which an adjustment layer is available) is to make an adjustment layer. To do so, click the Create New Fill Or Adjustment Layer button at the bottom of the Layers palette (top of the Layers palette in Photoshop Elements). This is the button with a half-black and half-white circle icon on it. A list of available adjustment layers will then be displayed (Figure 5.9).

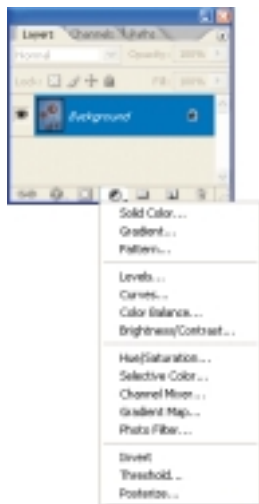


Figure 5.9
Click the Create New Fill Or Adjustment Layer button (the one with the half-black and half-white circle icon) to see a list of available adjustment layer types.



Note: Adjustment layers enable you to provide instructions on how an image should be modified without changing pixel values directly. Using these layers is the preferred method for adjusting your images.

Select the Brightness/Contrast item from the list of available adjustment layers, and the layer will be created. You'll see on the Layers palette that the adjustment layer is placed above the currently active layer. In this case, because you're making the first adjustment on this image, the only layer is the Background layer, so the adjustment layer goes above that. In addition to the new adjustment layer in the Layers palette, the Brightness/Contrast dialog box is displayed (Figure 5.10). You're immediately ready to start making adjustments to the image, comfortable that these adjustments are being handled by an adjustment layer that effectively behaves as a filter over your image, rather than causing changes to the underlying pixel values.

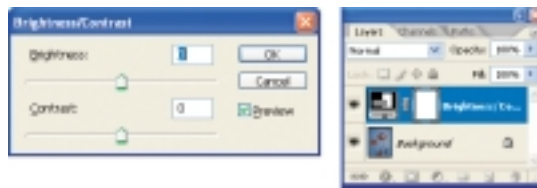


Figure 5.10

The Brightness/Contrast dialog box is displayed when you create a new Brightness/Contrast adjustment layer, allowing you to perform basic tonal adjustments on your image.

The approach I recommend for using Brightness/Contrast is to start with the Contrast slider and then fine-tune with the Brightness slider (Figure 5.11). Because the Contrast adjustment has the potential to cause a significant loss of information within the image, establishing this value to optimize contrast without sacrificing significant detail is the most important consideration. The Brightness slider then becomes something of a fine-tuning control, allowing you to adjust the overall brightness without significant concern of causing a greater loss of detail in highlights or shadows. Make sure the Preview checkbox is selected so you can see the effect of every adjustment in your image as you move the sliders.

When you're finished fine-tuning the Brightness and Contrast sliders, click OK to apply the changes to this adjustment layer. You're now ready to evaluate the results of your adjustment (Figure 5.12). Although you were able to see the effects of your adjustments as you made them, sometimes it is difficult to make a good evaluation of the final result as you're making minor adjustments to the sliders. I therefore recommend after making an adjustment that you take an overall look at the image and evaluate it with and without the adjustment you've applied.

The easiest way to do this is to turn off the visibility of the Brightness/Contrast adjustment layer on the Layers palette. To do so, click the eye icon to the left of the layer. In the case of an adjustment layer, what you're hiding or revealing is the effect of that layer. By toggling the visibility off and on, you can switch between "before" and "after" views of the adjustment. This gives you a greater perspective on the adjustment you've applied to the image, and this context often makes it much easier to make a critical evaluation of the results you've achieved. The hope, of course, is that you like the after version more than the before.

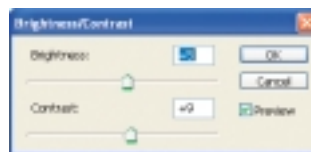


Figure 5.11

A good approach to using Brightness/Contrast is to adjust the Contrast slider to achieve the desired contrast within the image, and then fine-tune using the Brightness slider.



Figure 5.12

Although other adjustment tools provide greater control over the changes you make to your images, Brightness/Contrast does enable you to make good basic adjustments provided loss of highlight detail doesn't become a problem.



Note: If you are working with a 16-bit image with adjustment layers in Photoshop but need to convert that image to 8-bit, flatten the image first so the adjustment layers will apply to the high-bit data. If you convert to 8 bits per channel without flattening, the adjustment layers will have their adjustments scaled to the 8-bit data, and you'll have lost the benefit of making adjustments in 16-bit. (Photoshop Elements doesn't support adjustment layers for 16-bit images.)

