

6 ♦ Selections, Channels, Masks, and Paths

No matter what type of Photoshop work you do, you will most likely have to make selections. Spot color corrections require selections. Compositing requires selections. Retouching requires selections. Even cropping requires selections. When you make a selection, you are choosing part of the image to work with, to the exclusion of the other part. The better your selection techniques, the better your work will look. While making selections is one of the most basic Photoshop tasks, mastering the creation and use of selections may take you quite some time. In our classes, we often find students happy to make selections, but the minute we mention channels, masks, and paths, eyes glaze over and palms get sweaty. In reality, those techniques are all about selections—how you make them, save them, and use them. Selections, masks, channels, and paths are all a way to isolate a portion of the image.

Making Selections

Let's start by talking about the concept of a *selection*—an isolated part of an image that needs special attention. You may want to make this part of the image lighter or darker, change its color altogether, sharpen it, or filter it. Or you might select something in an image that you want to copy and paste into a different image. Photoshop offers two basic methods of making selections. The first is based on shape and uses the Marquee and Lasso selection tools that we discussed at length in Chapter 4, “The Toolbox.” The second selection method is based on color or luminosity.

To learn more about using the selection tools, go to Chapter 4 and Chapter 19, “Making Selections.”

Shape-Based Selections

You can make selections using various tools. The simplest are the Rectangular and Elliptical Marquees, which allow you to draw a box or an ellipse around something by clicking to one side of the area you want to isolate and then dragging diagonally to the other side. This will create a box- or oval-shaped selection that is denoted by a dotted line, often called “marching ants,” around the edge. The next level of selection complexity involves the Lasso tool, which allows you to draw a shape around objects to select them. Using Photoshop's Lasso, you can draw either freehand or straight-line segments, or combinations of both. The Magnetic Lasso is a variant of this tool that snaps

the selection marquee to an area based on its contrast with its surroundings.

Color-Based Selections

Photoshop makes color- and luminosity-based selections for you all the time when you use commands such as Hue/Saturation, Curves, Extract, or Replace Color. You won't see the marching ants, but Photoshop recognizes the invisible selections those commands create. However, some other tools and commands in this category do allow you to see what you're selecting. These commands—including the Magic Wand tool, and the Select/Color Range, Select/Grow, and Select/Similar commands—produce the marching ants. The Magic Wand allows you to click a certain color in an image and automatically select pixels based on the color you chose and a tolerance value controlling the range of deviation from that color. The tolerance value, which you set on the Options bar, is also used by the Select/Grow command, which selects adjacent pixels to any that are currently selected *and* fall within the tolerance value, and the Select/Similar command, which selects pixels throughout the image.

Moving Selections

After you create a selection (and sometimes while you're creating it), you may need to move it around on the image to select the exact area you want to work with. When using the Marquee tool, you can start your drag to make the selection, then hold down the Spacebar to interrupt the drawing of the marquee and move its selection boundary



Using the Magic Wand and a tolerance value of 65 selects most of the red rosehip.

around the image. Once you've placed the top-left corner of the selection where it needs to originate, let go of the Spacebar and continue your drag to complete the selection. Let's try it out.

- ◆ Navigate to the Ch06.Selections Channels Paths folder on the *Photoshop Artistry* DVD, and open *TheNewParisDog.psd* image.
- ◆ Type M for the Marquee tool. If the Rectangular Marquee is not selected in the toolbox, type Shift-M until it is the current tool.
- ◆ Click anywhere on the image and begin to drag diagonally. With the mouse button still pressed, hold down the Spacebar and move the marquee around the image.
- ◆ Release the Spacebar but keep pressing the mouse down and finish creating your selection.

If you need to move a selection after you've drawn it, you can use the Marquee tool, the Lasso tool, or the Magic Wand. With one of these tools selected, click *inside* the selection boundary and drag. (If you click *outside* the selection boundary, you deselect the area.) To move the boundary just a pixel or two, you can use the arrow keys, but you must be using one of those tools. If you use the Move tool, you will move the actual pixels of your image rather than just the selection boundary.

Changing a Selection

If you make an initial selection and it's not exactly what you need, you can edit the selection rather than starting from scratch. This method also lets you use multiple tools, enabling you to make more-complex selections than any one tool could give you.

