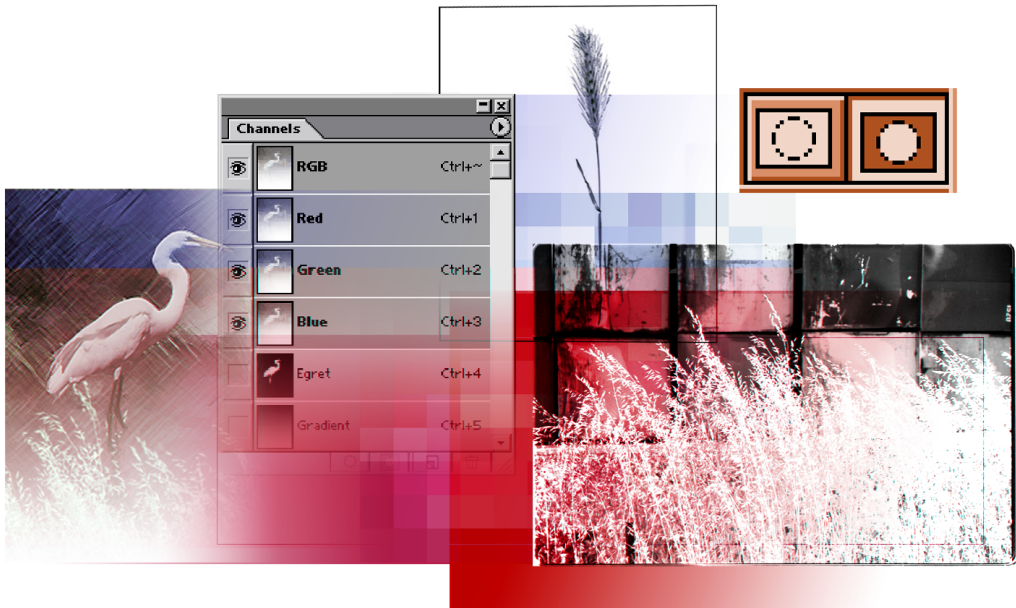


6 Masks and Channels



Adobe Photoshop uses masks to isolate and manipulate specific parts of an image. A mask is like a stencil. The cutout portion of the mask can be altered, but the area surrounding the cutout is protected from change. You can create a temporary mask for one-time use, or you can save masks for repeated use.

In this lesson, you'll learn how to do the following:

- Refine a selection using a quick mask.
- Save a selection as a channel mask.
- View a mask using the Channels palette.
- Load a saved mask and apply effects.
- Paint in a mask to modify a selection.
- Make an intricate selection using the Extract command.
- Create and use a gradient mask.

This lesson will take about 70 minutes to complete. The lesson is designed to be done in Adobe Photoshop. ImageReady does not contain the advanced masking features available in Photoshop.

If needed, remove the previous lesson folder from your hard drive, and copy the Lesson06 folder onto it. As you work on this lesson, you'll overwrite the start files. If you need to restore the start files, copy them from the *Adobe Photoshop 7.0 Classroom in a Book CD*.

Note: Windows users need to unlock the lesson files before using them. For more information, see “Copying the Classroom in a Book files” on page 4.

Working with masks and channels

Masks let you isolate and protect parts of an image. When you create a mask based on a selection, the area not selected is *masked* or protected from editing. With masks, you can create and save time-consuming selections and then use them again. In addition, you can use masks for other complex editing tasks—for example, to apply color changes or filter effects to an image.

In Adobe Photoshop, you can make temporary masks, called *quick masks*, or you can create permanent masks and store them as special grayscale channels, called *alpha channels*. Photoshop also uses channels to store an image's color information and information about spot color. Unlike layers, channels do not print. You use the Channels palette to view and work with alpha channels. ImageReady does not support channels, except for alpha channels used for PNG transparency and weighted optimization.

Getting started

Before beginning this lesson, restore the default application settings for Adobe Photoshop. See “Restoring default preferences” on page 5.

You’ll start the lesson by viewing the finished image that you’ll create using masks and channels.

1 Start Adobe Photoshop.

If a notice appears asking whether you want to customize your color settings, click No.

2 Click Cancel to exit the color management dialog box if it appears.

3 Choose File > Open, and open the 06End.psd file, in the Lessons/Lesson06 folder.

4 When you have finished viewing the file, either leave it open for reference or close it without saving changes.

Your goal in this lesson is primarily to take an ordinary photograph of an egret in the wild and make the landscape around the bird look as if it were hand-drawn in colored-pencil strokes. You’ll also make intricate selections of the grasses from other photographs and place them in the foreground of the egret image. Your final touch will be to add a gradient, to soften the image.

Creating a quick mask

Now you’ll open the start file and begin the lesson by using Quick Mask mode to convert a selection border into a temporary mask. Later, you will convert this temporary quick mask back into a selection border. Unless you save a quick mask as a more permanent alpha channel mask, the temporary mask will be discarded once it is converted to a selection.

You’ll begin by making a partial selection of the egret using the magic wand tool, and then you’ll edit the selection using a quick mask.

