

# [PHOTOSHOP FOR PHOTOGRAPHERS]

SEÁN { by } DUGGAN



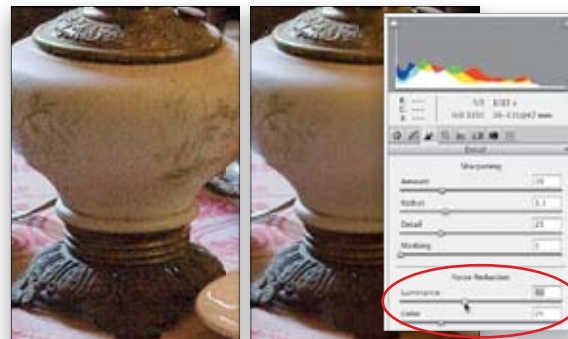
## turn down the noise

Noise is the bane of digital photographers. The best way to deal with noise is to try and avoid it in the first place. But sometimes you're faced with shooting in available darkness and the only way to get the shot is to crank up the ISO. In this tutorial we'll take a look at various techniques for dealing with noise.



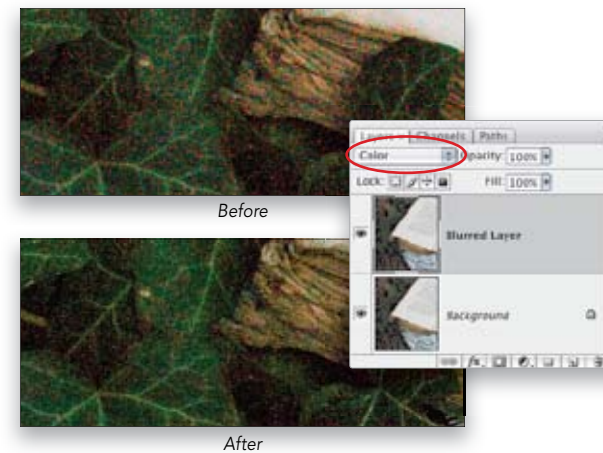
### 1 [AVOIDING NOISE: EXPOSURE MATTERS]

One way to avoid noise, even if you're forced to shoot with a high ISO setting, is to make sure your shots are well exposed. Underexposed shots are much more likely to suffer from objectionable noise than properly exposed images. Consider the images in this example: Both were shot in low light at 3200 ISO, yet the one on the left is underexposed and the noise levels are dramatically higher. Good exposure matters. (Note: These files have been lightened in Camera Raw to make the noise more visible for this comparison.)



### 2 [NOISE REDUCTION IN CAMERA RAW]

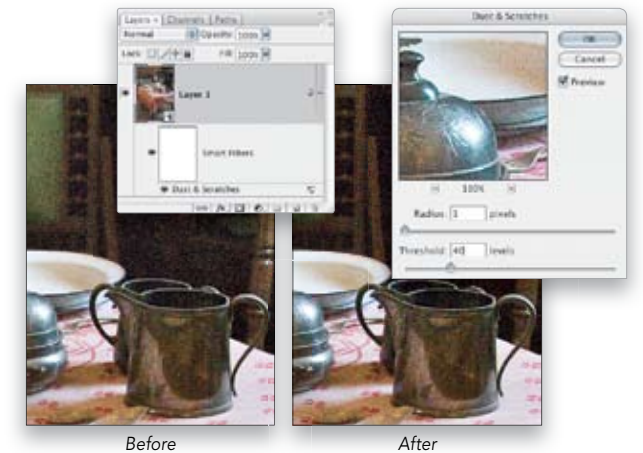
With a RAW file, the first step to reducing noise is in Camera Raw (or Lightroom; both programs have the same noise-reduction capabilities). The Detail tab (third icon from the left) contains two sliders for noise reduction. Each addresses a different type of noise: luminance noise and color or chrominance noise. Luminance noise is trickier to reduce because it forms the visible noise structure. Reducing the luminance noise is often a tradeoff between smoothing the noise pattern while trying to preserve delicate details, but when carefully applied to RAW images, it can produce a subtle improvement.



### 3 [CONCEALING COLOR NOISE]

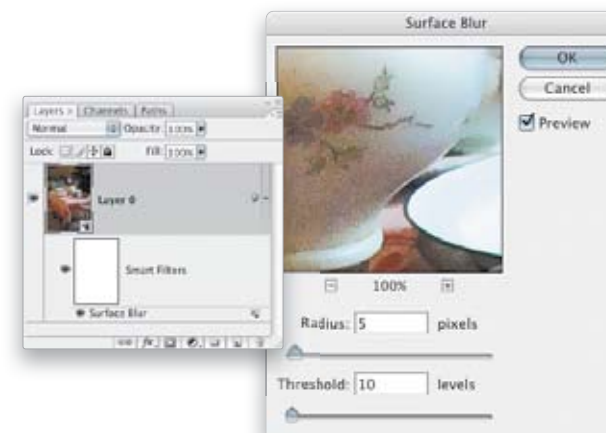
Reducing color noise is easier than reducing luminance noise. In Camera Raw, the default is set to 25, so there's always some amount of color noise reduction applied. Generally this setting is quite good—I only have to raise it on extremely noisy files.