Selection Interaction

When you use any of the selection tools in the Toolbox, you'll see a set of four selection interaction icons on the Options bar. The first, default, icon for each of the three selection tools is New Selection. If you have an existing selection and you click outside it, Photoshop assumes you want to deselect the current area and make a new selection. The next three icons add to the current selection, subtract from the current selection, or take the intersection of the current and new selections. You can also add to any selection using the Marquee, Lasso, or Magic Wand selection tools by simultaneously pressing the Shift



You can use the selection interaction icons at the left of the Options bar to always make a new selection, or add to, subtract from, or intersect with the current selection.



As you Option (Alt)-drag with the Lasso, you see the area you'll subtract from the selection.



Once you release the mouse, the selection looks something like this.

key when you create the new selection. You can subtract from a selection using one of these tools by holding down Option (Alt) to define the area you want to subtract. Shift-Option-drag (Shift-Alt-drag) takes the intersection of the two selections. We recommend learning the shortcut keys for selection interaction, because it's easy to forget you've clicked on a selection interaction icon and leave your selection tools in that state. This can really confuse you. So if you use the icons on the Options bar (and they do make additions and deletions easier), make sure you click back on the default New Selection icon before moving on to the next tool.

- ◆ Make a rectangular selection around the dog. You may find it easier to start your drag from the upper-right side of the dog's head, then drag diagonally down to the feet.
- ◆ Type L for the Lasso tool and hold down the Option (Alt) key as you drag around areas that you want to subtract from the selection of the dog. Try to get as close to the dog as possible without deleting parts of the dog from the selection. If you delete portions of the dog, you can hold down the Shift key as you draw with the Lasso to add those parts back in.

Inversing Selections

Use the selection you just created; or if you like, use Select/Load Selection to load *DogMask*—a selection of the dog we saved with this file. When the dog is selected, anything we do (painting, changing color, and so on) can happen only within the boundaries of the selected area. If you were to compare working on an image in Photoshop to painting a wall, selecting just the dog would be equivalent to putting masking tape everywhere on the wall that you don't



When you load the DogMask, your selection looks like this. Any painting or adjustments that you do will happen only on the dog's body.



When you use Select/Inverse, everything except the dog becomes the selected area, so any painting or adjustments will not affect the dog.

want to paint, say the bricks at the top edge or the planter boxes. If we choose Select/Inverse, then everything except the dog becomes the selection. So any time you have a selection of an object, you also have, via Select/Inverse, a selection of everything except the object. Continuing with the wall analogy, using Select/Inverse would be like removing the masking tape from the bricks and planter boxes and taping over the rest of the wall.

- ◆ Use Select/Inverse or its keyboard shortcut, Command (Ctrl)-Shift-I, and notice that the marching ants are now around the outside edges of the image as well as around the dog.

Select/Transform Selection

OK, you've moved your selection, added to it, and inverted it. But what if you need to make it larger or smaller, or skew it in some fashion? Then you need to use Select/Transform Selection. Chapter 8, "Transformation of Images, Layers, Paths, and Selections," deals with this topic. When you invoke this command, you get the same handles and capabilities you get with Edit/Free Transform (a command we use a lot in this book), except that the transformation does not affect pixels—only your selection boundaries.

Setting the Feather Value

Using most of the selection tools in their default mode is similar to placing masking tape along the edge of the selection, in that there is a defined, sharp edge to the selection. Such a selection is said to have a feather value of 0 (zero). The selection feather determines how quickly pixels transition from being in the selection to not being in the selection. With 0 feather, the boundary is absolute—a pixel is either within the selection or outside of it. You can change the feather of a selection using the Select/Feather command. If you change the feather to 20, the transition from pixels being fully selected to being fully unselected would happen over the distance of 40 pixels (at least 20 pixels on either side of the 0-feather selection line). If you used this type of feathered masking tape to paint the selection of the dog green, the feather would cause the green paint and the yellow of the dog's fur to fade together slowly over the distance of 40 pixels. Whereas setting the feather value of a tool before you use it constricts you to that particular feather value, using Select/Feather is a bit more flexible, allowing you to try out different feather values as you copy and paste selections or make adjustments. There are reasons to use both commands.

