

# Photoshop



## Using the Background Eraser in Photoshop 5.5

**A**t my seminars, one of the most common complaints I hear is that people are having a heck of a time making selections in complex images. If you are having similar pains, then you'll be glad to know that Photoshop 5.5 has two features that will ease your struggle, the Background Eraser tool and the Extract command.

### Much Ado About Something

Before we jump in, you should know that each of these tools has a specific purpose. The Background Eraser, which is grouped with the normal Eraser tool in your Tool palette (the eraser with scissors icon), was designed for removing the background from hard-edged objects. The Extract command (Image>Extract) was designed for soft edges, like hair or objects in motion. If you use these tools for something they are not designed for, you most likely will be disappointed.

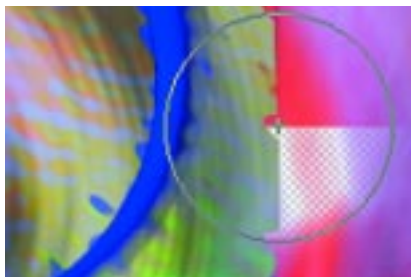
There is so much to explore with these features that I couldn't do both of them justice in one article. So, this month's installment covers the Background Eraser, and next month's Instant Expert will take a look at the Extract command. (*In this issue, Martin Evening explores the Extract command in a tutorial beginning on page 28.*)



Double-click on the Background Eraser to access its Options palette.

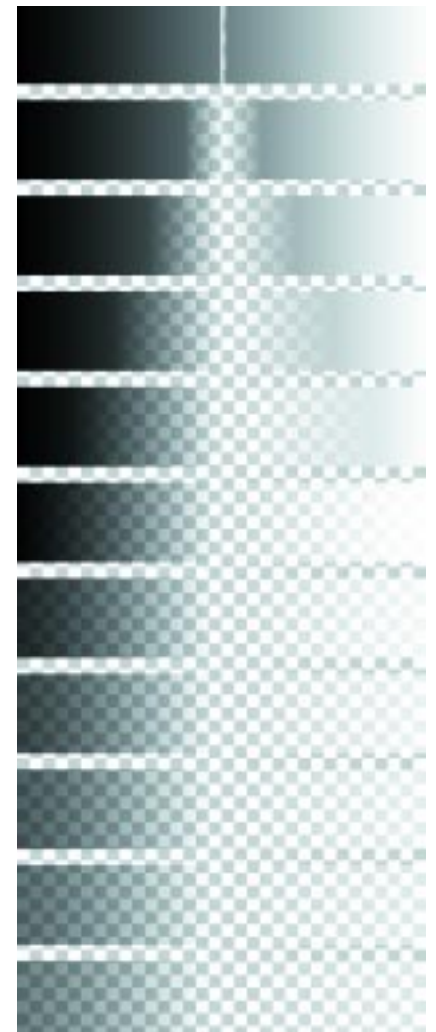
### Background Eraser

The Background Eraser presents you with a circular cursor with a crosshair in the middle. When you click on an image, Photoshop looks at the color under the crosshair and deletes everything within the circle that is similar to that color. Then, as you drag the cursor, Photoshop keeps a constant eye on what is under the crosshair and deletes areas of similar color that fall within the circular cursor.



The top of this image shows the original and the bottom shows the area the Background Eraser would remove.

The Tolerance setting determines the range of colors Photoshop will delete based on the color under the



Tolerance settings from top to bottom: 1%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%.

crosshair. Low Tolerance settings limit how far Photoshop will stray from the color you are clicking on, while high settings tell Photoshop to delete a broader range of colors. You can use a different Tolerance setting each time you click, so you're not stuck with a single setting for the entire image. If the background you are deleting is very similar to the subject in one area, try a lower Tolerance setting and then use higher settings for the rest of the image. You can quickly change the Tolerance setting by using the keyboard number keys (30=30%, 25=25%, etc.).

When you are moving around the edge of an object, make sure the crosshair never touches the area you want to keep; otherwise Photoshop will delete that area as well.



Keep the crosshair away from the areas you would like to keep; otherwise the Background Eraser might delete more than you intended.



To get an accurate edge, be sure to keep the crosshair as close to the edge of the object as possible.

## Go Easy on Yourself

The earlier you think about removing the background, the easier it is to remove. If you haven't yet taken the photo, you can use a simple backdrop that contrasts with the subject. If the photo has already

been taken, then perform color correction on it before attempting to remove the background. Before applying color correction, unwanted color casts can make the subject and background appear to be similar in color and contrast, making it more difficult to remove the background.

You can also make things easier by first using the Lasso tool to make a loose selection around the object, choosing **Select>Inverse**, and then pressing the delete key. This will remove the bulk of the background, leaving only the more complicated areas to clean up with the Background Eraser.



Save the Background Eraser for the more difficult parts of the image.

When you get to very small enclosed areas, don't feel like you have to click and drag to remove the background. Just click on an area to tell Photoshop to look at a single pixel under the crosshair and determine what to delete from within the circle.