In Photoshop, you can easily hide color noise with a copy layer of the image that has been blurred: Duplicate the Background layer (Command-J [PC: Ctrl-J]) and set its blend mode to Color. Then blur the detail on the layer by choosing Filter>Blur>Gaussian Blur. In the dialog, set the Radius to 5 and click OK.



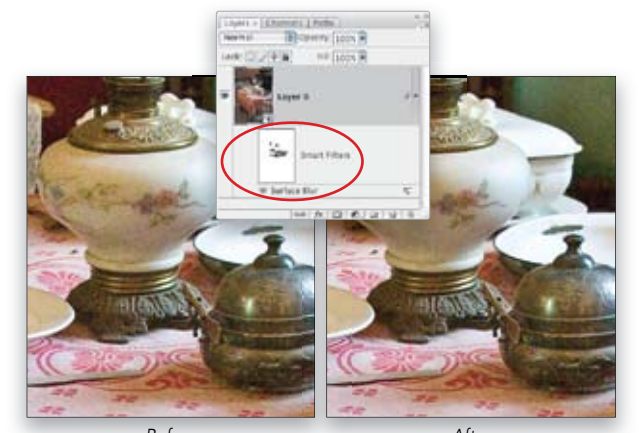
### 4 [A DELICATE TOUCH WITH DUST & SCRATCHES]

When used incorrectly, the Dust & Scratches Filter can be heavy-handed and can turn a sharp image into an impressionistic mush. But with a very light touch, it can help reduce the light speckles found in a noise pattern. Choose Filter>Convert for Smart Filters and then Filter>Noise>Dust & Scratches. Set the Radius to 1, Threshold to 40, and click OK. A low Radius and high Threshold are essential for preserving detail and texture in the image.



### 5 [THE SURFACE FILTER, PART 1]

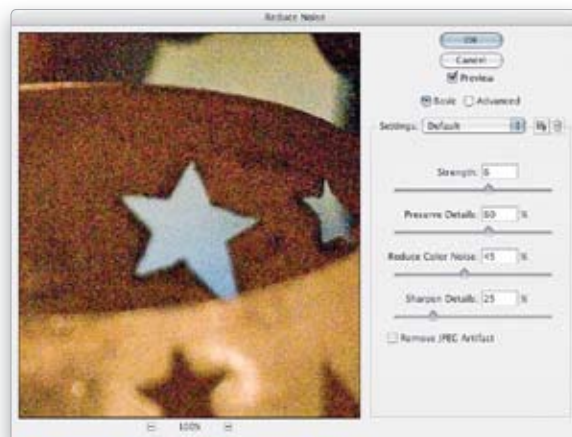
The Surface Blur filter blurs fine detail while maintaining well-defined edges, making it quite useful for noise reduction. Here's how: Make a copy of the Background layer (Command-J [PC: Ctrl-J]) or, if you're using Photoshop CS3, apply the filter as a smart filter. Then choose Filter>Blur>Surface Blur. The Radius slider determines how much blur or softening will be applied and the Threshold slider controls the number of tonal values that will be blurred.



### 6 [THE SURFACE FILTER, PART 2]

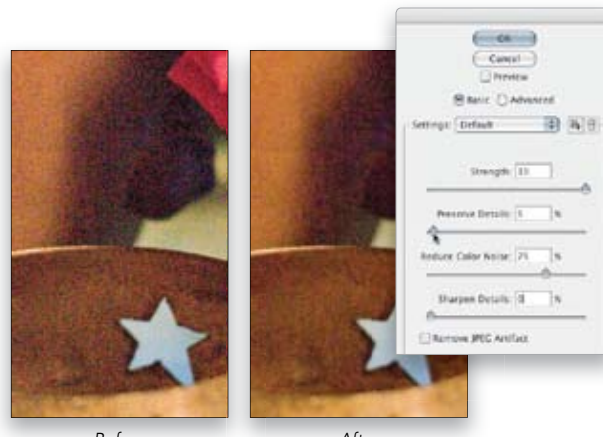
Start with a low Radius value of 3 or 5 and slowly increase the Threshold slider to minimize the noise. Adjust the Radius and Threshold until you arrive at a balance between the softening of the luminance noise and the preservation of important details. Higher Threshold values will cause more noticeable softening, blurring, and in some cases, posterization. As a general rule, watch for image-degrading artifacts if you raise the Threshold more than 10. Modify as needed with layer opacity or layer masks. In this example, we masked the blur effect on the fine details on the lamp.