1 Choose File > Open, and open the file 06Start.psd from the Lessons/Lesson06 folder.

2 Select the magic wand tool (.

3 In the tool options bar, enter 12 in the Tolerance text box.

4 Click anywhere in the white area of the egret to begin the selection process.

5 To extend the selection, hold down Shift and click the magic wand on another white portion of the egret. When you hold down Shift, a plus sign appears next to the magic wand tool. This indicates that the tool is adding to the selection.



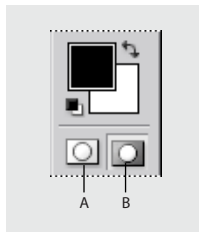
Magic wand selection



Selection extended

The egret is still only partly selected. Now you'll add to this selection using a quick mask.

6 Select the Quick Mask mode button (◼) in the toolbox. By default, you have been working in Standard mode.



A. Standard mode

B. Quick Mask mode



*Quick mask selection
showing red overlay*

In Quick Mask mode, a red overlay (resembling the *rubylith*, or red acetate, that traditional print shops used to mask an image) appears, to mask and protect the area outside the selection. You can apply changes only to the unprotected area that is visible and selected. (It's possible to change the color of the red overlay; the color is only a matter of display.)

Note: A partial selection must exist to see the overlay color in Quick Mask mode.

Editing a quick mask

Next, you will refine the selection of the egret by adding to or erasing parts of the masked area. You'll use the brush tool to make changes to your quick mask. The advantage of editing your selection as a mask is that you can use almost any tool or filter to modify the mask. (You can even use selection tools.) In Quick Mask mode, you do all of your editing in the image window.

In Quick Mask mode, Photoshop automatically defaults to Grayscale mode. The foreground color defaults to black, and the background color defaults to white. When using a painting or editing tool in Quick Mask mode, keep these principles in mind:

- Painting with white erases the mask (the red overlay) and increases the selected area.
- Painting with black adds to the mask (the red overlay) and decreases the selected area.

Adding to a selection by erasing masked areas

You'll begin by painting with white to increase the selected area within the egret. This erases some of the mask.

- 1 To make the foreground color white, select the Switch Foreground and Background Colors icon (↔) above the foreground and background color-selection boxes.



- 2 Select the zoom tool() and magnify your view of the image, if needed.

Zoom tool shortcuts

Many times when you are editing an image, you'll need to zoom in to work on a detail and then need to zoom out again to see the changes in context. You can use various keyboard shortcuts that make it easier than constantly switching between editing tools and the zoom tool.

Switching to the zoom tool

You can select the zoom tool in these ways:

- Click the zoom tool in the toolbox to switch from the currently selected tool.
- Hold down Ctrl+spacebar (Windows) or Command+spacebar (Mac OS) to temporarily select the zoom tool from the keyboard. When you finish zooming, release the keys to go back to the tool you were using.

Zooming in

You can use the zoom tool to zoom in (magnify the image view) in these ways:

- Click the area you want to magnify. Each click magnifies the image by the next preset increment.
- Drag around the part of the image you want to magnify, creating a zoom marquee. When you release the mouse, the image portion within that marquee fills the image window.

Zooming out

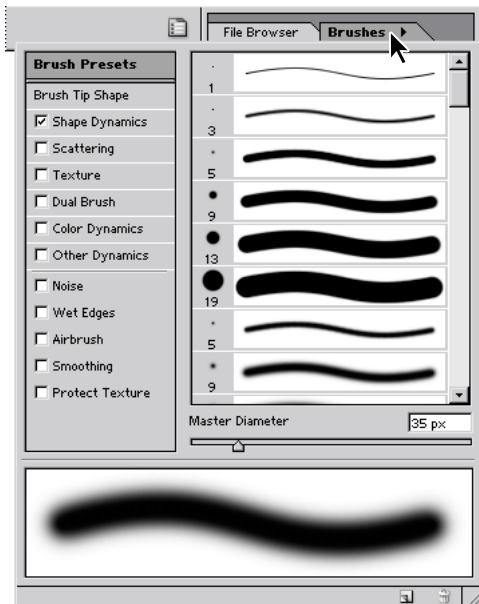
You can use the zoom tool to zoom out (shrink the image view) in the following ways:

- In the toolbox, double-click the zoom tool to return the image to 100% view.
- Hold down Alt (Windows) or Option (Mac OS) and click the area of the image you want to reduce. Each Alt/Option-click reduces the image by the next preset increment.

- 3 Select the brush tool ()

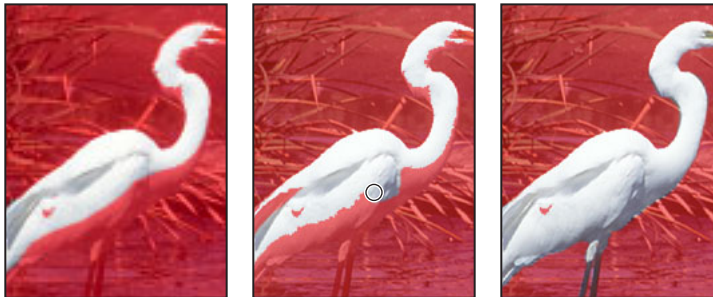
4 In the tool options bar, make sure that the mode is Normal. Then click the arrow to display the Brushes pop-up palette, and select a medium-sized brush, such as one with a diameter of 13 pixels.