If you notice a one-pixel-wide residue showing up around your image, don't worry about it for now. We'll use a special technique to remove those halos after you've gotten rid of the majority of the background. For now, simply try to get rid of blobs that are larger than a single pixel.

If you can't wait to see what the edge will look like later in the process, choose **Layer>Matting>Defringe** and use a setting of 1. If that doesn't get rid of the edge, then choose **Edit>Undo** and continue to use the Background Eraser to remove the edge. Use the Defringe command only as a preview, then choose **Undo** when

finished; the Defringe tool is the most effective after the entire background has been deleted. Applying it over and over again will harm your image.



The Defringe command should be able to remove single-pixel halos from the edge of your image.

At times it is awfully hard to see what's really happening because the checkerboard pattern that indicates a transparent area is too busy. Before I even start using the Background Eraser tool, I create a new layer and fill it with a color that contrasts with the object I'm working on (like fluorescent green). Then I move the duplicate layer below my image and start using the Background Eraser. That makes it much easier to see if there is any leftover residue.



It's difficult to see residue when the checkerboard is behind your image, so replace it with a contrasting color.

The Background Eraser uses the currently active brush from the Brushes palette. You can quickly switch the active brush by using the bracket keys (]) and ([) to get the next or previous brush.

## History Brush to the Rescue

I often find myself dragging the Background Eraser over a long span before releasing the mouse button, which occasionally causes problems. If I mess up after I've made it three-quarters of the way around my image, the **Undo**

command will undo the entire stroke when I wanted to fix only a small area. When this happens, I use the History Brush to bring just a portion of the image back to its original state.

There are times, however, when the History Brush is not available. That usually happens when you've changed either the image size or the color mode. If that's the case, just open the History palette and click to the left of the history state you'd like to paint with (in the area that looks like an indent). Most likely, you will want to use the bottom-most state that isn't called History Brush.



When the History Brush is not available, click to the left of the last non-Background Eraser step to paint with that version of your image.

That allows the History brush to paint with what your image looked like before using the Background Eraser. When you're finished with the History Brush, you can quickly get back to the last Eraser tool you used by pressing the Y key.

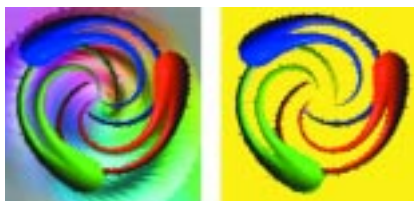


Use the History Brush to bring back areas that should not have been deleted.

If you find that the Background Eraser is deleting too much of the image, you can either lower the Tolerance setting or turn on the Protect Foreground checkbox. With this checkbox turned on, Photoshop will try to not delete areas that are similar to the foreground color. If you opt/alt-click when using the Background Eraser, you will change your foreground color to the color you clicked on, which will protect it from being deleted.

### Sampling the Goods

Now let's find out why you'd want to mess with the Sampling pop-up menu in the Options palette (double-click the Background Eraser to access the Options palette). There are three options: Continuous, Once, and Background Swatch. The Continuous setting constantly checks the color under the crosshair while you move the cursor. This is good for images where the background varies in color.



Continuous sampling is best for deleting areas that contain a variety of colors.

The Once setting is useful with solid-color backgrounds. With this setting you have to be careful only when you first click the mouse button. Then, as long as you keep



The Once setting can be helpful with simple backgrounds.

the mouse button down, Photoshop will only pay attention to the color you clicked on. But stay on your toes—Photoshop will take a fresh look under the crosshair if you accidentally click again.

If you don't want to worry about releasing the mouse button, use the Background Swatch setting. You can opt/alt-click to change the foreground color, and press the X key to switch that color to the background. Now it won't matter how many times you click on your image because Photoshop will ignore what's under the crosshair and pay attention to only the current background color when deciding what to delete. The Background Swatch setting is effective on extremely simple images, such as text on a solid-color background.



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### Contiguously Continuous?

When you've figured out the Sampling setting that works best on your image, you can experiment with the other pop-up menu in the Background Eraser Options palette. It decides whether Photoshop will delete areas that touch each other, or if it will leap over areas to get to non-touching areas. The Contiguous setting forces the Background Eraser to delete only areas that touch each other. For example, it wouldn't be able to jump to the center of the letter "O" unless you moved the crosshair into that area. This setting is great when areas of the object you want to keep are similar, but not touching the background.

The Discontiguous setting tells Photoshop to jump over areas (which will not be deleted) to find areas that are similar to the color under the crosshair. It's ideal for deleting the background from complex objects such as trees; otherwise, you'd have to get the crosshair between every branch of the tree without ever touching a single branch—no thanks!



Use the Discontiguous setting to leap across areas you do not want to delete.

Occasionally you might notice that the Background Eraser partially deletes an area that you'd rather it left alone. That tells you Photoshop thinks the area should slowly fade into the background like a blurry edge. You can prevent this by using the Find Edges setting, which makes Photoshop think you are working on a crisp-edged object and minimizes the areas that Photoshop makes partially transparent. Like the Contiguous setting, Find Edges can only delete areas that touch each other.