If at any time you decide you aren't completely happy with the adjustment you've made, whether for the Brightness/Contrast adjustment layer you've created or any other adjustment layer you'll make later, revising the adjustment is remarkably easy. Simply double-click the thumbnail icon on the Layers palette for the adjustment layer you'd like to revise, and the dialog box will be displayed. The sliders and any other controls in the dialog box will be exactly where you left them the last time you clicked OK. You can then change the settings for any of the controls, revising your original adjustment. In fact, you can return to the adjustment layer as often as you like, making an infinite number of revisions, without any concern of cumulative damage to your image. That is because only the final settings count; earlier "versions" don't damage the image, because you are applying an adjustment without changing the underlying pixel values in your image.

Benefits of Adjustment Layers

There are many benefits to using adjustment layers rather than adjusting pixel values directly within your image. Among the most significant benefits are the following:

- There is no cumulative loss of image quality when making multiple adjustments because you are effectively applying a filter over your image rather than changing the underlying pixel values.
- You can quickly see a "before" and "after" view of your image by turning off the visibility of any adjustment layer.
- You can revise the adjustment at any time by double-clicking the thumbnail icon for the adjustment layer on the Layers palette, and all the controls will be exactly as you left them last time you clicked OK in the dialog box for that adjustment layer.
- You can reduce the Opacity of the adjustment layer as a quick way to reduce the effect without changing the actual settings for the adjustment layer.
- You can apply a layer mask to the adjustment layer to target the adjustment to specific areas, as I'll cover in Chapter 10, "Targeted Adjustments."

Levels

The Levels adjustment provides much greater control over tonal adjustments for your images. In many respects, it can be thought of as providing the same overall functionality as Brightness/Contrast, but Levels provides the capability to adjust contrast by independently controlling shadows and highlights within your image.

Of course, this makes Levels sound remarkably easy, which isn't necessarily the conclusion you would draw after looking at the Levels dialog box (Figure 5.13). After you have a better understanding of the basic information presented in this dialog box and of the methods you'll want to utilize for basic tonal adjustments (and even color adjustments by working on individual color channels), you'll feel very comfortable using Levels and will be less likely to decide to revert to Brightness/Contrast.

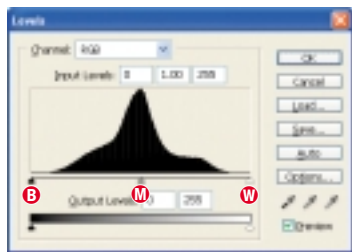


Figure 5.13

The Levels dialog box appears rather complicated, but after you understand how to utilize this control effectively you won't feel intimidated. The key controls allow you to adjust the black point (B), middle-tone value (M), and white point (W).

The primary component of the Levels dialog box is a histogram display that charts the distribution of tonal values within your image. The tonal values are represented from black at the extreme left to white at the extreme right. This gradation of tonal values is shown as a gradient bar along the bottom of the histogram chart. The shape of the histogram chart tells you about the distribution of tonal values within the image. For example, histogram data that is shifted toward the left (Figure 5.14) indicates that the image is generally dark. However, that doesn't necessarily tell you anything about the quality of the image; it may simply be a dark scene. Similarly, a brighter image will have a histogram shifted toward the right.



Figure 5.14 A histogram chart that is shifted to the left indicates that the image is relatively dark—but doesn't provide any real information about the quality of the image.

Problem Signs

The key things to watch out for on the histogram are clipping and gapping. *Clipping* is an indication that information has been lost in the highlights or shadows of your image. *Gapping* is represented by gaps in the histogram, and indicates tonal values that are not represented in your image.

Clipping is indicated on the histogram display by data running off the end of the chart. There are two ways clipping might be displayed. One is as a spike at one end of the chart. This is most commonly seen at the highlight end and is often caused by specular highlights within your image, such as reflections from water, glass, or metal. In other words, it isn't necessarily a major problem within the image, as we don't expect to see detail in such highlights.

The other type of clipping is more likely to represent a problem within your image, especially if it occurs in the highlights. In this type, the data of the histogram gets cut off abruptly at the end of the chart, rather than ending gracefully before the chart ends (Figure 5.15). If you think of the histogram as representing a mountain range, ideally the mountains should gradually drop down to the flatland before the chart ends. If instead the mountains end suddenly in a cliff, detail is lost in the area that would have gradually lowered to the base of the chart. All pixels within the "missing" tonal values have been clipped to the minimum (black) or maximum (white) value at that end of the histogram chart.

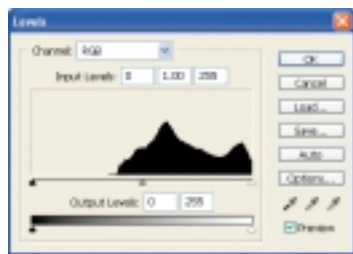


Figure 5.15
Clipping exhibited by an abrupt cutoff of tonal data at the highlight (right) end of the histogram chart indicates a potentially serious loss of detail in your image.