- ◆ Use File/New and choose 2 x 3 from the preset menu. Make sure Mode is set to RGB at 8 bits.
- ◆ Type M for the Rectangular Marquee tool, and make a large rectangular selection.
- ◆ Type B for the Brush tool, and choose Paintbrush Op100 Flow100 from the Tool presets pop-up menu on the left of the Options bar. Choose any color and paint the left half of the rectangular selection with this brush.



The left side of the rectangle was painted with no feather on the selection. The right side had a 20-pixel feather when it was painted. In the middle, you can see a bit of overlap.

- ◆ Now go to Select/Feather and enter a Feather value of 20. Paint the right side of the rectangle with the same color and the same brush.
- ◆ Close this window without saving it.

It's easy to see what the feather value did to the application of the paint using exactly the same selection and the same tool. Often when you make an adjustment to your file using Levels or Curves or when you run a filter, you'll use a feathered selection.

Quick Mask

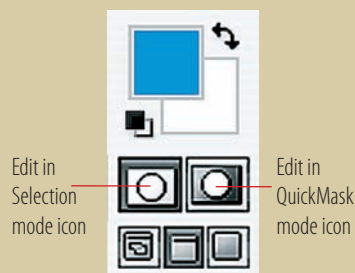
Sometimes, no amount of moving, transforming, or feathering gives you exactly the selection you need. In those cases, Quick Mask might be the answer. A mask, like a selection, is a way to isolate a part of your image. Quick Mask allows you to see your selection graphically, with a colored overlay masking out the nonselected portions of the image. There are sharp edges where you've made the selection with no feather, and soft edges where you used a feather value. More important, Quick Mask allows you to modify your selection with painting tools, giving you the flexibility to make better selections. Unlike most masks, however, Quick Mask does not allow you to save your selection somewhere in your document.

You invoke Quick Mask mode by clicking the Quick Mask icon in the Toolbox. In its default state, the command produces a red overlay on all the areas not currently selected, and no color at all over your selected areas. Using the Brush tool you can paint with black everywhere you want to extend the masked-out areas, and paint with white where you want to extend the selection. Because you can use brushes of different size, shape, hardness, opacity, and flow, you have unlimited ability to alter your mask. When you click back on the selection icon, you get the marching ants again.

If you have spent any amount of effort making your selection, it would benefit you to save it so you could reuse it—or modify it. Unfortunately, Quick Mask has no save function. It is only a temporary way of making a selection. Once you deselect, it's gone. This is one reason we save complex selections either as mask channels (if the selection is not currently modifying a layer) or as layer masks (if the selection needs to actively alter a layer).

Another problem with Quick Mask is that you can switch the command to apply the overlay color to the *selected* areas rather than the *masked* areas, by double-clicking the Quick Mask icon and setting the option. While this is sometimes useful for creating the selection you want, if you forget to switch back to the tool's default mode, new

Quick Mask States



If you use Quick Mask to create your selections, make sure you leave Quick Mask in this state—with a white circle in the middle and a gray background. If you have a gray circle in the middle, all new mask channels and layer masks you create will work the opposite of what you expect. If your Quick Mask icon does not look like this, double-click the icon and set the Color Indicates option to Masked Areas.

masks you create will use black for the selected portions of the image and white for the masked areas. Very confusing.

Mask Channels

You can save a selection to a mask channel (some authors call these channel masks), which allows you to use it again later or to do further selection editing on the mask with the painting tools. This is especially useful for a complicated selection that you don't want to have to remake later. To save your selection, choose Select/Save Selection, or just click the Save Selection icon at the bottom of the Channels palette. The new mask channel you create by doing the Save Selection is named by default Alpha 1 unless you name it. Adobe used the term *alpha channel* in its initial release of Photoshop, when there was only one mask channel you could use. You had to create your mask, use it, then lose it if you needed to mask a different portion of the image. Now you can have up to 56 channels in an image—and that includes color channels. The mask channels are still often referred to as alpha channels.