Note: You'll switch brushes several times as you do this lesson. For convenience, you can choose *Window > Brushes* to open the Brushes palette as a separate window (or drag its tab from the palette well) so that your brush choices are readily available as you work. Or, you can just click the Brushes tab in the palette well to open it temporarily.



5 Using the brush tool, begin painting over the red areas within the egret's body. As you paint with white, the red areas are erased.

Don't worry if you paint outside the outline of the egret's body. You'll have a chance to make adjustments later by masking areas of the image as needed.



Unedited mask

Painting with white

Result

6 Continue painting with white to erase all of the mask (red) in the egret, including its beak and legs. As you work, you can easily switch back and forth between Quick Mask mode and Standard mode to see how painting in the mask alters the selected area.

Notice that the selection border has increased, selecting more of the egret's body.



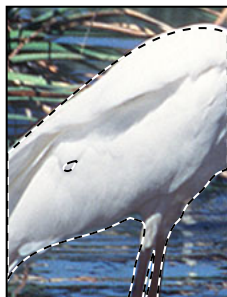
Standard mode

Edited mask in Standard mode

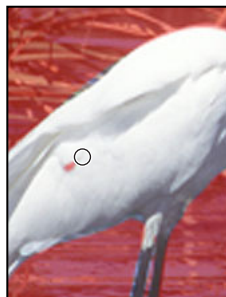
Quick mask selection

For an illustration of the selection in Standard and Quick Mask modes, see figure 6-1 in the color section.

If any areas within the body of the egret still appear to be selected, it means that you haven't erased all of the mask.



Selection in Standard mode



Erasing in Quick Mask mode

7 Once you've erased all of the red areas within the egret, click the Standard mode icon () again to view your quick mask as a selection. Don't worry if the selection extends a bit beyond the egret. You'll learn how to fix that later.



8 If necessary, zoom out so that you can see the entire image.

9 Choose File > Save to save your work.

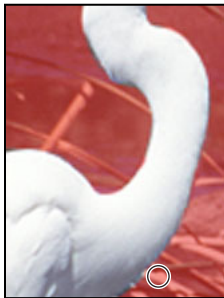
Subtracting from a selection by adding masked areas

You may have erased the mask beyond the edges of the egret. This means that part of the background is included in the selection. Now you'll return to Quick Mask mode and restore the mask to those edge areas by painting with black.

- 1 Click the Quick Mask Mode button () to return to Quick Mask mode.
- 2 To make the foreground color black, select the Switch Foreground and Background Colors icon () above the foreground and background color-selection boxes. Make sure that the black color box now appears on top. Remember that in the image window, painting with black will add to the red overlay.
- 3 Choose a brush from the Brush pop-up palette. Select a small brush from the first row of brushes, because you'll be refining the edges of the selection.
- 4 Now paint with black to restore the mask (the red overlay) to any of the background area that is still unprotected. Continue working until only the area inside the egret remains unmasked and you are completely satisfied with your mask selection.

Remember that you can zoom in and out as you work. You can also switch back and forth between Standard mode and Quick Mask mode.

Note: In Quick Mask mode, you can also use the eraser tool to remove any excess selection.



Painting with black to restore mask

 For a color illustration of painting in Quick Mask mode, see figure 6-2 in the color section.

- 5 In the toolbox, switch to Standard mode to view your final egret selection.
- 6 Double-click the hand tool () to make the egret image fit in the window.

Saving a selection as a mask

Now you'll save the egret selection as an alpha channel mask. Your time-consuming work won't be lost, and you can use the selection again later.

Quick masks are temporary. They disappear when you deselect. However, any selection can be saved as a mask in an alpha channel. Think of alpha channels as storage areas for information. When you save a selection as a mask, a new alpha channel is created in the Channels palette. (An image can contain up to 24 channels, including all color and alpha channels.) You can use these masks again in the same image or in a different image.

Note: *If you save and close your file while in Quick Mask mode, the quick mask will show in its own channel the next time you open your file. However, if you save and close your file while in Standard mode, the quick mask will be gone the next time you open your file.*

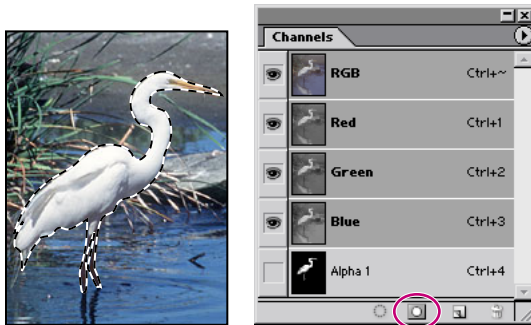
- 1 Choose Window > Channels to open the Channels palette in the Layers palette group.



In the Channels palette, the default color-information channels are listed—a full-color preview channel for the RGB image and separate channels for red, green, and blue.

- 2 Click the eye icon (👁) for the Red channel to hide just the red channel and notice the results in the image window. Using the eye icons, experiment with the visibility to view the various channels individually. (To show or hide multiple channels, drag up or down the eye-icon column.)
- 3 When you finish experimenting with the channel views, click to set an eye icon for the RGB channel to redisplay the composite channel view.