Ideally, your image shouldn't exhibit any clipping when you get started with your adjustments. If it does, it is generally preferred that the clipping occur in the shadows rather than the highlights, as we are usually more forgiving of lost shadow detail in a photographic image than blown highlights. However, you also want to be careful not to produce excessive clipping as you are adjusting contrast with Levels.

Another problem to be aware of is gapping in the histogram (Figure 5.16). You can think of the histogram chart as a bar chart made up of many narrow bars, so that the final result typically looks like a curving data display rather than one composed of individual bars. However, when gapping occurs, you start to see the individual bars that create the data display. Gapping indicates that certain tonal values are not represented by any pixels (or by very few pixels) in the image.

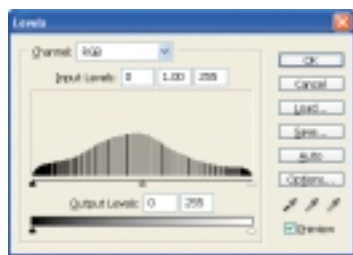


Figure 5.16
Gapping in the histogram indicates that all available tonal values are not represented in the image. When gapping becomes significant enough, the result is a loss of smooth gradations of tone and color in the image, referred to as posterization.

Note: Gaps in the histogram rarely occur for 16-bit files, because many more values are available than the 256 represented by the histogram display. 16-bit files have 65,536 tonal values per color channel available, compared to 256 values per channel for an 8-bit file. As a result, 16-bit files can lose a significant number of tonal values without obvious gapping or the posterization it can be indicative of.



Gaps in the tonal values indicate that smooth and subtle transitions between tones and colors within the image may be compromised. Instead of making a gradual change from one value to another with 10 values in between, for example, the transition may be from one value to another without any transition values between them. This lack of smooth gradations is referred to as *posterization*.

However, gaps in a histogram are not an immediate indication of a serious problem with your image. Minor gaps of only a few pixels wide, representing just a few tonal values, aren't likely to be visible with the human eye. In fact, it isn't until the gaps become relatively extreme (at least 10 tonal values) that they are likely to be visible in the final output. Although gaps certainly indicate a potential problem, they don't define image quality by themselves. If you have significant gapping in an image, use caution not to make extreme adjustments that may worsen the situation, and closely evaluate the final image to ensure there isn't visible posterization.

Basic Levels Adjustments

With a basic understanding of the concepts behind Levels, you're ready to start making an adjustment. To do so, create a new adjustment layer for Levels by clicking the Create New Fill Or Adjustment Layer button on the Layers palette. For most adjustments with Levels, there are only three controls you need to adjust. These are the black point, white point, and middle-tone sliders. All three are found directly below the histogram display in the Levels dialog box. The black point slider (for shadows) is at the far left, the white point slider (for highlights) at the far right, and the midtones slider in between the two. Together these controls allow you to adjust the overall contrast (with the black point and white point sliders) and brightness (with the midtones slider) of your image with excellent control.

As with the Brightness/Contrast control, I recommend establishing overall contrast before fine-tuning brightness. Therefore, I suggest starting with the black point and white point sliders. These provide contrast adjustment with the ability to vary the amount of adjustment being applied to the shadow and highlight areas of your image. You can therefore, for example, sacrifice more detail in the shadows to improve overall contrast without losing significant highlight detail.

As a general rule, most images benefit from having the brightest pixel value set to white and the darkest pixel value set to black. There are obviously plenty of exceptions to this, but it is a good basic rule. Because we know that the last data point at either end of the histogram chart represents the darkest and brightest pixels, a very basic adjustment could be made by dragging the black point and white point sliders inward to the point where the data begins at each end of the histogram (Figure 5.17).

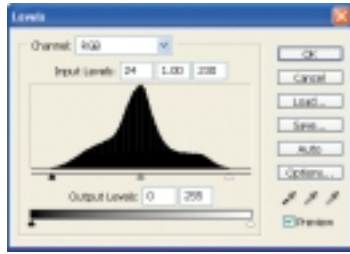


Figure 5.17

A good general approach to setting the black and white points within Levels is to bring the black point and white point sliders inward to the point where the data begins at each end of the histogram chart.

Of course, this is a somewhat arbitrary way to approach an image. Although it will indeed produce good results for most images, it isn't an ideal solution for every one. Photography is very much a visual pursuit, so it makes sense to perform a visual review of the image and decide whether you're happy with the results of the adjustment you've made. You may want to back off the adjustments slightly in some situations to minimize the risk of introducing excessive contrast. In other situations you may want to bring the sliders in just a bit farther to produce stronger contrast. It is up to you to determine the best adjustment for a particular image.