## 7 [NOISE-REDUCTION FILTER, PART 1]

This filter is found under Filter>Noise>Reduce Noise. It offers controls for minimizing both luminance and color noise, as well as access to noise reduction on a per-channel basis, which can be useful on some images. In the dialog, Strength controls how much luminance noise is removed; and Preserve Details attempts to do what it says, but on very noisy files it can be frustrating to find the right balance. Work with both the Strength and Preserve Detail sliders to find the setting that works best.

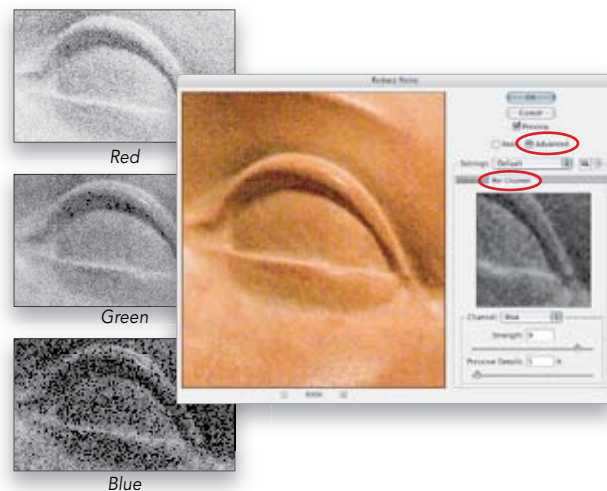


Before

After

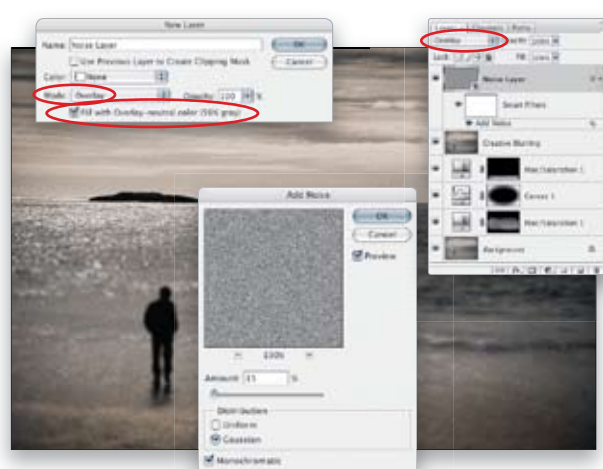
## 8 [NOISE-REDUCTION FILTER, PART 2]

Reduce Color Noise removes color noise mottling and does a very good job of it, too. Try not to go above 50% or the colors may get too desaturated. If you find that you need to use a value higher than 50%, then consider adding a Hue/Saturation adjustment layer after applying the filter to boost the color saturation a bit. Sharpen Details at face value might seem to be a good thing but if you're not careful, this can cause nasty edge artifacts. It's better to leave this at 0 and apply input or capture sharpening after noise reduction.



## 9 [NOISE-REDUCTION FILTER, PART 3]

In Advanced mode (click on the button), you have access to the individual color channels. This can be useful because in some files, luminance noise is much more pronounced in the Blue channel. By targeting specific channels, you can reduce the noise where it's causing the most problems. Keep in mind, however, that any settings you apply in Advanced mode are applied in addition to any that you've already made in the Basic mode.