4 With the (Standard Mode) egret selection still active in the image window, click the Save Selection as Channel button () at the bottom of the Channels palette.



A new channel, Alpha 1, appears in the Channels palette. All new channels have the same dimensions and number of pixels as the original image.

Using alpha channels

In addition to the temporary masks of Quick Mask mode, you can create more permanent masks by storing and editing selections in alpha channels. This allows you to use the masks again in the same image or in a different image.

You can create an alpha channel in Photoshop and then add a mask to it. You can also save an existing selection in a Photoshop or ImageReady image as an alpha channel that will appear in the Channels palette.

An alpha channel has these properties:

- Each image (except 16-bit images) can contain up to 24 channels, including all color and alpha channels.
- All channels are 8-bit grayscale images, capable of displaying 256 levels of gray.
- You can specify a name, color, mask option, and opacity for each channel. (The opacity affects the preview of the channel, not the image.)
- All new channels have the same dimensions and number of pixels as the original image.
- You can edit the mask in an alpha channel using the painting tools, editing tools, and filters.
- You can convert alpha channels to spot color channels.

—From Adobe Photoshop 7.0 online Help

5 Double-click the Alpha 1 channel and type **Egret** to rename it.

If you display all of the color channels plus the new alpha mask channel, the image window looks much as it did in Quick Mask mode (with the rubylith appearing where the selection is masked).

6 Choose **Select > Deselect** to deselect everything.

Alpha channels can be added and deleted, and, like quick masks, can be edited using the painting and editing tools.

To avoid confusing channels and layers, think of channels as containing an image's color and selection information; think of layers as containing painting and effects.

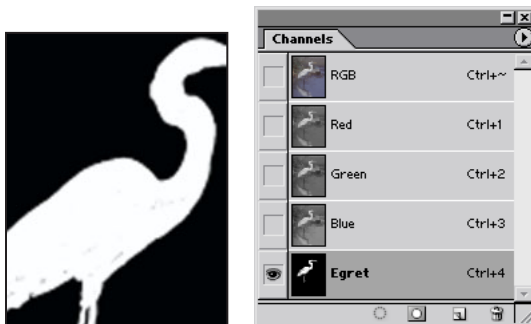
Editing a mask

Now you'll touch up your selection of the egret by editing the mask channel. It's easy to miss tiny areas when making a selection. You may not even see these imperfections until you view the saved selection as a channel mask.

You can use most painting and editing tools to edit a channel mask, just as you did when editing in Quick Mask mode. This time you'll display and edit the mask as a grayscale image.

1 With the Egret channel selected, click any eye icon (👁) appearing next to the other channels to hide all channels except the Egret channel (if necessary).

When only the Egret channel has an eye icon, the image window displays a black-and-white mask of the egret selection. (If you left all of the channels selected, the colored egret image would appear with a red overlay.)

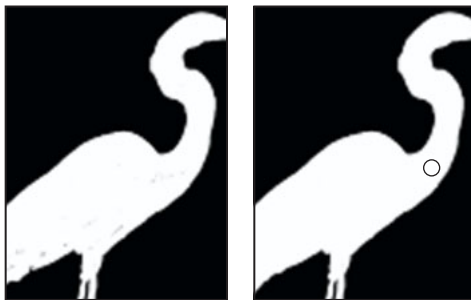


Look for any black or gray flecks within the body of the egret. You'll erase them by painting with white to increase the selected area. Remember these guidelines on editing a channel with a painting or editing tool:

- Painting with white erases the mask and increases the selected area.
- Painting with black adds to the mask and decreases the selected area.
- Painting with gray values adds to or subtracts from the mask in varying opacity, in proportion to the level of gray used to paint. For example, if you paint with a medium gray value, when you use the mask as a selection the pixels will be 50% selected. If you paint with a dark gray and then use the mask as a selection, the pixels will be less than 50% selected (depending on the gray value you choose). And, if you paint with a light gray and then use the mask as a selection, the pixels will be more than 50% selected.

2 Make sure that the Egret channel is the active channel by clicking on the channel in the Channels palette. A selected channel is highlighted in the Channels palette.

3 Now make sure that white is the foreground color. (If necessary, select the Switch Foreground And Background Colors icon (↔) in the toolbox.) Then select a small brush in the Brushes palette, and paint out any black or gray flecks.



Selection in channel

Painting out black or gray

4 If any white specks appear in the black area of the channel, make black the foreground color and paint those out as well. Remember that when you paint with black, you increase the masked area and decrease the selection.

5 Choose File > Save.

Loading a mask as a selection and applying an adjustment

Now you'll load the Egret channel mask as a selection. The channel mask remains stored in the Channels palette even after you've loaded it as a selection. This means that you can reuse the mask whenever you want.

- 1 In the Channels palette, click the RGB preview channel to display the entire image, and then click the eye icon (👁) for the Egret channel to hide it (if necessary).