Note: If you're having trouble making appropriate adjustments, you can hold the Alt/Option key to change the Cancel button to a Reset button in most dialog boxes in Photoshop. If you then click the Reset button, all settings in the dialog box will return to their default values.

After you've established the black and white points for the image, effectively performing a well-controlled contrast adjustment, you are ready to adjust the middle-tone slider. This slider can be thought of as a brightness control. Moving the slider changes which pixel value within the image should be mapped to a middle-gray tonal value, but the result is a brightness shift. This adjustment doesn't have any rule of thumb you can follow in terms of positioning the slider at a particular point along the histogram chart, so you'll need to make a decision based on a visual review of the image.

When you've adjusted all three sliders, you've finished the basic tonal adjustment with Levels. Click OK, and the Levels dialog box will close. As with any other adjustment layer, if you change your mind about the adjustment at a later time, you can simply double-click the thumbnail icon for the Levels adjustment layer on the Layers palette and the dialog box will be displayed, with the sliders positioned exactly as you left them last time you clicked OK.



Note: The Levels dialog box also includes eyedroppers that allow you to click areas of your image to automatically set the black, white, and neutral values. However, these tools tend to require a hunt-and-peck approach that doesn't allow you to make very accurate adjustments, so I prefer not to use them.

Clipping Preview

Although a basic visual evaluation of your image while making adjustments with Levels is certainly effective, it can be even more helpful to use the clipping preview display available in Levels. This display allows you to see exactly where you are losing detail within your image as you adjust the black point and white point sliders. As a result, you can make a much more informed decision about the settings you'd like to use for these sliders.

When you start with an image that lacks strong contrast (Figure 5.18), and want to maximize the contrast without sacrificing detail in highlights or shadows, the clipping preview display allows you to see exactly where you'll lose detail based on your specific adjustment of the black point and white point sliders.



Figure 5.18

If you have an image such as this one that lacks adequate contrast, it is helpful to be able to maximize contrast without sacrificing highlight or shadow detail. The clipping preview feature of Levels provides exactly this solution.

I recommend adjusting the white point first, simply because highlight detail tends to be the more critical adjustment. If you've already created a Levels adjustment layer for the image you're working on, double-click the thumbnail icon for that layer on the Layers palette. Otherwise, create a new Levels adjustment layer.

To enable the clipping preview display, hold the Alt/Option key while you adjust the white point. Your image display will initially change to a completely (or almost completely) black display. This indicates that no pixel values (or very few) are clipped to white without making any adjustment. As you continue to hold the Alt/Option key, slide the white point slider to the left. You'll see more pixels showing up as you move the slider (Figure 5.19). As a general rule, I recommend adjusting the white point until pixels just start showing up in the clipping preview. This is the point where you've maximized contrast and tonal range within the image, while sacrificing minimal high-light detail. Of course, the benefit of the clipping preview display is that you're able to make an informed decision about the amount of detail you are sacrificing to achieve the level of contrast you'd like to see, and that detail's location within the image to achieve the level of contrast you'd like to see in the image.

