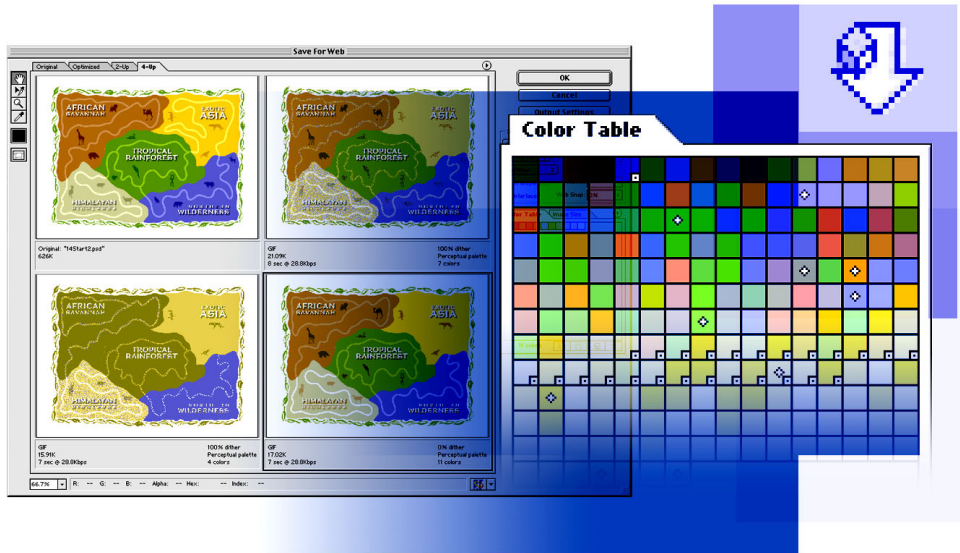


# 14 Optimizing Web Images and Image Maps



*For effective Web publishing, your images must strike a good balance between file size and display quality. Using Adobe Photoshop and Adobe ImageReady, you can optimize your images so that they have reasonable download times from a Web server without losing essential details, colors, transparencies, or navigational elements such as image maps.*

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

- Optimize JPEG and GIF files, and adjust the optimization settings to achieve the desired balance between file size and image quality.
- Adjust the amount of dithering applied to an image.
- Define a transparent background for an image.
- Create a hypertext image map.
- Batch-process files to automate the optimization process.

This lesson will take about one and a half hours to complete. The lesson is designed to be done in Adobe Photoshop and Adobe ImageReady.

If needed, remove the previous lesson folder from your hard drive, and copy the Lesson 14 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.

## Optimizing images using Photoshop or ImageReady

Adobe Photoshop and Adobe ImageReady give you an effective range of controls for compressing the file size of an image while optimizing its on-screen display quality. Compression options vary according to the file format used to save the image.

- The JPEG format is designed to preserve the broad color range and subtle brightness variations of continuous-tone images (such as photographs or images with gradients). This format can represent images using millions of colors.
- The GIF format is effective at compressing solid-color images and images with areas of repetitive color (such as line art, logos, and illustrations with type). This format uses a palette of 256 colors to represent the image, and supports background transparency.
- The PNG format is effective at compressing solid-color images and preserving sharp detail. The PNG-8 format uses a 256-color palette to represent an image; the PNG-24 format supports 24-bit color (millions of colors). However, many older browser applications do not support PNG files.

In this lesson, you'll learn how to use Photoshop and ImageReady to optimize and save images in JPEG and GIF formats for distribution on the World Wide Web. You'll work with a set of images designed to be used on a fictitious Web site for a virtual zoo.

Photoshop (through its Save For Web dialog box) and ImageReady (through its Optimize palette) share many of the same capabilities for optimizing images so that your files are small and efficient but still look great. For example, you can use either application to select from a wide array of file formats and settings, to suit the goals for your project. You can also use either one to compare side-by-side views of different optimized versions of a file. Using optimization features and color palettes in either Photoshop or ImageReady, you can maximize color integrity while minimizing file size.

## Getting started

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

- 1 Start Adobe Photoshop.

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

- 2 Choose Open > Browse, or click the File Browser tab in the palette well to open it.

- 3 In the File Browser, use the upper left pane to navigate to the Lessons/Lesson14 folder, and select the Lesson14 folder.

Thumbnails of four different Start and End files appear in the right pane, many of which appear to be quite similar. You can also select the Photos folder in the Lesson14 folder to see the five photographs used to make up the background for the 14Start1.psd file, but then select the Lesson14 folder again.

4 Select the 14Start1.psd thumbnail, so that the thumbnail and metadata for that file appear in the left panes of the File Browser. If necessary, resize the File Browser panes to enlarge the thumbnail.



This file is a modified version of the zoo map that you will be using later in this lesson. This version of the map has been enhanced with scanned photographs of animals, which have been further manipulated in Photoshop. In the lower left pane of the File Browser, scroll down the metadata and notice that the file size is quite large.

- 5 Select the 14End1.psd thumbnail. Notice that the file size listed in the metadata is dramatically smaller but the image looks about the same as the 14Start1.psd.
- 6 One by one, select the other numbered Start and End files in the Lesson14 folder to preview them.
- 7 Double-click the file 14Start1.psd to open that file in Photoshop.

## Optimizing a JPEG image

In this lesson, you will optimize files in both JPEG and GIF formats. You can use either Photoshop or ImageReady to compress files in either format.

Currently, the 14Start1.psd file size is too large for use on a Web page. You'll compare different file-compression formats to see which one gives you the most compression without sacrificing too much image quality.

### Using the Save For Web dialog box

The Photoshop Save For Web dialog box has all of the optimization capabilities of ImageReady. You can compare two or more versions of a file as you work, so that you can adjust optimization settings until you have the best possible combination of file size and image quality.

- 1 With the 14Start1.psd file open and active in Photoshop, choose File > Save for Web.
- 2 In the Save For Web dialog box, click the 4-Up tab to view four versions of the image.



Photoshop automatically generates three different sets of optimization settings, besides the original image. Notice the information listed under each view of the image, including the file size and the number of seconds required to download the image. The first pane shows the original file. The second, third, and fourth panes show different combinations of optimization settings for the image, including the file format (such as GIF or JPEG) and color-reduction algorithm (such as Selective, Perceptual, or Web).

3 In the lower-left corner of the Save For Web dialog box, select 200% or higher from the Zoom Level pop-up menu so that you can see the details of the image, and then click the preview at the upper right to deactivate the zoom option.

Compare the preset views of the different optimization settings.

4 Hold down the spacebar, so that the pointer becomes a hand, and drag the image so that the Tropical Rainforest text (in the center of the image, over the green parrot) is visible in all four views of the image. Again, examine the details closely so that you can see the differences among the optimized views.



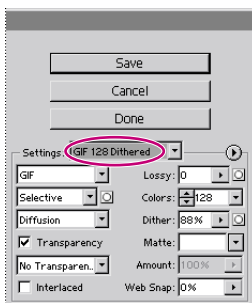
## Comparing optimized GIF, JPEG, and PNG formats

You can customize any of the optimized views in the Save For Web dialog box. To do this, you select one of the optimized image previews, and then select settings for it on the right side of the dialog box. By experimenting with different combinations of settings, you can get a good idea of which settings will best suit your purpose.