Loading a selection into an image using shortcuts

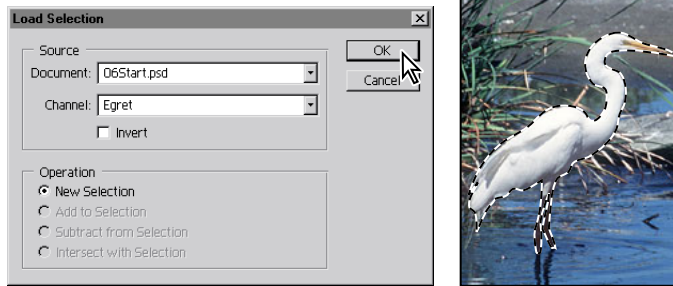
You can reuse a previously saved selection by loading it into an image.

To load a saved selection using shortcuts, do one of the following in the Channels palette:

- *Select the alpha channel, click the Load Selection button at the bottom of the palette, and then click the composite color channel near the top of the palette.*
- *Drag the channel containing the selection you want to load onto the Load Selection button.*
- *Ctrl-click (Windows) or Command-click (Mac OS) the channel containing the selection you want to load.*
- *To add the mask to an existing selection, press Ctrl+Shift (Windows) or Command+Shift (Mac OS), and click the channel.*
- *To subtract the mask from an existing selection, press Ctrl+Alt (Windows) or Command+Option (Mac OS), and click the channel.*
- *To load the intersection of the saved selection and an existing selection, press Ctrl+Alt+Shift (Windows) or Command+Option+Shift (Mac OS), and select the channel.*

—From Adobe Photoshop 7.0 online Help

2 Choose Select > Load Selection. Click OK.



The egret selection appears in the image window.

Now that you've corrected any flaws in the selection by painting in the channel, you'll adjust the tonal balance of the egret.

3 Choose Image > Adjustments > Auto Levels. This automatically adjusts the tonal balance of the colors within the selection.

Auto Levels defines the lightest and darkest pixels in each channel as white and black, and then redistributes the intermediate pixel values proportionately.

4 Choose Edit > Undo to compare the adjustment you just made. Then choose Edit > Redo to reapply the adjustment.

5 Choose Select > Deselect.

6 Choose File > Save.

Extracting an image

Now you'll work with another masking and selection tool, the Extract command, to make some difficult selections—some marsh grasses and a foxtail.

The Extract command provides a sophisticated way to isolate a foreground object from its background. Even objects with wispy, intricate, or undefinable edges can be clipped from their backgrounds with a minimum of manual work.

You'll start with an image that consists of only one layer. You must be working in a layer to use the Extract command. If your original image has no layers (that is, has only a Background), you can duplicate the image to a new layer.

 For an illustration of extracting, see figure 6-3 in the color section.

Extracting an object from its background

You'll use the Extract command on a foxtail image set against a dark background.

- 1 Choose File > Open, and open the file Foxtail.psd from the Lessons/Lesson06 folder.



The Foxtail grass image has the same resolution as the Egret image, 72 pixels per inch (ppi). To avoid unexpected results when combining elements from other files, you must either use files with the same image resolution or compensate for differing resolutions.

For example, if your original image is 72 ppi and you add an element from a 144-ppi image, the additional element will appear twice as large because it contains twice the number of pixels.

 For complete information on differing resolutions, see “About image size and resolution” in Adobe Photoshop7.0 online Help.

2 Choose Filter > Extract.

The Extract dialog box appears with the edge highlighter tool (🖌️) selected in the upper left area of the dialog box.

To extract an object, you use the Extract dialog box to highlight the edges of the object. Then you define the object's interior and preview the extraction. You can refine and preview the extraction as many times as you wish. Applying the extraction erases the background area to transparency, leaving just the extracted object.

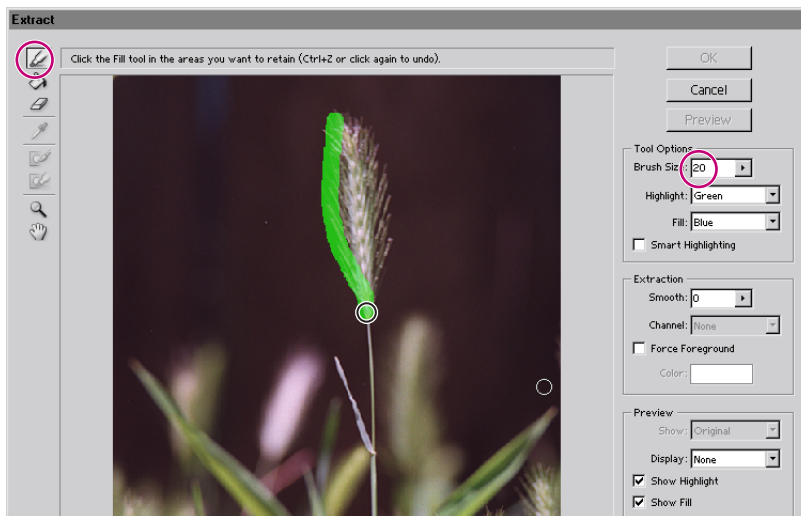
If needed, you can resize the dialog box by dragging its bottom right corner. You specify which part of the image to extract by using the tools and previews in this dialog box.