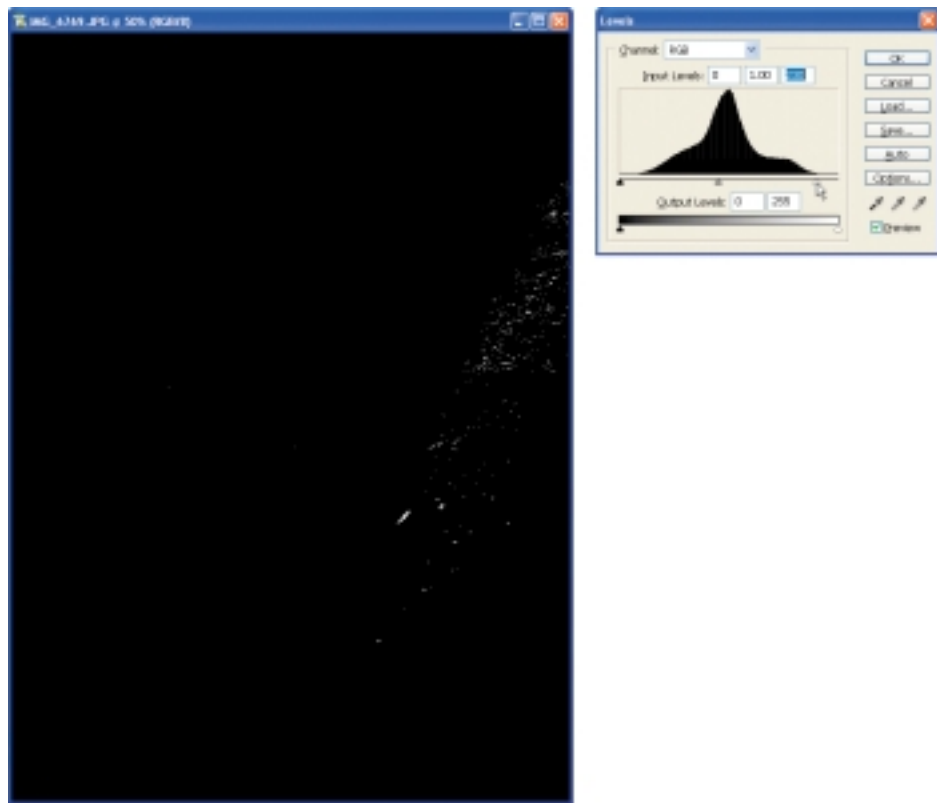


Figure 5.19 By holding down the Alt/Option key while adjusting the white point slider in Levels, you'll see a clipping preview showing you where in the image you'll lose highlight detail for a given adjustment.



Note: The color of the pixels that show up in the clipping preview display indicate the color channels that are losing detail within the image. The pixels won't appear as pure white or black in the image until the clipping preview shows those values. However, even if they aren't pure white or black, they are probably very close if any channels are clipping, so you can generally treat such values as though they were indeed white or black.

The process for setting the black point is nearly identical: hold the Alt/Option key while adjusting the black point slider, and you'll see a similar clipping preview display, except that now it will start completely (or almost completely) white, with pixels showing up to indicate where you're losing shadow detail (Figure 5.20). As discussed previously, you are generally willing to sacrifice more shadow detail as opposed to highlight detail to maximize contrast. The clipping preview allows you to make an informed decision about how much detail you're giving up with a particular adjustment and the location of that detail, so you can better determine the extent to which you can push the black point to produce the desired contrast level.

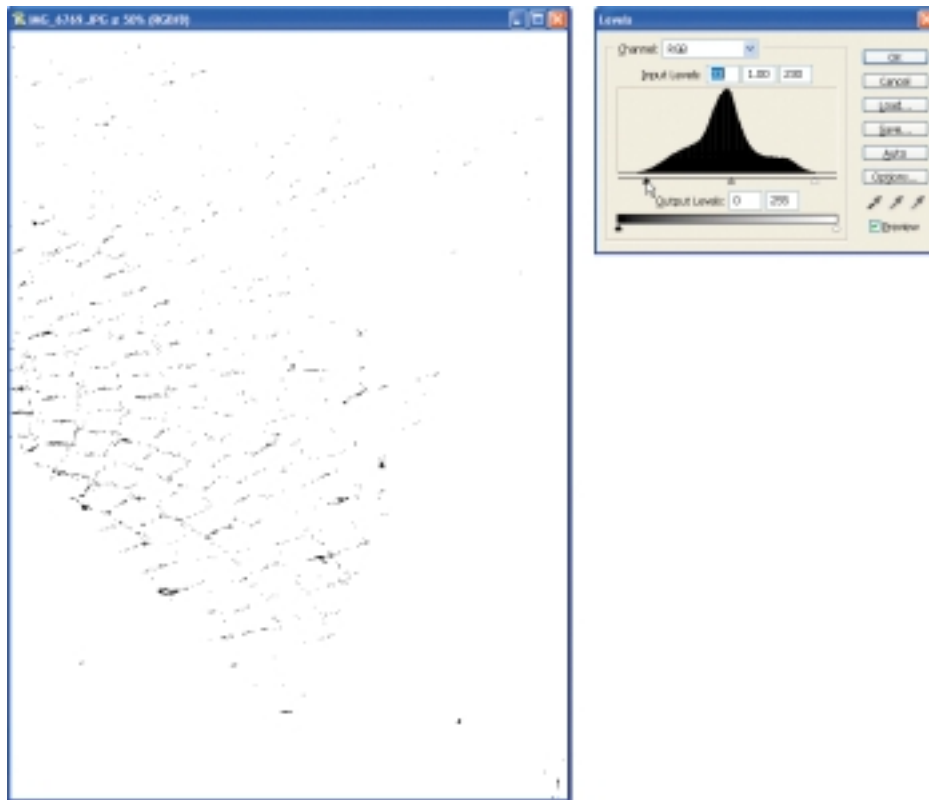


Figure 5.20 While holding down the Alt/Option key and adjusting the black point slider in Levels, the clipping preview shows where the image will lose shadow detail for a given adjustment.

After you've adjusted the black and white points by using the clipping preview, you're ready to adjust the middle-tone slider for overall brightness. Because this doesn't affect the extreme tonal values within the image, there isn't a clipping preview for the middle-tone slider. You'll need to rely on a visual evaluation of the image for this adjustment.