Before you begin, make sure that the optimized preview at the upper right is selected.

1 In the Settings pop-up menu on the right side of the Save For Web dialog box, select GIF 128 Dithered (if it is not already selected).

The information listed below the selected image preview changes.



Notice the dark group of pixels around the text and on the parrot's beak. (You may need to hold down Shift and drag the image again to see the beak.)

You'll use the two bottom versions of the image to compare GIF 128 Dithered optimization with JPEG and PNG optimization.

2 Click the lower-left version of the image to select it, and select the following JPEG options, one at a time, on the Settings pop-up menu:

- JPEG Low. Notice that the image details and text are unacceptably choppy.
- JPEG High. The image quality improves, but the file size increases significantly.



*JPEG Low*

*JPEG High*

- JPEG Medium. At this setting, the image quality is acceptable and the file size is lower than either the JPEG High version or the GIF version.

*Note:* You can select other intermediate levels of quality for JPEG files by typing or dragging the Quality slider option on the right side of the Save For Web dialog box.

Now that you've tried different GIF and JPEG settings, you'll use the fourth image preview to try another format.

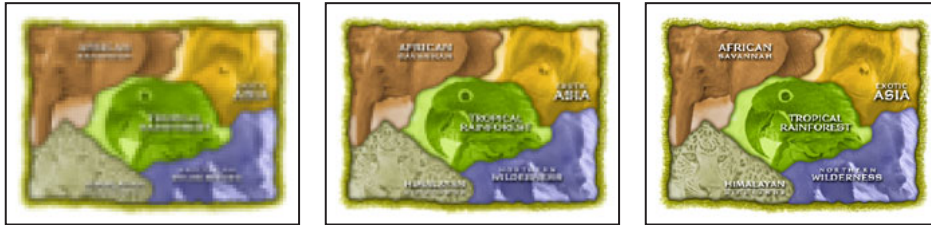
3 Select the lower-right version of the image, and then use the Settings menu to select PNG-8 128 Dithered.

Although this results in a smaller file size than the original image, the image quality is not as good as the JPEG Medium version, which also has a smaller file size. Furthermore, many older browsers cannot read the PNG format. To make this image compatible with older browsers, you will save this file for the Web using the JPEG Medium optimization.



4 Select your JPEG Medium version of the optimized image (in the lower-left corner of the dialog box), and then select the Progressive check box.

*Note:* When Progressive is selected, any download of the image occurs in several passes, each of which increases the image quality.



*The Progressive JPEG download*

5 Click Save. In the Save Optimized As dialog box, use the default name **14Start1.jpg**, and save the file in the same folder as the original Photoshop file.

6 Choose File > Close, and don't save your changes.

## Optimizing a GIF image

Now you'll optimize a flat-color image in GIF format and compare the results of different palette and dither settings. Although you could do this entire section in Photoshop, you'll use ImageReady.

Photoshop and ImageReady share many features, but some tasks are more appropriately done in one application or the other, depending on your intended use of the image file. Certain tasks can be done only in Photoshop and others only in ImageReady. For these reasons, both applications include convenient ways to jump from one to the other.

If you have an open file when you jump from Photoshop to ImageReady or vice versa, the file opens in the application that you jump to. If you have more than one file open, only the active file opens in the other application when you jump. If no files are open, you can still jump back and forth from one application to the other.

## Preparing an ImageReady workspace

Before you begin working on a new file, you'll jump from Photoshop to ImageReady and then define an ImageReady workspace for the tasks you'll do in this section.

1 In Photoshop, click the Jump To ImageReady button (  ) at the bottom of the toolbox to switch from Photoshop to ImageReady.



***Note:** If you do not have enough memory to run both applications simultaneously, quit Photoshop and then start ImageReady.*

2 In ImageReady, choose Window > Workspace > Reset Palette Locations to make sure that all palettes are in their default positions.

3 Drag the tabs of the following palettes out of their palette groups to separate them as stand-alone palettes:

- The Info palette (from the Optimize palette group).
- The Color Table palette (from the Rollovers palette group).

4 Click the close boxes in the following palette groups to hide these palettes:

- The Color palette group (the Color, Swatches, and Styles palettes).
- The Info palette.
- The Rollovers palette group (the Rollovers and Layer Options palettes).

5 Drag the Optimize, Color Table, and Layers palette groups to rearrange them in your work area as needed, and resize them to take advantage of the available space.

6 Choose Window >Workspace > Save Workspace.

7 In the Save Workspace dialog box, type **Optimize\_14**, and click OK.

The Optimize\_14 workspace option now appears on the Window > Workspace menu, named to help you remember that you created this workspace in Lesson 14 for work with optimizing. You can reset your workspace to this configuration of palettes or go back to the default workspace at any time by choosing the one you want to use on the Workspace submenu.

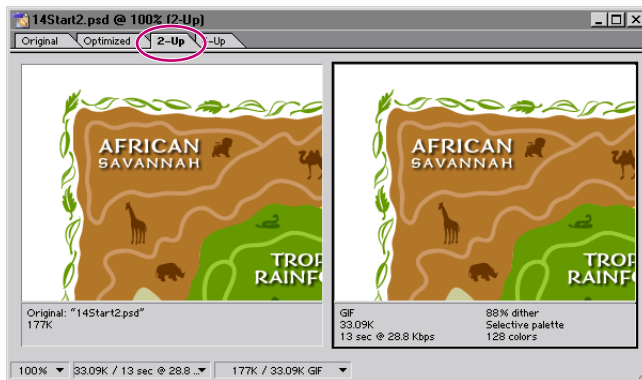
## Choosing basic optimization settings in ImageReady

Earlier in this lesson, you used Photoshop optimization settings that were integrated into the Save For Web dialog box. In ImageReady, the same options appear in the Optimize palette.

1 In ImageReady, choose File > Open, and open the file 14Start2.psd from the Lessons/Lesson14 folder.

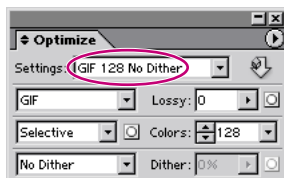
This image was created in Adobe Illustrator, and then rasterized into Photoshop format. The image contains many areas of solid color.

2 Click the 2-Up tab in the image window.

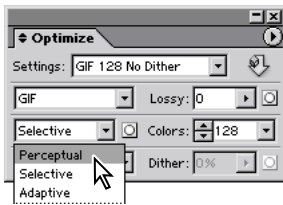


The optimized version of the image is selected on the right side of the window.

3 In the Settings pop-up menu on the Optimize palette, choose GIF 128 No Dither.



4 In the Color Reduction Algorithm menu, select Perceptual.



### Selecting a color reduction algorithm

One of the ways to reduce image file size is to reduce the number of colors in the image. Photoshop can calculate the most needed colors for you, based on any of several available algorithms. You specify which algorithm is used by making a selection from the Color Reduction Algorithm menu, which includes the following options:

**Perceptual** Creates a custom color table by giving priority to colors for which the human eye has greater sensitivity.

**Selective** Creates a color table similar to the Perceptual color table, but favors broad areas of color and the preservation of Web colors. This color table usually produces images with the greatest color integrity. Selective is the default option.