Now you'll choose a brush size for the edge highlighter tool. You'll start with a fairly large brush.

3 If necessary, enter 20 in the Brush Size text box.

It's easiest to start with a large brush to highlight the general selection, and then switch to a finer brush to fine-tune the selection.

4 Using the edge highlighter tool, drag over the fuzzy ends and tip of the foxtail until you've completely outlined, but not filled, the foxtail. Draw the highlight so that it slightly overlaps both the foreground and background regions around the edge.



It's OK if the highlight overlaps the edge. The Extract command makes its selection by finding the difference in contrast between pixels. The foxtail has a well-defined interior, so make sure that the highlight forms a complete outline. You do not need to highlight areas where the object touches the image boundaries.

Now you'll highlight the fine stem.

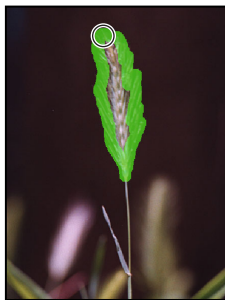
5 Decrease the Brush Size to 5.

6 If desired, select the zoom tool () , or press spacebar+Ctrl (Windows) or spacebar+Command (Mac OS) and click to zoom in on the stem. You can also use the hand tool () to reposition the image preview.

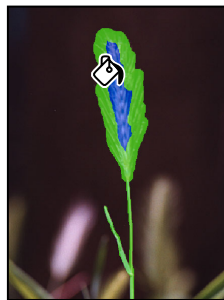
7 Using the edge highlighter tool, drag over the stem to select it.

If you make a mistake and highlight more than desired, select the eraser tool () in the dialog box and drag over the highlight in the preview.

8 Select the fill tool () in the Extract dialog box. Then, click inside the object to fill its interior. You must define the object's interior before you can preview the extraction.



*Highlighting edges of
foxtail tip*



*Highlighting stem and
leaves; then filling*

The default Fill color (bright blue) contrasts well with the highlight color (green). You can change either color if you need more contrast with the image colors, using the Highlight and Fill menus in the Extract dialog box.

9 Click the Preview button to view the extraction.

You can control the preview using one of these techniques:

- To magnify the preview, select the zoom tool () in the Extract dialog box, and click in the preview. To zoom out, hold down Alt (Windows) or Option (Mac OS), and click with the zoom tool in the preview.
- To view a different part of the preview, select the hand tool () in the Extract dialog box and drag the image in the preview.

 *To toggle quickly between the edge highlighter and eraser tools when one of the tools is selected, press B (edge highlighter) or E (eraser).*

10 To refine your selection, edit the extraction boundaries using these techniques:

- Switch between the Original and Extracted views using the Show menu in the Extract dialog box.
- Click a filled area with the fill tool to remove the fill.
- Select the eraser tool () in the Extract dialog box, and drag to remove any undesired highlighting.
- Select the Show Highlight and Show Fill options in the Extract dialog box to view the highlight and fill colors; deselect the options to hide them.
- Zoom in on your selection using the zoom tool in the Extract dialog box. You can then use a smaller brush size as you edit, switching between the edge highlighter tool and the eraser tool as needed for more precise work.
- Switch to a smaller brush by entering a different size in the Brush Size text box and continue to refine the selection's border using the edge highlighter or to erase using the eraser tool.

11 When you are satisfied with your selection, click OK to apply the extraction.

Adding the extracted image as a layer

Now you'll add the extracted image to the Egret image.

- 1** With the image window of the Foxtail image active, use the move tool () to drag the image to the right side of the Egret image. The foxtail is added as a new layer to the Egret image.
- 2** Close the Foxtail.psd image window without saving your changes. The 06Start.psd is now the active file, and the new layer with the foxtail is selected.

3 Choose Edit > Transform > Scale. Drag the resize handles, holding down Shift to constrain the proportions, until the foxtail is about two-thirds the original image height. Press Enter (Windows) or Return (Mac OS) to apply the scaling.



Moving foxtail copy

Scaling foxtail

Result

4 In the Layers palette with the Foxtail layer (Layer 1) selected, decrease its opacity to 70%.

5 Choose File > Save.

6 Save and close the Foxtail.psd image.

Extracting by forcing the foreground

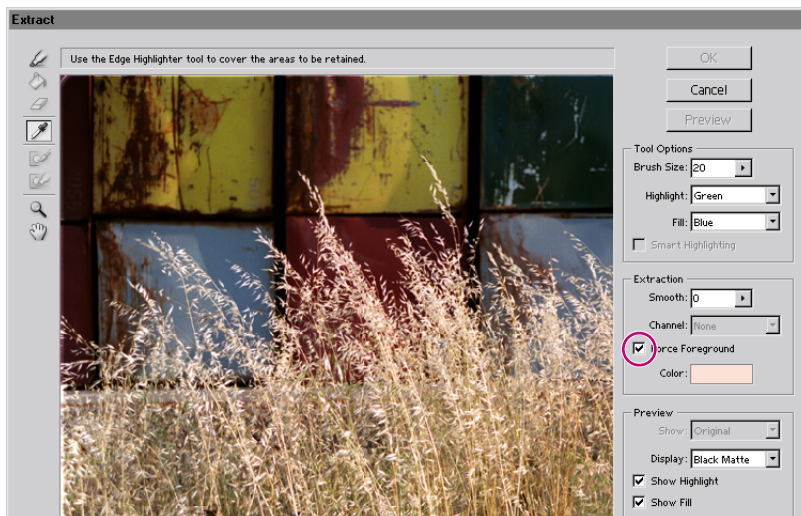
The Force Foreground option lets you make intricate selections when an object lacks a clear interior.