When you're finished with all three of these adjustments, using the clipping preview for the black and white points, you've produced an image with optimal contrast based on your willingness to sacrifice detail to achieve your goals for the image (Figure 5.21).

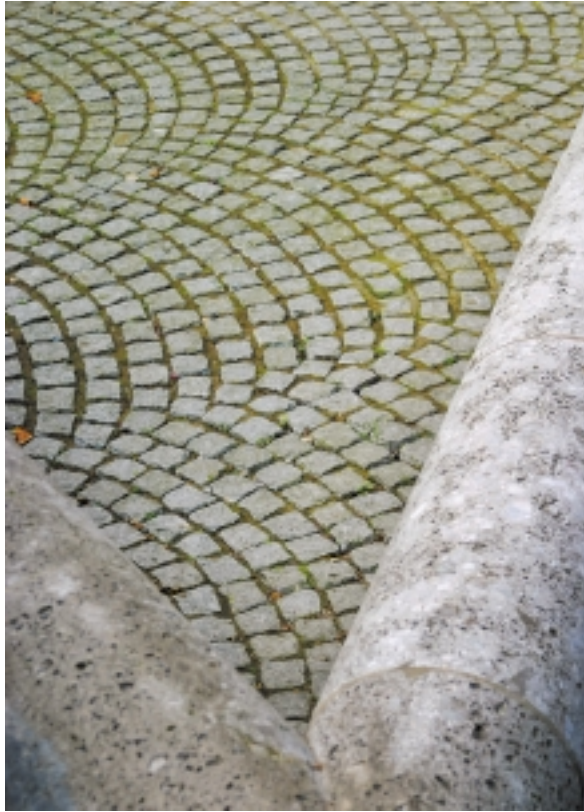


Figure 5.21

After you have adjusted the black and white points by using the clipping preview of Levels, and then fine-tuned the middle-tone slider to taste, the result is an image with optimal contrast and with detail lost only where you've decided it was worth sacrificing.

Color Adjustments

After you've optimized the overall tonality of your image, the next step is typically color adjustments. At the most basic level, these include adjusting the color balance to remove any undesired color cast or to introduce one that is desired, and adjusting the saturation of colors within the image to taste.

Color Balance

Color balance adjustments are most often thought of as ways to eliminate an undesirable color cast within an image. In many cases the goal is to make areas that should be neutral in the image truly neutral. However, this can be a challenging goal to achieve. Just because something truly is neutral doesn't mean it should appear as perfectly neutral within your image. For example, if you place an 18% gray card in a scene during sunrise, you can be assured that the gray card won't appear gray. It will be influenced by the warm light of sunrise and will appear with a golden hue.



Note: Photoshop Elements does not include a Color Balance adjustment. However, it does include other color adjustment options that will be covered in later chapters. You can also use the Color Variations command (Enhance > Adjust Color > Color Variations) to adjust color balance by clicking the thumbnail at the bottom of the dialog box that represents the best color, selecting each best option in turn until you produce the best final result.

Instead, I feel the focus of a color balance adjustment should be to eliminate any color influence you don't like and to add a color influence you do like. The result needs to be close to reality to be accepted by those who will view your images, but you do have a fair amount of latitude. Focus on producing the best aesthetic results, and you'll be well on your way to accurate results as well.

The simplest way to make basic color balance adjustments is with the Color Balance dialog box. This dialog box includes three sliders as the primary controls (Figure 5.22). These represent the color axes for each of the three channels that make up your image. As an additional benefit, the sliders are labeled to remind you of the relationships between colors. Colors at opposite ends of a given slider are opposites of each other, and moving the slider in one direction or the other will cause the overall image to be shifted toward that color value.

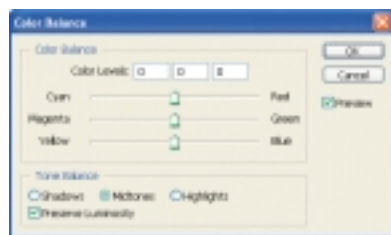


Figure 5.22

The Color Balance dialog box provides sliders for each of the three axes represented by the color channels that comprise an image, and allows you to adjust the balance for color along each axis.

It is important to keep in mind that when you make a color balance adjustment to your image, you are adjusting all pixel values within the image. Of course, in later chapters you'll look at how to control the adjustments so they affect only certain areas of the image. For now, the key to understand is that just because you are moving a slider between cyan and red doesn't mean you will affect only those pixels within the image that are cyan or red. Rather, all pixels within the image will be shifted toward the color value you choose with the slider.

As with other adjustments, the first step is to create a Color Balance adjustment layer; doing so opens the Color Balance dialog box. I strongly recommend starting with the axis that needs the most significant adjustment. For example, if you have an image with a magenta cast (Figure 5.23), start with the Magenta/Green slider.