**Adaptive** Creates a custom color table by sampling colors from the spectrum appearing most commonly in the image. For example, an image with only the colors green and blue produces a color table made primarily of greens and blues. Most images concentrate colors in particular areas of the spectrum.

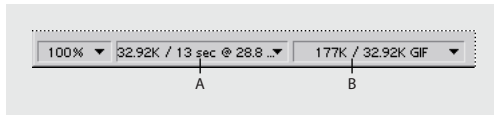
**Web** Uses the standard 216-color color table common to the Windows and Mac OS 8-bit (256-color) palettes. This system ensures that no browser dither is applied to colors when the image is displayed using 8-bit color. (This palette is also called the Web-safe palette.) If your image has fewer colors than the total specified in the color palette, unused colors are removed.

**Custom** Preserves the current color table as a fixed palette that does not update with changes to the image.

**Windows or Mac OS** Uses the system's default 8-bit (256-color) color table, which is based on a uniform sampling of RGB colors. If your image has fewer colors than the total number specified in the color palette, unused colors are removed.

—From Adobe Photoshop 7.0 online Help

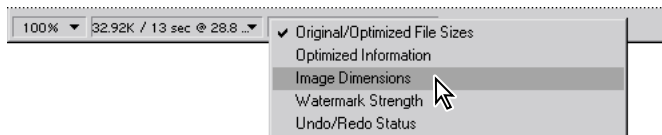
The status bar at the bottom of the image window displays the view magnification and other useful information about the original and optimized versions of the image.



- A. File size and download time of optimized image
- B. File sizes of original and optimized images

You can customize the type of information that appears here.

5 In the status bar, choose Image Dimensions from the pop-up menu on the right.



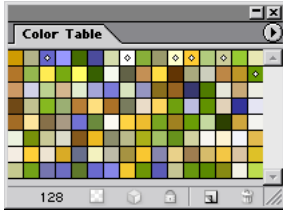
This option displays the size of the image in pixels, which is important when planning how to fit an image into a predesigned Web-page template.

## Exploring the Color Table

The Color Table palette displays the colors that the currently selected color reduction algorithm uses for the currently active file—in this case, the colors that the Perceptual option selects for the zoo map image. The colors appear to be listed in random order in the palette.

The total number of colors is listed at the bottom of the palette. You can resize the palette or use the scroll bar to view all the colors. You can also change how the colors are arranged in the palette.

In the Color Table palette, a few of the colors have a tiny white diamond shape at the center of the swatch. These diamonds indicate that those colors are *Web-safe*.



- 1 On the Color Table palette menu, choose Sort By Hue, and notice how the arrangement of the color swatches changes.
- 2 In the Optimize palette, choose Web from the Color Reduction Algorithm menu.



Notice that the color changes in the image and in the Color Table palette, which updates to reflect the Web palette.

- 3 Experiment by selecting different optimize options and notice the effects on the image and on the Color Table palette.
- 4 When you finish experimenting, re-enter the settings you had earlier: GIF 128 No Dither and Perceptual. (You can leave the colors sorted any way: unsorted, by hue, by luminance, or by popularity.)

**For the Web: Viewing hexadecimal values for colors in the Info palette**

In Photoshop, hexadecimal values for colors are displayed in the Info palette when you select Web Color mode for one or both color readouts. In ImageReady, hexadecimal values for colors are displayed automatically in the right side of the Info palette, next to RGB color values. The Photoshop and ImageReady Info palettes also display other information, depending on the tool being used.

To view hexadecimal color values in the Photoshop Info palette:

1. Choose Window > Info or click the Info palette tab to view the palette.
2. Choose Palette Options from the Palette menu.
3. Under First Color Readout, Second Color Readout, or both, choose Web Color from the Mode menu.
4. Click OK.

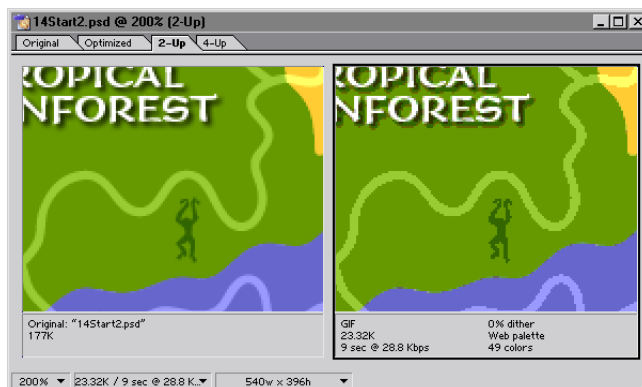
The Info palette displays the hexadecimal equivalents for the RGB values of the color beneath the pointer in the image.

—From Adobe Photoshop 7.0 online Help

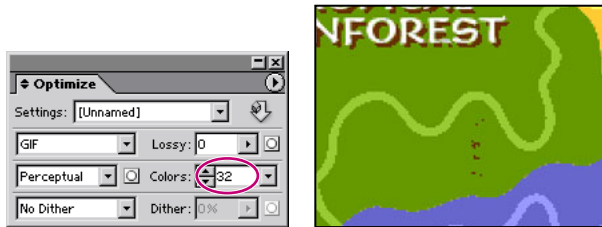
**Reducing the color palette**

To compress the file size further, you can decrease the total number of colors included in the Color Table palette. A reduced range of colors will often preserve good image quality while dramatically reducing the file space required to store extra colors.

- 1 Make sure that the optimized version of the image is selected, zoom is 200% or higher, and that Perceptual is selected in the Optimization palette. Notice the current file size.
- 2 Hold down the spacebar and drag the image so that at least parts of the words *Tropical Rainforest* and some of the blue Northern Wilderness area appear in the image area.



- 3 In the Colors option in the Optimize palette, type or select **32** from the pop-up menu.




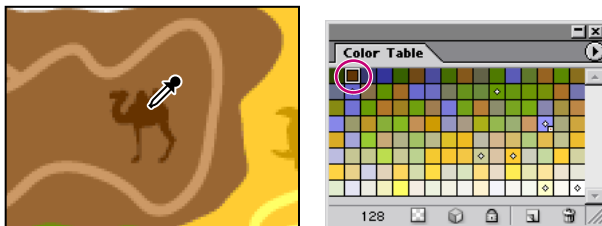
Notice the significant reduction in the file size, but that the quality of the image is so much lower that some details, such as some animal silhouettes, have been lost or compromised.

### Locking colors to preserve image details

In the previous procedure, you saw how reducing the number of colors compromised details in the illustrations. Specifically, by reducing the number of colors from 128 to 32, several animal silhouettes changed color and some animals disappeared altogether because the new color assigned to them was also the color assigned to the background behind them.

You'll now learn how to lock specific colors to ensure that those colors do not drop out of the reduced palette.

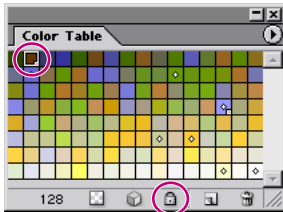
- 1 In the magnification pop-up menu of the image window, select 100% so that you can see most of the image.
- 2 In the Optimization palette, change the Colors value back to **128**.
- 3 Select the eyedropper tool (  ), and click the camel silhouette in the African Savannah area to sample that color.