Sometimes people get confused about the need to have both selections and mask channels. Remember, a selection actually masks out the nonselected areas of the currently active color channel(s) and layer, so those areas can't be edited. After you create a selection or do a Load Selection, you can change which color channel(s) or layer within a document is active, and the selection will remain. It always affects what you do to the active color channel(s) or layer. A mask channel is just a selection saved for later use. Unless the mask channel is currently loaded as a selection, it doesn't affect any other channel(s) or layers or anything that you do to them with the painting tools or

filters. You can load any mask channel as a selection at any time. A layer mask, on the other hand, is a mask channel associated with a particular layer. It is always removing the black areas of the mask from view in that layer. We will talk extensively about layer masks in Chapter 7, “Layers, Layer Masks, and Layer Comps.”

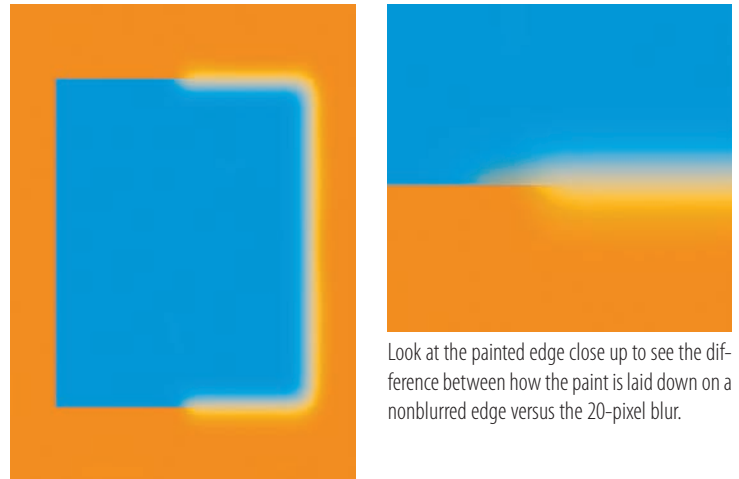
We do many things with mask channels in this book. Sometimes we use the terms *selection* and *mask* interchangeably (although, as we explained, the terms are not exactly equivalent), because they both refer to an isolated part of an image. A mask is simply a selection that has been saved somewhere. To modify an image with a mask that is saved in a mask channel, you must first load the mask as a selection. Choose Select/Load Selection from the Menu bar, or click the mask channel you want to load and drag it to the Load Selection icon at the bottom left of the Channels palette. You also can load a selection by Command (Ctrl)-clicking on the channel you want to load. This is the method we use most often, because it works not only with mask channels but also with layer masks and transparent areas on a regular layer. When a selection is loaded, you can see the marching ants.

Whereas you invert a selection by typing Command (Ctrl)-Shift-I, you invert a mask channel either when you load it or, more permanently, by typing Command (Ctrl)-I. And just as a selection can have a feathered edge, a mask channel can be blurred. Let’s see how this works.

- ◆ Go to File/New and once again choose 2 x 3 as the Preset size.
- ◆ Type M for the Rectangular Marquee, and make a rectangular selection in the middle of the image.
- ◆ Type B for the Brush tool, choose a bright color, and paint the left half of the inside of the rectangle.
- ◆ Use Select/Save Selection, and name the selection No Blur. If it’s not open already, open the Channels palette using Window/Channels to see what your new channel looks like in the palette.



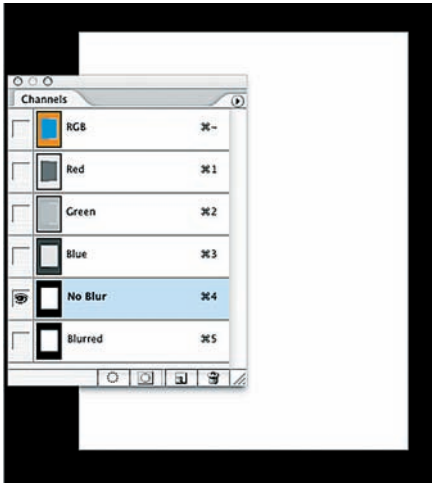
When you save a selection using Select/Save selection, you are given the opportunity to name your new channel. If you click the Save Selection as Channel icon on the bottom of the Channels palette, your new channel will automatically be named Alpha 1, and subsequent channels will be named Alpha 2, Alpha 3, and so on.