When adjusting a given slider, especially if you are not yet comfortable with visualizing the particular adjustment required, I recommend moving the slider through the extremes of its range. Besides helping you get a better sense of where an appropriate color balance exists for a particular slider, this process will also help you develop your skills for understanding how a particular adjustment will affect various color and tonal values within your images. As you move the slider back and forth, starting with the extremes, gradually zero in on the range that seems to provide the most appropriate balance for that channel.

With the slider positioned as accurately as possible with the mouse, you can then take advantage of keyboard shortcuts to fine-tune the adjustment. After you have moved a slider, the text box that holds the final value for that slider will be active. You can then use the up and down arrow keys on your keyboard to adjust the value one unit at a time.



Figure 5.23

If you have an image with a slight magenta cast, the Magenta/Green slider in the Color Balance dialog box should be the first you adjust.

In the case of the sample image with a magenta color cast, your first step would be to shift the color balance toward green by using the Magenta/Green slider (Figure 5.24). This will effectively neutralize the unwanted magenta color cast, producing an image that is relatively neutral with accurate color.

However, just because you have achieved a neutral image with accurate color doesn't mean you are finished with the Color Balance adjustment. In fact, even if you think the image has been adequately corrected with a single slider adjustment, adjust the other two sliders to see if you can't produce a better result. Often you'll find that by shifting the other sliders, you'll produce an image with a more pleasing color balance than the neutral result you first achieved.



Note: In general, viewers respond more favorably to images with a warm color balance, so you may want to explore a shift toward warmer values (red, magenta, yellow).

Looking again at our sample image, after producing a neutral result you might want to explore adding a shift toward warmer values. In this case, I applied a shift toward yellow to warm up the image and enhance the natural earth tones that were already present (Figure 5.25). The result is an image with much greater warmth than the original adjustment produced.

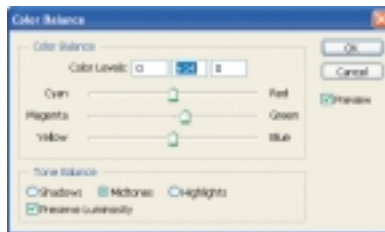


Figure 5.24 A magenta color cast can be corrected by moving the Magenta/Green slider toward Green in the Color Balance dialog box. After you have corrected the color cast in your image, the result is a relatively neutral image with accurate color.

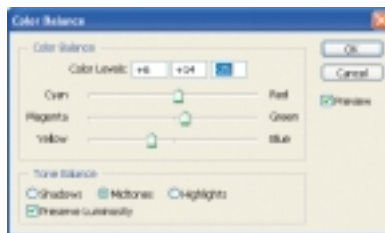
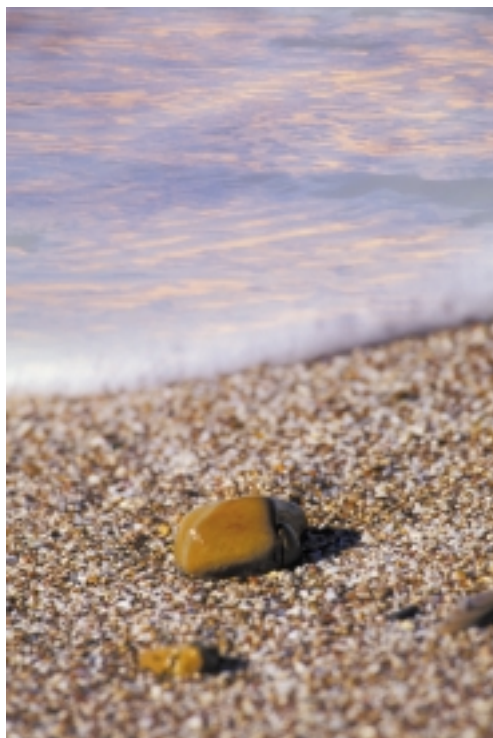


Figure 5.25 After you've made adjustments to produce a neutral result, you can often produce a better final image by making further adjustments. In particular, adjustments that warm up the image slightly are often appealing.

After you've adjusted all three sliders in the Color Balance dialog box, the basic process is complete. But keep going: move all three sliders again, this time making *much* smaller adjustments. Because each slider move affects all of the colors within the image, subsequent adjustments at least slightly alter the image; you might discover an even better result.

For the vast majority of images, all you need to do is adjust the sliders in the Color Balance dialog box after selecting the default Midtones setting in the Tone Balance section at the bottom of the dialog box. However, you can also change the range of tonal values within the image that will be affected by the Color Balance adjustment by selecting Shadows or Highlights and making separate adjustments targeted at those tonal ranges.