The dark brown color is selected in the Color Table palette.



- 4 Click the Lock button (🔒) at the bottom of the Color Table palette to lock the selected color.



A small square appears in the lower-right corner of the color swatch, indicating that the color is locked.

*Note:* To unlock a locked color, select the color swatch and then click the Lock button again.

- 5 Using the eyedropper tool and the Lock button on the Color Table palette, select and then lock the dark blue color of the bear silhouette in the Northern Wilderness area.

- 6 In the Optimize palette, reduce the number of colors to 32.

Notice that the locked colors remain in the palette after the reduction and in the image. However, new color-shift problems appear: The trail in the Northern Wilderness area is now the same color as its background, and the Tropical Rainforest animals are now brown instead of dark green.

- 7 In the Optimize palette, change the number of colors back to 128.

- 8 Again using the eyedropper and the Color Table Lock button, select and lock the colors of the parrot in the Tropical Rainforest and both the trail and background colors in the Northern Wilderness. You now have five locked colors.

- 9 In the Optimize palette, set the colors to 32.

- 10 Choose File > Save.

If you experiment with optimization of image files, you'll notice that significant image degradation can occur when the palette is reduced below 32 colors. In fact, for all but the simplest images, even 32 colors may be too drastic a reduction. For the best file compression of a GIF image, try to use the fewest number of colors that will still display the quality you need.

● For an illustration of the image set to different palette values, see figure 14-1 in the color section.

## Controlling dither

You may have noticed that certain areas of the image appear mottled or spotty when optimized with different color palettes and numbers of colors. This spotty appearance results from *dithering*, the technique used to simulate the appearance of colors that are not included in the color palette. For example, a blue color and a yellow color may dither in a mosaic pattern to produce the illusion of a green color that is not included in the color palette.

When optimizing images, keep in mind the two kinds of dithering that can occur:

- *Application dither* occurs when ImageReady or Photoshop attempts to simulate colors that appear in the original image but not in the optimized color palette you specify. You can control the amount of application dither by dragging the Dither slider in the Optimize palette.
- *Browser dither* can occur in addition to application dither. A browser dither occurs when a Web browser using an 8-bit (256-color) display simulates colors that appear in the optimized image's color palette but not in the system palette used by the browser. You can control the amount of browser dither by shifting selected colors to Web-safe colors in the Color Table palette.

In the Photoshop Save For Web dialog box and in ImageReady, you can view application dither directly in an optimized image. You can also preview the additional browser dither that will appear in the final image when viewed in a browser using an 8-bit display.

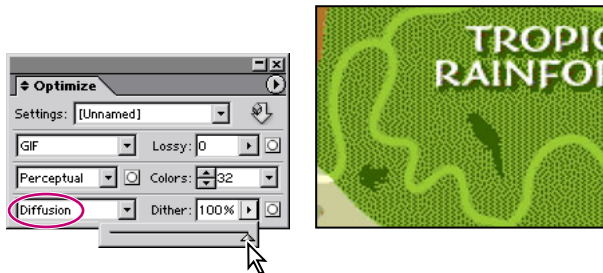
## Controlling application dither

Dithering creates the appearance of more colors and detail, but it can also increase the file size of the image. The Dither option controls the range of colors that ImageReady simulates by dithering. For optimal compression, use the lowest percentage of application dither that still provides the color detail you require.

- 1 If necessary, open the 14Start2.psd file and zoom in to 200% or higher.
- 2 Make sure that the optimized version of the image is selected, and that the Optimize palette is set to GIF format, Perceptual, and 32 colors. Notice the blocky drop shadows below the text.

3 In the Optimize palette, enter the following options:

- Select Diffusion as the dithering algorithm (to replace No Dither).
- Drag the slider or type to set **100%** as the Dither value.



Using a combination of different colors, ImageReady tries to simulate the colors and tonalities that appear in the original image but not in the 32-color palette. Notice the speckled pattern that replaces the blocky drop shadows below the text. While not ideal, this pattern is a significant improvement and is acceptable. The dithered green background color for the Tropical Rainforest, however, is not acceptable.

4 Drag the Dither slider to **50%**, and then experiment with other dither percentages.

ImageReady minimizes the amount of dither in the image, but no percentage of dither will preserve the drop shadows without ruining the green background.

● For an illustration of the effects of different dither percentages on an image, see figure 14-2 in the color section.

5 Set the dither back to **100%**.

6 Change the number of colors back to **128**.

7 Use the eyedropper tool (👉) to select the green background in the Tropical Rainforest, and then click the Lock button (🔒) in the Color Table palette to lock that color. In the Optimize palette, switch the Colors value back to **32**.

8 In the image window, change the magnification back to **100%**.

Although the difference may seem subtle, the image is now acceptable.

## Minimizing browser dither


As you learned earlier, images that include non–Web-safe colors undergo a process of dithering when displayed in a Web browser using an 8-bit display, because the browser simulates colors that do not occur in the 8-bit system palette. From ImageReady, you can preview how an optimized image will look when dithered in a Web browser.

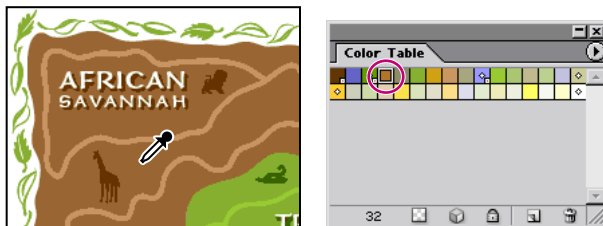
To protect a color from browser dither, you can Web-shift the color, converting the color to its nearest equivalent in the Web palette. Because the Web palette includes the subset of colors that appear in both the Windows and the Mac OS system palettes, Web palette colors will display without dithering in browsers on either platform.

1 With the optimized 14Start2.psd image open, choose View > Preview > Browser Dither (so that a checkmark appears next to the command).

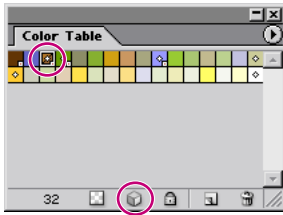
Notice that browser dither occurs in the brown African Savannah background. You'll Web-shift that color to reduce the amount of browser dither in the image.

***Note:** If you don't see the dithering, increase the zoom to about 300% or turn off the browser dither preview and then turn it back on to observe the effects. You can toggle the browser dither preview off and on by pressing `Ctrl+Shift+Y` (Windows) or `Command+Shift+Y` (Mac OS).*

2 Select the eyedropper tool (  ) and click anywhere in the dithered brown background. The sampled color appears selected in the Color Table palette.



- 3 Click the Web-shift button (🌐) at the bottom of the Color Table palette.



The swatch changes position in the palette and a small diamond appears in the center of the swatch, indicating that it has been shifted to its nearest Web-palette equivalent.

By Web-shifting the brown background, you change its color to one that can be displayed without dithering by a Web browser on a 256-color system.

- 4 Choose File > Save.