● For an illustration of extracting the weeds image, see figure 6-4 in the color section.

1 Choose File > Open, and open the file Weeds.psd image from the Lessons/Lesson06 folder on your hard drive.

2 Choose Filter > Extract.

- 3 Under the Extraction area of the dialog box, select the Force Foreground check box.



You'll start by selecting the color on which to base your selection. The Force Foreground technique works best with objects that are monochromatic or fairly uniform in color.

- 4 Select the eyedropper tool (👉) in the Extract dialog box, and then click a light area of the weeds to sample the color to be treated as the foreground.
- 5 Select the edge highlighter tool (👉) in the Extract dialog box.
- 6 For Brush Size, use the slider or enter a value to select a fairly large brush (about 20 or 30).
- 7 Drag to begin highlighting the wispy ends of the weeds where they overlap the dark background.

8 When you've enclosed the weed tips, drag to highlight the top third of the weeds fully. The highlight should be solid.



Highlighting weed edges

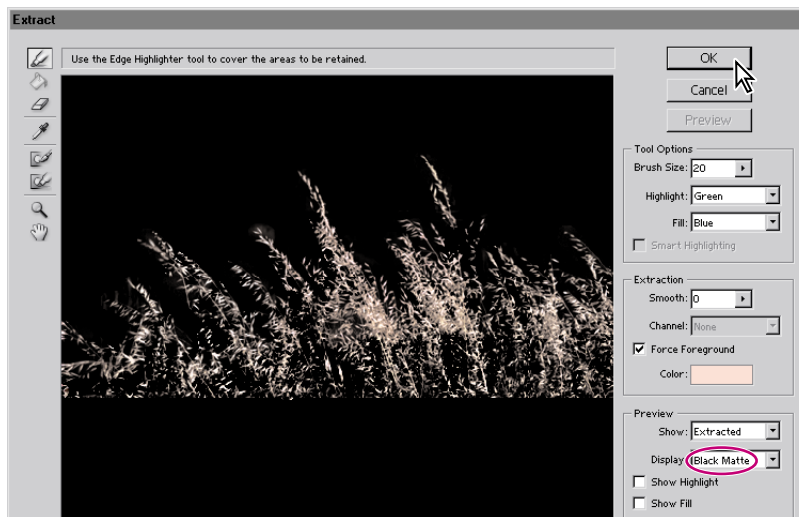


Selecting top third of weeds

9 Choose Black Matte from the Display menu in the Extract dialog box.

A black matte provides good contrast for a light-colored selection. For a dark selection, try the Gray or White Matte option. None previews a selection against a transparent background.

10 Click the Preview button to preview the extracted object.



11 To view and refine the extraction, use one of the following techniques:

- Use the Show menu to switch between previews of the original and extracted images.
- Select the Show Highlight option to display the object's extraction boundaries.

12 When you are satisfied with the selection, click OK to apply the final extraction. All pixels on the layer outside the extracted object are erased to transparency.

***Note:** An alternate method for making intricate selections is to select areas by color. To do so, choose Select > Color Range. Then use the eyedropper tools from the Color Range dialog box to sample the colors for your selection. You can sample from your image window or from the preview window.*

Adding the forced-foreground extraction as another layer

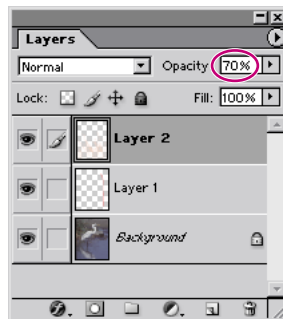
Once you've extracted an image, you can also use the background eraser and history brush tools to clean up any stray edges in the image.

Now you'll add the extracted weeds to the Egret image.

- 1** With the Weeds.psd file active, use the move tool (⌘+V) to drag the extracted selection to the Egret image. Position the weeds so that they fill the bottom third of the Egret image. The selection is added to the Egret image as a new layer.
- 2** In the Layers palette, decrease the opacity of the new layer by entering a value of **70%**.



Weed image copy
added to egret image



New layer opacity set to 70%

- 3** Choose File > Save.
- 4** Save and close the Weeds.psd file.

Applying a filter effect to a masked selection

To complete the composite of the marsh grasses and Egret image, you'll isolate the egret as you apply a filter effect to the image background.

- 1 In the Layers palette, select the Background.
- 2 In the Channels palette, drag the Egret channel to the Load Channel As Selection button () at the bottom of the palette. This loads the channel onto the image.