Each of these options for limiting the tonal values to be affected by the adjustment operates independently. When you select Shadows, for example, the adjustments you make will not replace or undo adjustments you made when the Midtones option was selected. The Midtones option will affect most values within the image, whereas Shadows and Highlights will limit the adjustment to the darkest and brightest values within the image, respectively.

Another option in the Color Balance dialog box is the Preserve Luminosity checkbox. With this option selected, when you adjust one slider the color values for the other channels within the image will be modified slightly so that the perceived luminosity of all colors is preserved. I recommend keeping this checkbox selected. The only time I recommend deselecting this option is when you are attempting to produce a perfect neutral value and want to be able to control each channel's color value independently.

Basic Saturation

After you've achieved appropriate overall tone and an accurate color balance, the next consideration is the saturation of the colors within your image. This calls for a Hue/Saturation adjustment (Figure 5.26). Although this control allows you to perform a wide variety of adjustments, for now I'm going to focus on a basic saturation adjustment (though not as strong an adjustment as I described at the beginning of this chapter when using Hue/Saturation for evaluating the image). In Chapter 8 I'll cover Hue/Saturation in even greater detail, but for now I'll keep it simple.

Start by creating a Hue/Saturation adjustment layer, in the same manner that you created the other adjustment layers covered earlier.

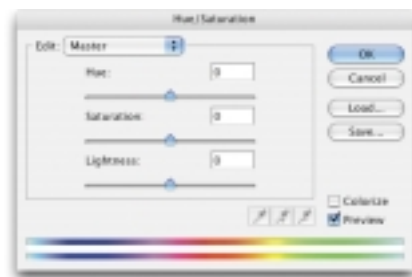


Figure 5.26 Hue/Saturation allows you to perform basic saturation adjustments, along with a variety of other adjustments covered in Chapter 8.

In general, photographers want to boost the saturation of the colors in their images, so the most common adjustment is to increase the Saturation value. However, there are certainly plenty of situations where you might want to reduce saturation

slightly. For example, if you are producing an image with a watercolor appearance, you'll want to tone down the colors slightly so they don't appear overpowering.

Note: Although it is possible to move the Saturation slider all the way to the left to produce a black-and-white version of an image, this isn't the optimal method. In Chapter 11, "Creative Adjustments," I'll cover a method for producing better black-and-white conversions.



Although reducing saturation can be done to any degree based on your preference for how the image should look, a little more care should be taken when increasing saturation. If you increase the saturation too much, you can create some problems within the image. For one thing, the colors may start to look fake because they are too vibrant. Also, by shifting colors to their most saturated values, you are reducing the total number of possible values, and therefore increasing the risk of posterization in the highly saturated areas of the image. As a general rule, use caution when increasing the Saturation slider to a value above +20. That doesn't mean you can't increase Saturation further, just that you should carefully review the image to make sure you aren't introducing any problems in doing so.

Other than exercising some care in how much you increase saturation, making an adjustment is really as simple as deciding how strong you want the effect to be. If your image doesn't have very strong saturation (Figure 5.27), you can easily produce a more pleasing image by increasing the Saturation slightly with a Hue/Saturation adjustment.

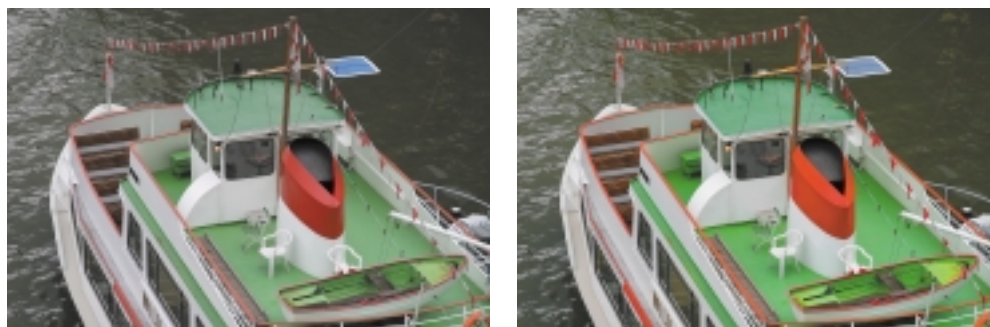


Figure 5.27 (left) When an image has colors lacking in vibrancy, the perception is an image that is flat. (right) Boosting the Saturation adds life to the image.

Provided you are cautious not to apply an excessive boost in saturation, a basic increase in Saturation with the Hue/Saturation adjustment is one of the more straightforward adjustments you'll make in a basic workflow for your images.

Basically Done

After stepping through the adjustments covered in this chapter, you've completed the basic image-optimization workflow. For some images, this will provide all the adjustment you need, particularly if you started with an excellent capture right out of the camera. After completing this basic workflow, you're ready to move on to more advanced adjustment options that allow you to exercise maximum control over your photographs.