***Note:** In Photoshop 7.0 and ImageReady 7.0, you can also quickly map one color to another color or to a transparency. This remapping reassigns all the pixels that appeared in the selected color to the new color or transparency. For more information, see Adobe Photoshop 7.0 online Help.*

## Specifying background transparency

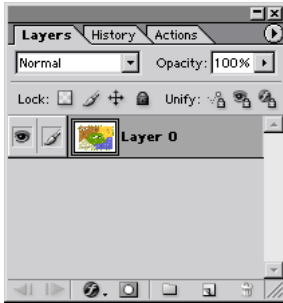
Background transparency lets you place a nonrectangular graphic object against the background of a Web page; the areas outside the borders of the object are defined as transparent, letting the Web-page background color show through. You can specify background transparency for GIF and PNG images.

### Converting the Background into an ordinary layer

Before you can use the GIF file format's ability to preserve transparency, you must create some transparency in your image. You'll do that by removing the white backdrop surrounding the image map. To start this process, you'll first convert the Background layer to a regular layer.

- 1 Make sure that the 14Start2.psd file is open in ImageReady.
- 2 Select the Original tab at the top of the image window.

- 3 Choose Fit on Screen from the Zoom Level menu in the lower left corner of the image window.
- 4 On the Layers palette menu, choose Layer Options. Without changing the default settings (including the name, Layer 0), click OK. The layer now appears in the Layer palette as Layer 0.




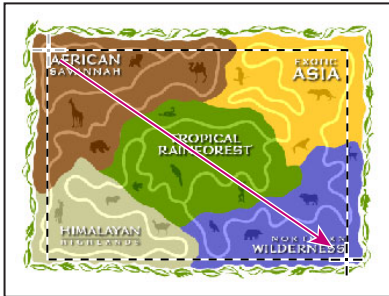
A Background layer cannot contain any transparency information because, by definition, there is nothing behind it to be seen. If you tried to use one of the techniques that usually can replace colored pixels with transparent ones, the results would be that the original pixels would be changed to the currently selected background color instead of becoming transparent pixels.



### Using the magic wand tool to create transparency

In this part of the lesson, you'll use the magic eraser tool to quickly convert the backdrop color of the zoo map to transparent pixels.

The magic eraser tool erases all pixels of a particular color with a single click. You'll use this tool to erase all of the white pixels in the layer. However, you only want to erase the white pixels outside of the zoo map (not the white of the lettering), so you will first create a selection that excludes the interior portion of the image.

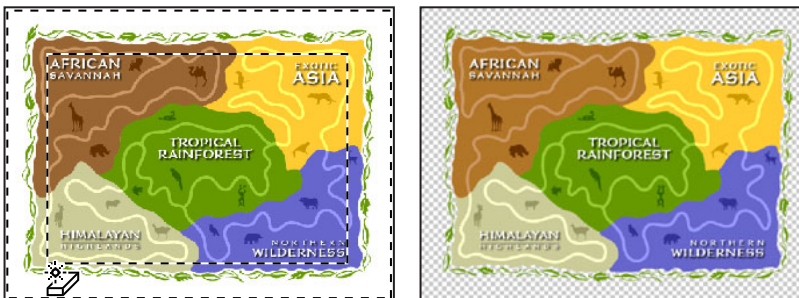
- 1 Select the rectangular marquee tool ()
- 2 Draw a rectangular selection marquee so that it includes all the text in the five colored regions of the zoo map, as shown in the illustration below.



- 3 Choose Select > Inverse to select everything outside of the rectangular selection marquee.
- 4 Select the magic eraser tool () , hidden under the eraser tool ().
- 5 In the tool options bar, deselect the Contiguous option so that all white pixels in the selection will be erased, including each isolated white section within the leaves.



- 6 Click the white background outside of the zoo map.



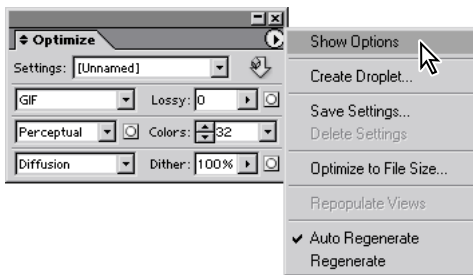
Now all the white backdrop is gone, replaced by transparency so that you can see the checkerboard pattern behind the image.

## Preserving and previewing transparency

Now you will confirm that the transparent areas in the image will be included as transparent pixels in the optimized GIF file. Then, you'll preview the transparency in your browser.

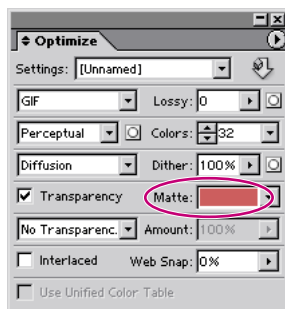
Because the ImageReady preview feature displays the image on a Web page with a white background, you'll change the matte color of the image so that you can see the transparency.

- 1 On the Optimize palette, make sure that the Transparency check box is selected. (If you don't see that check box, choose Show Options on the Optimize palette menu.)



Selecting Transparency converts areas in the original image with less than 50% opacity to background transparency in the optimized image.

- 2 Choose Select > Deselect, and then choose File > Save.
- 3 Click the Matte swatch in the Optimize palette to open the color picker, and then select any color except white. Click OK to close the color picker.

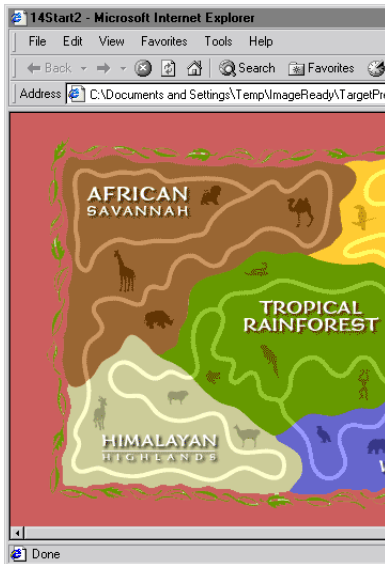




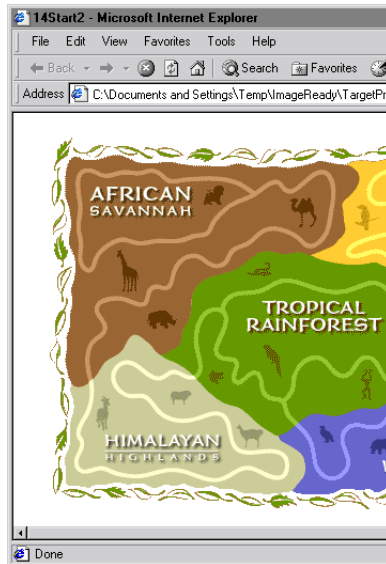
4 Choose File > Preview In, and choose a Web browser from the submenu.

**Note:** To use the Preview In command, you must have a Web browser installed on your system.

If it is not already open, the browser first starts and then displays the optimized image in the upper-left corner of the browser window. The browser also displays the pixel dimensions, file size, file format, and optimization settings for the image, along with the HTML code used to create the preview.