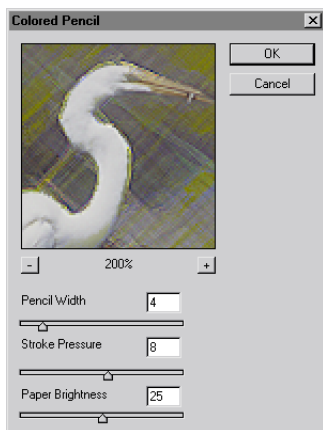
Next, you'll invert the selection so that the egret is protected and you can work on the background.

- 3 Choose Select > Inverse.

The previous selection (the egret) is protected, and the background is selected. You can now apply changes to the background without worrying about the egret.

- 4 Click the Layers palette tab and make sure that the background layer is selected. Then choose Filter > Artistic > Colored Pencil. Experiment with the sliders to evaluate the changes before you apply the filter.

Preview different areas of the background by dragging the image in the preview window of the Colored Pencil filter dialog box. This preview option is available with all filters.



Filter preview



Filter applied

- 5 Click OK when you're satisfied with the Colored Pencil settings. The filter is applied to the background selection.

You can experiment with other filter effects for the background. Choose Edit > Undo to undo your last performed operation.

6 Choose Select > Deselect to deselect everything.

Before you save your file, you'll flatten your image to reduce the file size. Make sure that you are satisfied with the image before you go on to the next step, because you won't be able to make corrections to the separate layers after the image is flattened.

7 Choose Layer > Flatten Image.

8 Choose File > Save.

Creating a gradient mask

In addition to using black to indicate what's hidden and white to indicate what's selected, you can paint with shades of gray to indicate partial transparency. For example, if you paint in a channel with a shade of gray that is at least halfway between white and black, the underlying image becomes partially (50% or more) visible.

You'll experiment by adding a gradient (which makes a transition from black to gray to white) to a channel and then filling the selection with a color to see how the transparency levels of the black, gray, and white in the gradient affect the image.

1 In the Channels palette, create a new channel by clicking the New Channel button (■) at the bottom of the palette.

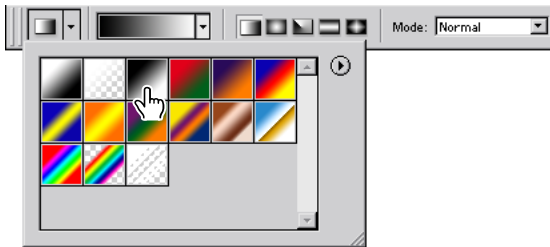
The new channel, labeled Alpha 1, appears at the bottom of the Channels palette, and the other channels are hidden in the image window.



2 Double-click the Alpha 1 channel and type **Gradient** to rename it.

3 Select the gradient tool (■).

- 4 In the tool options bar, click the arrow to display the Gradients picker and select the Black, White gradient.



- 5 Hold down Shift to keep the gradient vertical, and drag the gradient tool from the top of the image window to the bottom of the window.

The gradient is applied to the channel.



Applying effects using a gradient mask

Now you'll load the gradient as a selection and fill the selection with a color.

When you load a gradient as a selection and then fill the selection with a color, the opacity of the fill color varies over the length of the gradient. Where the gradient is black, no fill color is present; where the gradient is gray, the fill color is partially visible; and where the gradient is white, the fill color is completely visible.

- 1 In the Channels palette, click the RGB channel to display the full-color preview.
Next, you'll load the Gradient channel as a selection.

- 2 Without deselecting the RGB channel, drag the Gradient channel to the Load Channel As Selection button (⦿) at the bottom of the palette to load the gradient as a selection.



A selection border appears in the window. Although the selection border appears over only about half the image, it is correct.

- 3 Make sure that the foreground and background colors are set to their defaults (black and white, respectively). If necessary, click the Default Foreground and Background Colors icon (■) at the lower-left corner of the color-selection boxes.
- 4 Press Delete to fill the gradient selection with the current background color (white).
- 5 Choose Select > Deselect to deselect everything.



- 6 Choose File > Save.

You have completed this lesson. Although it takes some practice to become comfortable using channels, you've learned all the fundamental concepts and skills you need to get started using masks and channels.

Review questions

- 1 What is the benefit of using a quick mask?
- 2 What happens to a quick mask when you deselect it?
- 3 When you save a selection as a mask, where is the mask stored?
- 4 How can you edit a mask in a channel once you've saved it?
- 5 How do channels differ from layers?
- 6 How do you use the Extract command to isolate an object with intricate borders from an image?

Review answers

- 1 Quick masks are helpful for creating quick, one-time selections. In addition, using a quick mask is an easy way to edit a selection using the painting tools.
- 2 The quick mask disappears when you deselect it.
- 3 Masks are saved in channels, which can be thought of as storage areas in an image.
- 4 You can paint directly on a mask in a channel using black, white, and shades of gray.
- 5 Channels are used as storage areas for saved selections. Unless you explicitly display a channel, it does not appear in the image or print. Layers can be used to isolate various parts of an image so that they can be edited as discrete objects with the painting or editing tools or other effects.
- 6 You use the Extract command to extract an object and the Extract dialog box to highlight the edges of the object. Then you define the object's interior and preview the extraction. Applying the extraction erases the background to transparency, leaving just the extracted object. You can also use the Force Foreground option to extract a monochromatic or uniform-colored object based on its predominant color.