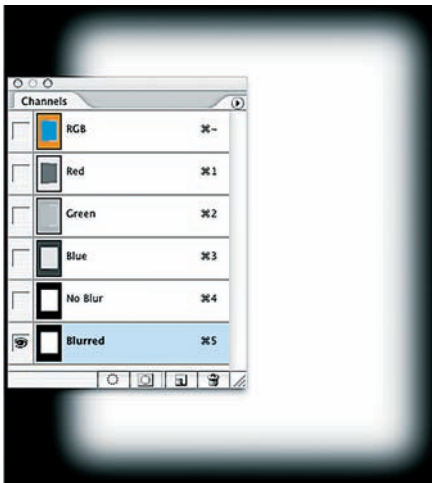
Look at the painted edge close up to see the difference between how the paint is laid down on a nonblurred edge versus the 20-pixel blur.

Although your colors may be different, your painting should look very similar to this.

- ◆ Drag the No Blur channel to the Create a New Channel icon at the bottom of the Channels palette.
- ◆ Type Command (Ctrl)-D to deselect your selection, then go to Filter/Blur/Gaussian Blur to put a 20-pixel blur on this channel. Double-click the name of this channel and rename it Blurred.
- ◆ Use Select/Load Selection, and load the Blurred channel.
- ◆ Paint the right side of the rectangle with the same brush you used for the left side.
- ◆ Now go to Select/Load Selection and choose No Blur from the pop-up menu for selection. Click the Invert check box to load the area outside the rectangle as the selection. Make sure that New Selection is on in the Operations section of the dialog.
- ◆ Choose a contrasting color for your brush, and brush the outside of the rectangle on the left side.
- ◆ Use Select/Load Selection to load the inverse of Blurred. Make sure the Invert box is checked and New Selection is on, then paint the right side of the image.
- ◆ Type Command (Ctrl)-D to deselect the Marquee, and look at the edges you’ve painted.
- ◆ In the Channels palette, click the thumbnail for the No Blur channel. Look at the edges. Now click the thumbnail for the Blurred channel. Look at its edges.
- ◆ Keep this file open; we’ll use it again later in this chapter.



When you view only the No Blur mask channel, you can see in black and white how sharp the edges of the mask are.



The 20-pixel blur value you entered for the Blurred mask actually creates 40 pixels of softness—20 pixels on either side of the selection boundary.

How Mask Channels Work

When you save a selection to a mask channel, the parts of the image that you selected show up as white in the mask channel, and the nonselected parts (the masked parts) show up as black. Our technical editor, Wayne Palmer, suggests a mask mantra: “White reveals, black conceals.” When you have a blend between two partial selections, it shows up as gray in the mask channel. Feathered or blurred selection areas also show up as gray. A mask channel has 256 possible gray values (32,768 in 16-bit), just like any other grayscale image. A *layer mask*, which we discuss in the next chapter, is just a mask channel that is being used to mask out (remove) part of a layer. You can also save a selection to a layer mask, using Layer/Add Layer Mask; that will usually hide the nonselected parts of that layer.

Editing Mask Channels

You activate a channel for editing by clicking its name in the Channels palette or by using the shortcut key for that channel, such as Command (Ctrl)-1 for the top channel, Command (Ctrl)-2 for the next channel, and so on. The Eye icons on the Channels palette control what you see onscreen as you edit.

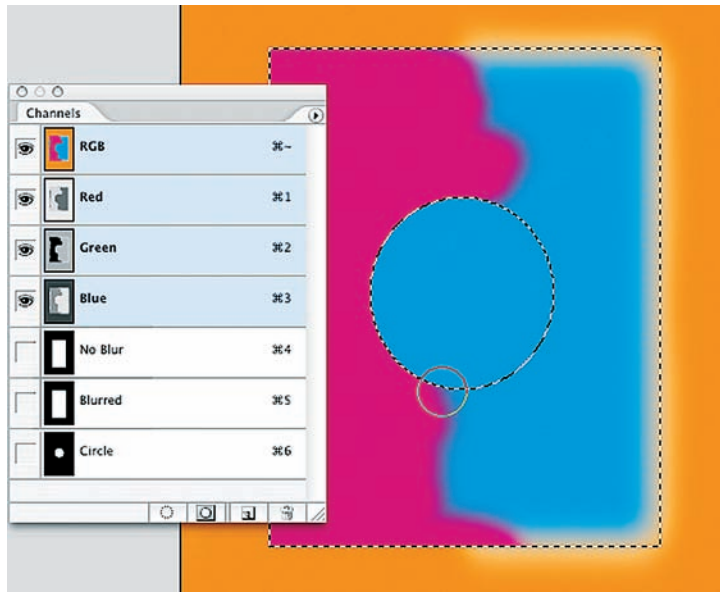
You can edit a mask channel just as you would edit any grayscale image—using painting tools or filters. Often, you make an initial selection using one of the selection tools, then save it to a mask channel, where you have the flexibility of working with the painting tools for complex editing. White in a mask means an area is totally selected and black means it’s totally unselected. Gray areas are partially selected. You can edit a black area and make part of it white; doing that adds the white part to the selected area. Sometimes your initial selection may not need further editing; in that case, you just save it so you can use it again later.