*Transparency option selected*



*Transparency option deselected*

5 Quit your browser when you're done previewing the image.

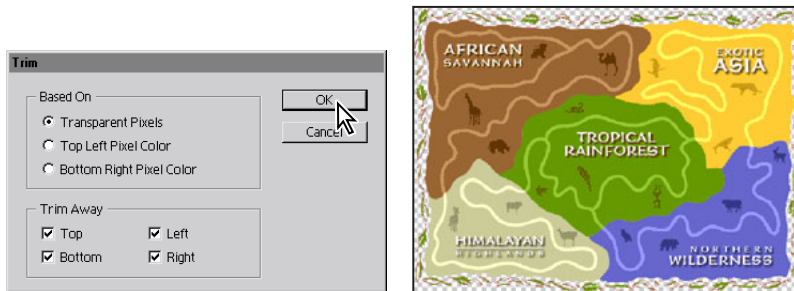
## Trimming extra background areas

Although the background of the zoo-map image now contains transparent pixels that do not display, these pixels still take up file space, adding to the size of the image. You can trim away unneeded background areas to improve the layout of the image and optimize the file size.

1 In ImageReady, choose Image > Trim.

The Trim command lets you crop your image, according to the transparency or pixel color of the extra border area.

2 In the Trim dialog box, select Transparent Pixels if it is not already selected, and click OK.



ImageReady trims the extra transparent areas from the image.

3 Choose File > Save Optimized As.

4 In the Save Optimized As dialog box, use the default name (14Start2.gif), and click Save.

5 In the Replace Files dialog box, click Replace (if it appears).

6 Choose File > Close.

You will be prompted to save the 14Start2.psd file before closing. Since you are finished with this file for the lesson, there is no need to save the last changes.

## Creating a dithered transparency

In this section, you'll create a dithered transparency for a graphic that will serve as the entry point from another Web page to the zoo map. By creating a dither from an opaque drop shadow to transparency, you'll make it possible to create a smooth transition from the image to any color backdrop on the page without having to redo any work.

You'll do this in two procedures. First, you'll apply a drop shadow to the image. Then, you'll add dithering to the drop shadow so that it blends into a background color for the Web page.

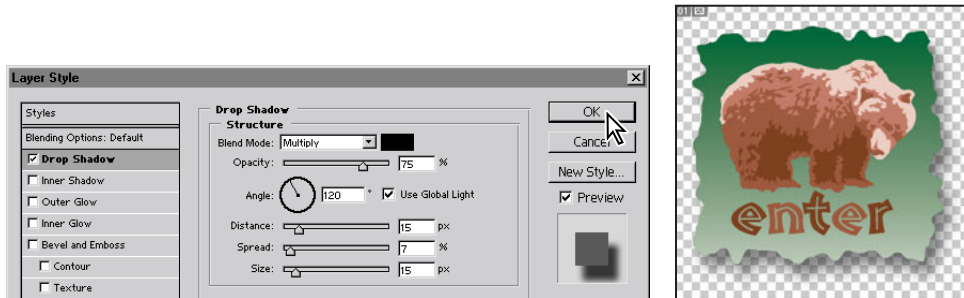
You can do this procedure in Photoshop or do it in ImageReady using the same controls but in slightly different locations.

### Adding a drop shadow

The file you'll be working on is intended to serve as the "entry" button on the portal page to the zoo Web site. You'll add a drop shadow to the button to make the image appear to float above the background, emphasizing that it is an interactive element of the page.

- 1 Choose File > Open, and select the 14Start3.psd file in the Lessons/Lesson14 folder.
- 2 In the Layers palette, click the Add A Layer Style button (🌀) at the bottom of the palette, and then select Drop Shadow from the pop-up menu.
- 3 In the Layer Style dialog box (Photoshop) or the Drop Shadow palette (ImageReady), enter the following values:
  - For Distance, drag the slider or type **15**.
  - For Spread, drag the slider or type **7%**.
  - For Size, drag the slider or type **15**.

4 (Photoshop only) Click OK to close the Drop Shadow dialog box.



5 Choose File > Save.

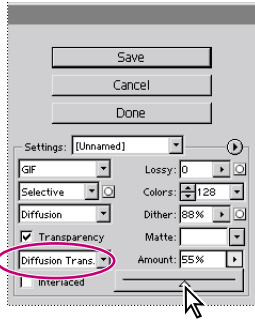
### Adding transparency dithering to the drop shadow

As you've already learned, dithering is a method of creating gradations of color with a limited color palette. This makes it useful for Web pages because you can simulate smoother gradations without sacrificing small file size and quick downloads.

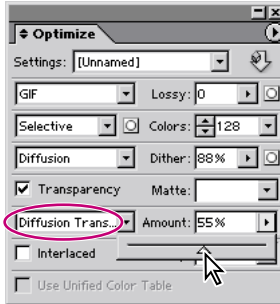
- 1 With the 14Start3.psd active, choose File > Save for Web to open the Save for Web dialog box. (This step is not necessary in ImageReady.)
- 2 Click the Optimized tab in the Save for Web dialog box (Photoshop) or image window (ImageReady).
- 3 On the right side of the Save for Web dialog box (Photoshop) or in the Optimize palette (ImageReady), set the following options:
  - In the Settings pop-up menu, select GIF 128 Dithered.
  - Select the Transparency check box, if it is not already selected.

*Note:* In ImageReady, if you do not see the Transparency check box, open the Optimize palette menu and choose Show Options, or click the double-arrows (◆) on the Optimize tab to expand the palette so that you can see all the options.

- In the pop-up menu below the Transparency check box, select Diffusion Transparency Dither.
- In the Amount option, use the pop-up slider or type 55%.



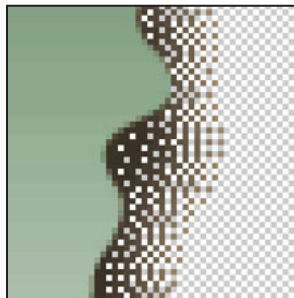
Save For Web dialog box  
(Photoshop)



Optimize palette  
(ImageReady)

**4** Click the Matte swatch to open the color picker. Select any color other than white, and click OK. (We selected a light brown: R=220, G=190, B=150.)

To see the effect of the matte setting, try zooming in so that you can see individual pixels in the dither—about 400% or higher. Notice that the pixels closest to the edge of the green area are black and that the others become increasingly more blended with the matte color as they occur farther from the edge. Then zoom back to 100%.



**5** At the bottom of the Save For Web dialog box, click the button with the browser icon, or click the arrow to select your browser from the pop-up menu. (In ImageReady, use the Preview In Default Browser button in the toolbox to open the file in a browser.)

6 In the browser, notice how the drop shadow blends against the background matte color. When you finish viewing your document, close the browser or switch back to Photoshop (or ImageReady).



- 7 Click the Save button in the Save for Web dialog box. (In ImageReady, choose File > Save Optimized.)
- 8 In the Save Optimized As dialog box, accept the default settings and filename (14Start3.gif) and save the file in your Lessons/Lesson14 folder.
- 9 Choose File > Save to save the 14Start3.psd file, or close the file without saving.

## Working with image maps (ImageReady)

An *image map* is an image that contains multiple hypertext links to other files on the Web. Different areas, or *hotspots*, of the image map link to different files. Adobe ImageReady creates client-side image maps and server-side image maps.

Creating image maps is one of the functions that you must do in Adobe ImageReady. You can use Photoshop to create slices, which share certain functionality with image maps, but you cannot create image maps with Photoshop.