The Find Edges setting will limit the areas that become partially transparent.

If you have areas that should be only partially deleted because they have soft edges, make sure to use a soft-edged brush and stay away from the Find Edges setting. Hard-edged brushes often create stair-

stepping in partially transparent areas. You can minimize this by double-clicking on the brush (in the Brushes palette) and lowering both the Hardness and Spacing settings.



Hard-edged brushes produce a stair-stepped look in partially transparent areas.



Soft-edged brushes are more appropriate for semi-transparent areas.

When you're using the Background Eraser, you might notice that the edge between the areas you have deleted and the areas you haven't finished erasing looks like a series of touching circles. This happens when you use a relatively large brush. As you move your cursor, the crosshair touches transparent areas that have nothing that can be deleted. When the crosshair hits image data, it



Don't worry if your outline looks like circles bumping into each other; concentrate on the edge of your object.

resumes deleting and causes the repeating circles to appear.

There's nothing to fret about, unless it is also happening in the transition between the area that should be deleted and the object you are working on. That's when you should switch to a softer brush, which will make the stair stepping less obvious.

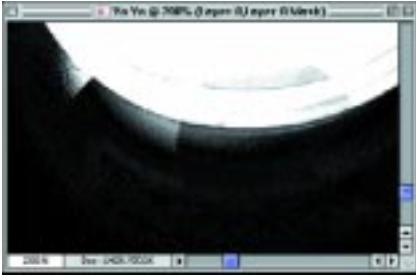
## Convert to Layer Mask

When you've done as much as you can with the Background Eraser, you may want to convert the result into a layer mask for further refinement: cmd/ctrl-click on the name of the layer in the Layers palette, then Layer>Add Layer Mask>Reveal Selection, and click on the left-most thumbnail in the Layers palette. Replace the contents of that layer with your original image so you can easily bring areas back by choosing Edit>Fill and setting the Use pop-up menu to History. If History is grayed out, you've changed the size or color mode of your image since you opened it, and you'll have to use the History Brush technique mentioned earlier.



Fill with History so you can bring back areas using the layer mask.

Now that the erasing has been converted into a layer mask, you can enhance the results. Option/alt-click on the layer mask thumbnail in the Layers palette to make the layer mask visible. The areas that were not completely erased will show up as white or gray in the layer mask.



It's easy to see the problem areas once the background has been converted into a layer mask.

If you see mostly dark shades of gray surrounding the image, opt/alt-click the layer mask again to make the image visible. Choose Image>Adjust>Levels and pull in the upper left slider until you no longer notice residue in the background. Then adjust the middle slider to fine-tune the transition between the transparent and opaque areas.



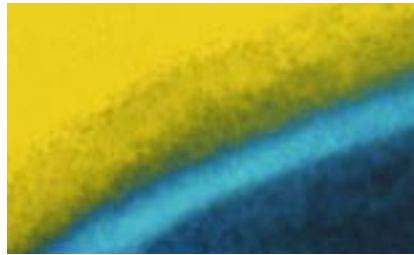
Levels can help to clean up the gray specks that appear after using the Background Eraser.

To clean up messy leftover bits, opt/alt-click on the layer mask again, change the foreground color to black, and use the standard painting tools. If you see mostly noise, choose Filter>Noise>Median and use a low setting to smooth out the image.

After cleaning up the obvious areas, opt/alt-click on the layer mask again to view the main image and continue touching up. Black makes areas disappear and white makes them show up. You might find it useful to quickly exchange the foreground and background colors by pressing the X key.

When the background is clean, you can further refine the transition

between object and background by painting with the Blur tool on the layer mask.



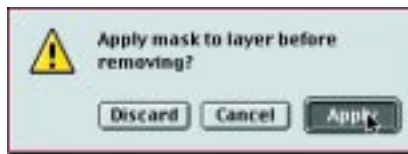
Semi-transparent areas often appear noisy.



Use the Blur tool to smooth out these areas.

## Clean Up the Edge

Once you have tweaked the layer mask until the image looks almost perfect, you can drag the layer mask thumbnail to the Trash and click Apply to delete the background permanently.



Apply the layer mask; otherwise the Defringe command will not be available.

As a final step, you may select the Layer>Matting>Defringe command and use a low setting (such as 1) to ensure there isn't a single-pixel rim that resembles the previous background color. This command works only after the layer mask has been removed, so don't try it earlier in the process unless you decide to not use a layer mask at all.



You should be able use settings of 1 or 2.

You will find that the Background Eraser does a less than perfect job on areas that fade out, such as objects in motion. In those instances, the Image>Extract command will save the day. Use the Background Eraser for its intended purpose (working with hard-edged areas) and hold off on those soft-edged areas until next month when we'll tackle the Extract command. I'll even show you how to use it to clean up some of the mess left behind after using the Background Eraser (stuff we cleaned up manually using a layer mask).

While you're waiting for your next issue of *PEI*, check out all the free tips I provide on my Web site at [www.digitalmastery.com](http://www.digitalmastery.com).

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