You can rename a mask channel by double-clicking the channel, entering the name you want, and then pressing Return (Enter). You can also use the channel options on the Channels palette pop-up menu. If you Option (Alt)-click the Save Selection icon, or choose Select/Save Selection, you can type in the new name and save the name in the New Channel dialog box.

All mask channels are visible at all times within the Channels palette. By contrast, layer masks are visible in the Channels palette only when that layer is active. In the next chapter you’ll see that when you’re on a layer containing a layer mask, that layer mask name appears in italics in the Channels palette to denote that its presence in the palette is temporary. As soon as you activate a different layer, the previous layer’s mask will no longer show up in the Channels palette.

Combining Mask Channels

When you load a selection, you can combine it with an existing selection. But when you Command (Ctrl)-click a mask channel or layer mask, it loads as a new selection and replaces any existing selection. If you want to add that new selection to an existing one, Command (Ctrl)-Shift-click the mask channel. Command-Option (Ctrl-Alt)-clicking a mask channel subtracts the new selection from from an existing one; and Command-Option (Ctrl-Alt)-Shift-clicking a mask channel intersects the new selection with the existing selection, giving you the parts that the two selections have in common. If you don’t want to remember all these keyboard shortcuts, they show up in the Load Selection dialog box, which you can also access by choosing Select/Load Selection. Try this.



When you subtract the Circle channel from the No feather channel, you get a selection that looks like this. The magenta paint is constrained inside the rectangle but not allowed inside the circle. Using the Add, Subtract, and Intersect functions while loading selections gives you the ability to create complex selections without a lot of hard work.

- ◆ Use Command (Ctrl)-D to deselect any current selection. Now type M or Shift-M, and use the Elliptical Marquee to draw a circle in the middle of the image. Use Select/Save Selection, and name this channel Circle.
- ◆ Once again, use Command (Ctrl)-D to deselect the circle. Command (Ctrl)-click the No Blur channel thumbnail to load that channel as a selection.
- ◆ Use Select/Load Selection and choose the Circle channel, but instead of making a new selection, click the Subtract from Selection button.
- ◆ Type B for the Brush tool, choose a third color, and paint. Paint will be applied within the rectangle, but not inside the circular area because it is not part of the selection.

You effectively cut a hole in the middle of the rectangular selection when you used the Subtract command. When you start to build complex masks with hard and soft edges or gradients over only portions of the mask, you'll understand the vital importance of the channels' selection interaction capability.

Deleting, Moving, and Copying Channels

You can remove a mask channel from the Channels palette either by clicking that channel's thumbnail and choosing Delete Channel from the Channels palette pop-up menu, or by clicking the channel and dragging it to the Trash icon at the bottom right of the palette. If you delete the Red, Green, or Blue channel this way, Photoshop will assume that you want to produce spot color plates of the other two channels and will give you Cyan, Magenta, or Yellow channels, depending on which of the RGB channels you trashed. If you look at Image/Mode, you'll see that you are now in Multichannel mode. Designers sometimes use this process of deleting color channels after converting to CMYK in order to produce a duotone effect without using additional inks that add to the printing costs.

You can copy any channel, including the Red, Green, and Blue channels, by clicking the channel and dragging it to the New Channel icon at the bottom of the Channels palette. You also can make a copy of a channel by choosing Duplicate Channel from the Channels palette pop-up menu.

You can move a channel from one location to another in the Channels palette by clicking the channel and dragging it until the line between the two channels where you want to put this channel becomes highlighted. You then release the mouse button. You cannot, however, change the location of the original Red, Green, and Blue channels if you're in RGB mode, or the Cyan, Magenta, Yellow, and Black channels if you're working in CMYK.