**Note:** For information about slicing an image into multiple image files and linking each slice to another Web page, see Lesson 15, “Adding Interactive Slices and Rollovers.”

**Creating and viewing image maps (ImageReady)**

*Image maps enable you to link an area of an image to a URL. You can set up multiple linked areas—called image map areas—in an image, with links to text files; other images; audio, video, or multimedia files; other pages in the Web site; or other Web sites. You can also create rollover effects in image map areas.*

*The main difference between using image maps and using slices to create links is in how the source image is exported as a Web page. Using image maps keeps the exported image intact as a single file, while using slices causes the image to be exported as a separate file. Another difference between image maps and slices is that image maps enable you to link circular, polygonal, or rectangular areas in an image, while slices enable you to link only rectangular areas. If you need to link only rectangular areas, using slices may be preferable to using an image map.*

**Note:** *To avoid unexpected results, do not create image map areas in slices that contain URL links—either the image map links or the slice links may be ignored in some browsers.*

—From Adobe Photoshop 7.0 online Help

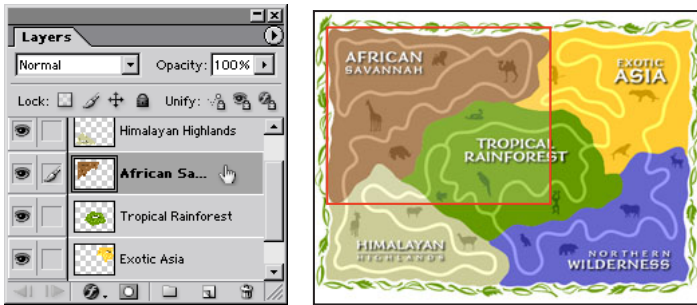
**Using layers to create image maps**

In this procedure, you'll create an image map in an existing image. You define hotspots using layers or one of the image-map tools. Then you'll assign each hotspot to an URL, linking it to a site on either a local computer or the World Wide Web.

You'll use a version of the zoo-map image that places each colored region on its own layer. You'll convert each layer to an image-map hotspot. By using layers to define the hotspots, you easily gain control over the shapes of those areas.

- 1 In ImageReady, choose File > Open, and open the file 14Start4.psd from the Lessons/Lesson14 folder.
- 2 In the Settings menu on the Optimize palette, choose GIF 64 Dithered.
- 3 In the Layers palette, select the African Savannah layer.

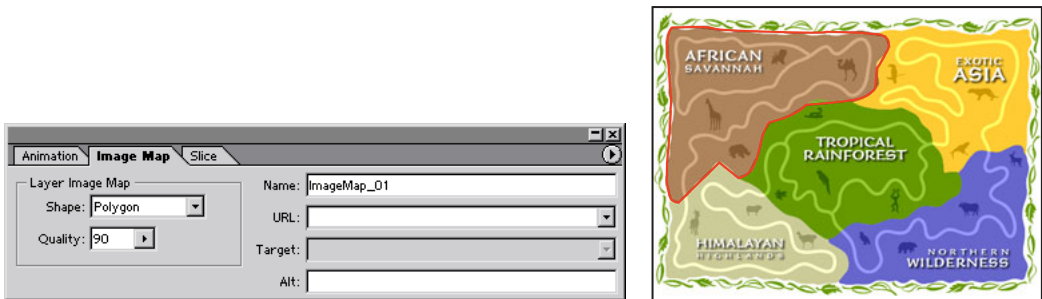
4 Choose Layer > New Layer Based Image Map Area.



A ghosted rectangular area surrounded by a red line appears, enclosing the entire African Savannah portion of the image. This red line and ghosting define the hotspot area included in the image map.

5 In the Animation palette group, click the Image Map tab, and choose Polygon from the Shape pop-up menu. (You can also open the Image Map palette by choosing Window > Show Image Map.)

Now the red outline approximates the shape of the savannah area.



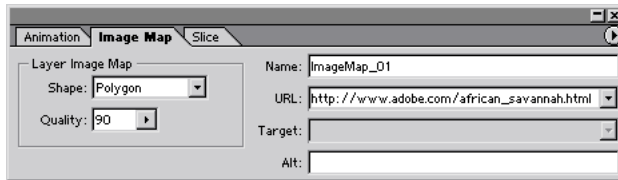
6 In the Quality option on the Image Map palette, drag the slider or type 90 to make the red line more closely conform to the savannah area shape.

Now that you've defined the hotspot area, you can link it to another file in your Web site or to a different location on the Web. For the purposes of this lesson, you'll link your hotspots to fictitious URLs for the zoo.

7 In the URL option in the Image Map palette, type the fictitious address of a Web site, [http://www.adobe.com/african\\_savannah.html](http://www.adobe.com/african_savannah.html), in the URL text box.



In the Layers palette, a pointing-finger icon now appears on the African Savannah layer, indicating that the layer has a layer-based image map.



**Note:** If you prefer, you can use other URLs for this exercise, linking the hotspots to your own local intranet pages or to some of your favorite sites on the World Wide Web.

**8** (Optional) For more practice with image maps, select the other four areas of the zoo map (Exotic Asia, Tropical Rainforest, Himalayan Highlands, and Northern Wilderness) and, one layer at a time, repeat steps 3 through 7 to create more layer-based image maps. Use the same settings, but change the “african\_savannah” part of the URLs, replacing it with the name of the layer used to create the image map.

Don’t worry now about any mistakes you might make when you type in your URLs. You’ll learn how to edit image-map information later, in “Creating the HTML file and editing image-map information” on page 447.

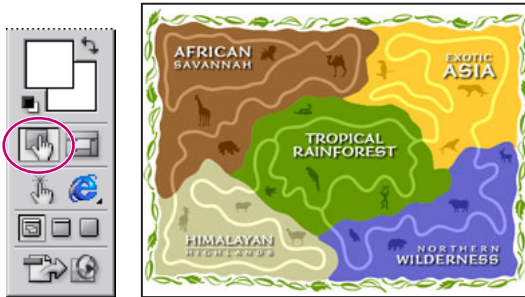
**9** Choose File > Save.

## Adjusting the cross-platform gamma range

Before you take your final steps to publish your image-mapped illustration of the zoo image on your network or the Web, you’ll verify whether or not the brightness of your image is compatible across monitors on different platforms. Machines running Windows generally display a darker midtone brightness, or *gamma*, than Macintosh machines.

**Note:** Before starting this part of the lesson, be sure to calibrate your monitor so that it displays color accurately. For information, see Lesson 17, “Setting Up Your Monitor for Color Management.”

1 In the ImageReady toolbox, click the Toggle Image Maps Visibility button (👁) to hide the polygon boundary lines of the image-map areas.



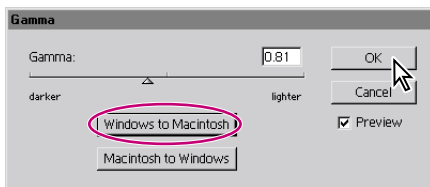
2 Choose View > Preview > and then choose a command as follows, to preview the image as it will appear on the platform you're *not* using:

- If you are working in Windows, choose Standard Macintosh Color.
- If you are working in Mac OS, choose Standard Windows Color.