Color Channels

A *pixel* is the basic unit of information in a digital image. In a black-and-white, 8-bit image, each pixel contains 1 byte of information, which allows it to have 256 possible gray values. A *channel* refers to a two-dimensional array of bytes. A black-and-white image has one color channel—black. An RGB color image has three color channels (for Red, Green, and Blue). A CMYK image has four color channels. You can see these channels by choosing Window/Channels and looking at the Channels palette. In an RGB file, Channel 1 is red, Channel 2 is green, and Channel 3 is blue. There is also a composite Channel-~, which allows you to see the red, green, and blue channels at the same time. (This is how you see color.) Also called the RGB channel, Channel-~ is an imaginary channel because as a composite view of the three color channels, it doesn't take up any additional space beyond that which the red, green, and blue channels take up. In RGB, Photoshop assumes Channels 1, 2, and 3 are Red, Green, and Blue, and that Channels 4 and higher are mask channels. When



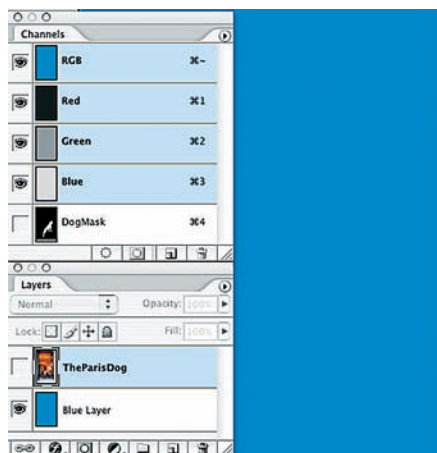
Your Channels palette and Layers palette will look like this when you are viewing TheParisDog layer.



You can edit the mask while looking at the RGB image.



If you reload the mask channel as a selection, the selection shows the results of the painting you did.



When you turn off the visibility for TheParisDog layer, the Channels palette reflects what you see onscreen. However, TheParisDog layer is still the active (highlighted) layer. If you try to paint now, Photoshop won't let you because the layer that is active is no longer visible.

you're working with a grayscale image, Photoshop assumes Channel 1 is the image and Channels 2 and higher are mask channels.

The Relationship Between Active and Visible

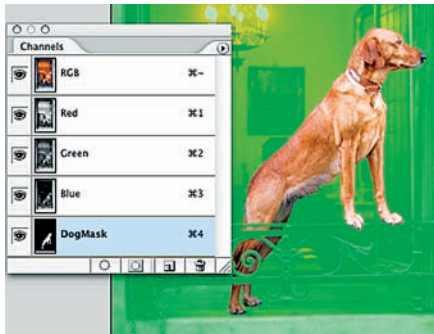
One of the challenging aspects of using channel masks is that you need to pay attention to several things at once. You need to know which layer is active, which channel is active, and which channels and layers you are currently viewing. Notice that the Channels palette has two columns. The left, thin column contains the Eye icons, which signify the channels you are currently seeing. The right column shows each channel's name and thumbnail. Clicking in the right column for a particular channel highlights that channel, indicating that you are working on it. That makes it the *active* channel.

Clicking in the right column for Channel ~ (the RGB composite channel) highlights the Red, Green, and Blue channels.

The Eye icons for the Red, Green, and Blue channels normally are turned on, and those channels are highlighted when you're working with an RGB image. However, what you see in those channel thumbnails will change depending on what is currently visible in the Layers palette. We'll talk more about the relationship of layers and channels in the next chapter. For now, try this:

- ◆ Reopen the TheNewParisDog image if it's not currently open. Go to Window/Layers [F10] to show the Layers palette if it is not already onscreen.
- ◆ Look at the thumbnails in the Channels palette.
- ◆ In the Layers palette, click the Eye icon for TheParisDog channel to turn off its visibility, and look at the thumbnails in the Channels palette again.

When TheParisDog layer is visible, it blocks out all of the underlying Blue layer, so what you see in the Channels palette looks like different black-and-white versions of the dog layer. When TheParisDog layer is not visible, all you see is the Blue layer. The channels then look like three gray panels. The amount of gray in each of the Red, Green, and Blue channels lets you know how much of each color needs to be combined to represent that particular shade of blue. In the next chapter, you'll see how the Channels palette looks when part of each layer is visible.