3 Choose Image > Adjustments > Gamma.

4 Click the appropriate button:

- If you are working in Windows, click Windows to Macintosh, and then click OK.
- If you are working in Mac OS, click Macintosh to Windows, and then click OK.



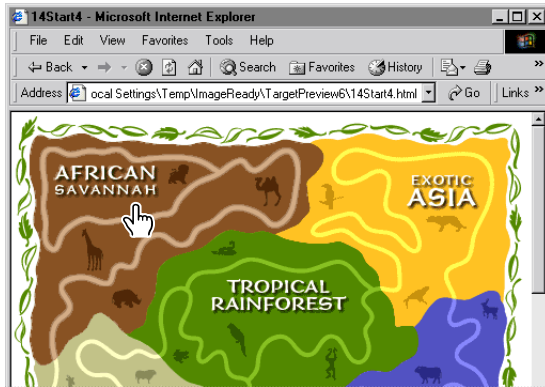
5 Choose File > Save Optimized As.

6 In the Save Optimized As dialog box, choose Images Only from the Format menu, use the default name **14Start4.gif**, and click Save.

Now you'll preview your image map in a Web browser.

7 Choose File > Preview In, and choose a browser application from the submenu.

8 In the browser window, move the pointer over the different zoo regions, and notice that these elements contain hypertext links. If you had a modem and an Internet connection and if these were authentic URLs, you could click the hotspots to jump to the specified page of the zoo site.



9 Quit your browser to return to Adobe ImageReady.

## Creating the HTML file and editing image-map information

When you save an image map in an HTML file, the basic HTML tags needed to display the image on a Web page are generated automatically. The easiest way to do this is simply to choose the HTML and Images Format option when you save the optimized image.

Once you have created the HTML file, it can easily be updated to reflect any changes, such as new or modified image-map areas or URLs.

1 In ImageReady, choose File > Save Optimized As.

*Note:* In Photoshop, you create an HTML file in the Save Optimized As dialog box that appears after optimizing the image and clicking OK in the Save For Web dialog box.

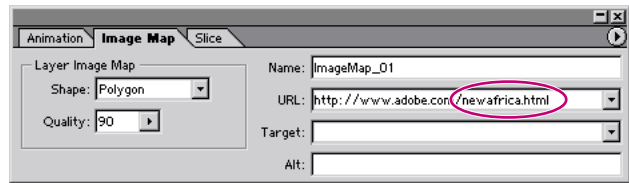
2 In the Save Optimized As dialog box, select the HTML and Images option on the Save As Type pop-up menu (Windows) or the Format menu (Mac OS). Use the default name **14Start4.html**, and save the file in your Lessons/Lesson14 folder.

If the Replace Files dialog box appears, click Replace.

When you select the HTML and Images option, an HTML page containing the image is saved automatically, in addition to the graphic file. This HTML file will have the same name as the image, but with the .html extension.

Now you'll use ImageReady to change one of the URL links and update the HTML file.

- 3 In the toolbox, select the image map select tool (👉), hidden under the rectangle image map tool (📏).
- 4 In the image window, click to select the African Savannah image-map area.
- 5 In the Image Map palette, change the URL to <http://www.adobe.com/newafrica.html>.



If you have other image-map information that you want to edit, use the image map select tool to select the image-map areas that you want to update, and then enter your changes in the Image Map palette options.

- 6 When you finish making changes, choose File > Update HTML.
- 7 In the Update HTML dialog box, select the 14Start4.html file, and click Open. Then click Replace when the Replace Files dialog box appears and click OK to dismiss the update message.
- 8 Choose File > Close to close the image. Don't save changes, if prompted.

You can use your Web browser to open and view 14Start4.html. You can also open the file in a text editor, or a word-processing or HTML editing program to make your own revisions to the HTML code.

**For the Web: HTML File-Naming Conventions**

*Use the UNIX® file-naming convention, because many network programs truncate (shorten) long filenames. This convention requires a filename of up to eight characters, followed by an extension. Use the .html or .htm extension.*

*Do not use special characters such as question marks (?) or asterisks (\*), or spaces between the letters in your filename—some browsers may not recognize the pathname. If you must use special characters or spaces in the filename, check with an HTML editing guide for the correct code to use. For example, to create spaces between letters you will need to replace the space with “%20”.*

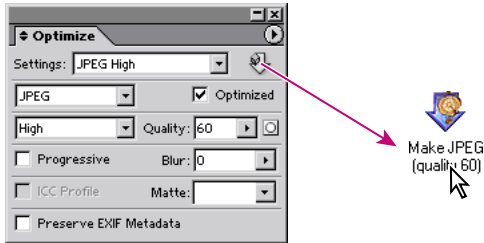
**Batch-processing file optimization**

ImageReady supports batch-processing through the use of *droplets*—icons that contain actions for ImageReady to perform on one or more files. Droplets are easy to create and use. To create a droplet, you drag the droplet icon out of the Optimization palette and onto the desktop. To use a droplet, you drag a file or folder over the droplet icon on the desktop.

- 1 In ImageReady, choose File > Open, and open any file in the Lessons/Lesson14/Photos folder.
- 2 Experiment with different file formats and other settings in the Optimize palette as desired until you are satisfied with the result.

We used JPEG, High quality (60), and Progressive.

3 Drag the droplet icon (📌) out of the Optimize palette and drop it anywhere on your desktop. (If you are using Windows, you may have to resize the ImageReady window to make your desktop visible.)



4 Close the file (without saving it).

5 From your desktop, drag the Photos folder from the Lessons/Lesson14 folder and drop it onto the droplet to batch-process the photographic images within the folder.

ImageReady optimizes each file and adds the Web image to the Photos folder.

6 Open any of the Web image files in the Photos folder.

Notice that they have all been optimized according to the settings specified when the droplet was created.

7 Quit ImageReady when you are done.

## Review questions

- 1 For image optimization, what are the advantages of using ImageReady rather than Photoshop?
- 2 What is a color table?
- 3 When does browser dither occur, and how can you minimize the amount of browser dither in an image?
- 4 What is the purpose of assigning matte color to a GIF image?
- 5 Summarize the procedure for creating an image map.

## Review answers

- 1 There aren't really any advantages to using one application over the other for optimization. Both Photoshop and ImageReady can perform a wide range of image-optimization tasks. ImageReady has many Web-specific features that you won't find in Photoshop, but image optimization is not one of them.
- 2 A color table is a table that contains the colors used in an 8-bit image. You can select a color table for GIF and PNG-8 images, and add, delete, and modify colors in the color table.
- 3 Browser dither occurs when a Web browser simulates colors that appear in the image's color palette but not in the browser's display system. To protect a color from browser dither, you can select the color in the Color Table palette, and then click the Web-shift button at the bottom of the palette to shift the color to its closest equivalent in the Web palette.
- 4 By specifying a matte color, you can blend partially transparent pixels in an image with the background color of your Web page. Matting lets you create GIF images with feathered or anti-aliased edges that blend smoothly into the background color of your Web page. But, with ImageReady 7.0, you can also specify a dither to transparency.
- 5 To create an image map, you define hotspot areas of the image using the image-map tools or by selecting layers and choosing Layer > New Layer Based Image Map Area. Then you use the Image Map palette to define the shape of the hotspot and link each hotspot to a URL address.