Here, DogMask is the active channel. If you paint now, you will be painting the mask. The foreground color will be white, black, or some shade of gray.



Although what you see onscreen looks exactly the same, the RGB channels are now active, and when you paint you'll be painting on the image itself. So look before you paint: The foreground and background colors are a clue. If they are colors other than black, white, or gray, the RGB channels are active.

Editing a Mask Channel While Viewing RGB

There are times when you need to finesse a selection after you've already created the mask channel. If you click the right column of the DogMask channel—the column with the name—that channel becomes the active one. It shows up in black-and-white, and if you do any editing with the painting tools, you do so in black-and-white in the DogMask channel. The Eye icons for the RGB channels turn off now. Occasionally, working on this black-and-white channel with the painting tools gives you all the information you need to tweak an edge or fill in some holes. Most of the time, though, you'll want to see exactly what part of the image will be affected by the mask.

If you want to edit the mask channel while also seeing the RGB image, do the following.

- ◆ Make DogMask the active channel by clicking its thumbnail in the Channels palette. Next, click the Eye icon column of Channel ~, which turns on the Eye icons for RGB.
- ◆ Type B for the Brush tool, and use the bracket keys to make your brush small enough to paint out the railing in front of the dog's body. Type D for the default colors, then X to exchange the foreground for background. Paint the railing to add it to the selection area.

Changing the Color of the Mask Overlay

In the illustrations here, we made our mask channel overlay green to make it easier to see. To change the color, double-click the mask channel thumbnail to bring up its channel options, click on the color swatch, and change its color in the Color Picker to something that is not prominent in the image. (Neon color often works well.)

To change the color of the Quick Mask overlay, double-click the Quick Mask icon in the Toolbox.

Be sure to leave its opacity at lower than 100% so you can see the picture through the overlay.

You see the RGB channels, but they're not active, so they're not highlighted. Instead, the DogMask channel is highlighted, because you are still working on it. The parts of the mask that are black will show up with an overlay color, usually the default red. If you paint in black with the Paintbrush tool, you add to this black part of the mask, which would represent the nonselected area. The paint shows up in the overlay color. If you paint with white, which normally represents the selected part of the mask or layer mask, you subtract from the overlay color. This is very much like painting in Quick Mask mode, except that when you use a mask channel you are saving your changes as you paint. You can also view the mask while working on the RGB image if you activate the RGB channels (Channel ~), so that when you paint with the Paintbrush, you modify the RGB image. If you click the Eye icon of the mask channel, you see this channel as an overlay while you're working in RGB. Once again, this can be confusing, because what you see onscreen looks exactly like painting the mask channel while seeing the RGB image. If you paint now, though, the paint is applied to the image itself. So before you paint, take a moment to look at the Channels palette and make sure which channel is active.

Paths

A totally different way to make selections is to use the Pen tool. The Pen tool creates selections, called *paths*, which are mathematical descriptions of points joined by straight and curved line segments. With the Pen tool, you can create the most exact paths along subtly curved surfaces. This is not a tool we use often, but we all know how to use it, and we *do* use it. The Pen tool is a one-of-a-kind instrument. The edges it makes are precise, its curves elegant. Often, it's the best tool for selecting hard-edged objects away from their backgrounds.

Chapter 28, “Compositing Multiple Images,” contains a tutorial on the Pen tool. You’ll also work with this tool in Chapter 30, “Product Compositing.”

Converting Between Paths and Selections

We include the Pen tool here because paths can be converted back to normal selections when you’re ready to use them to modify your image. You create a path using the Pen tool or one of the vector shape tools in the lower portion of the Toolbox. You must have the Paths

palette open to use and save these paths. You use the Make Work Path and Make Selection commands in the Paths palette to convert between selections and paths, and vice versa. To use a path, you usually convert it into a selection and then maybe into a mask channel or a layer mask. You can use the Layer menu to convert a path directly into a different kind of layer mask called a vector mask, which maintains a crisp edge no matter what your print resolution.

The Interactivity of Selections, Mask Channels, Layer Masks, and Paths