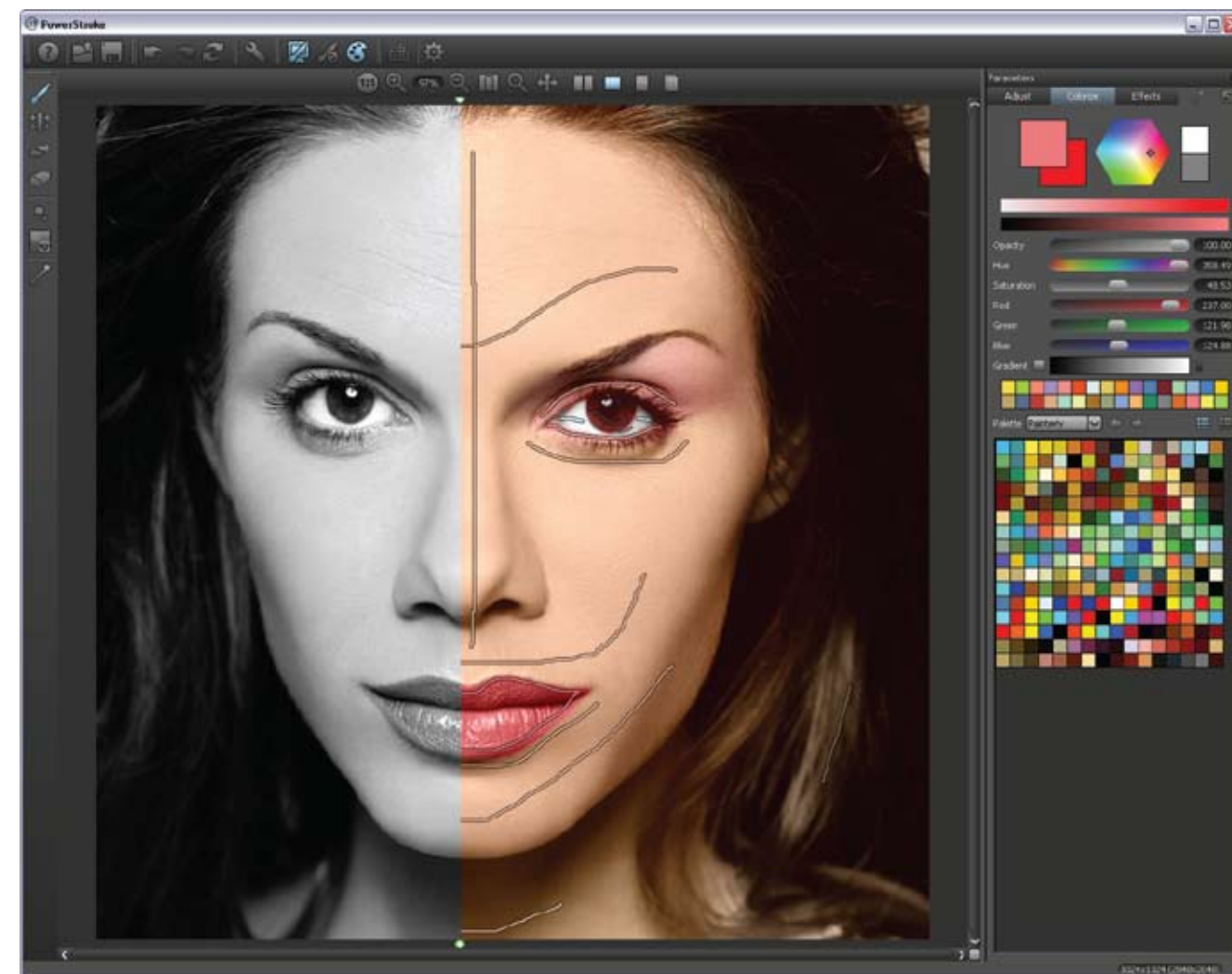


## 10 [CREATIVE NOISE ADDITION]

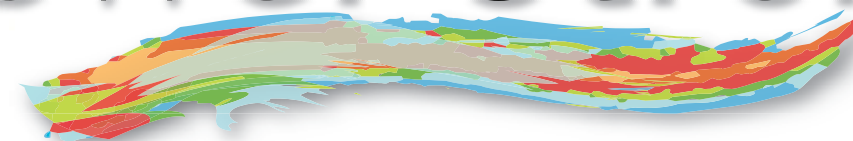
Although most people want to reduce noise, there are times when it's useful to add noise to an image. To do this in a flexible way, choose Layer>New>Layer. In the dialog, set the mode to Overlay and click the checkbox to fill the layer with 50% gray. Click OK and choose Filter>Convert for Smart Filters. Then use Filter>Noise>Add Noise to add the desired amount of noise. The advantage of adding noise in this way is that it remains totally flexible and can be modified with opacity or a layer mask.

Seán Duggan is the co-author of The Creative Digital Darkroom and Photoshop Artistry. He teaches regular workshops on digital photography and Photoshop for Photographers. Check out his photographs, as well as musings on digital imaging, at his photo blog, [www.f1point4.blogs.com](http://www.f1point4.blogs.com).

All images by Seán Duggan unless otherwise noted.



# Power Stroke



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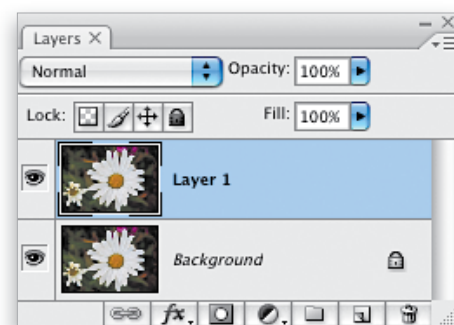


PHOTO BY DARWIN WIGGETT



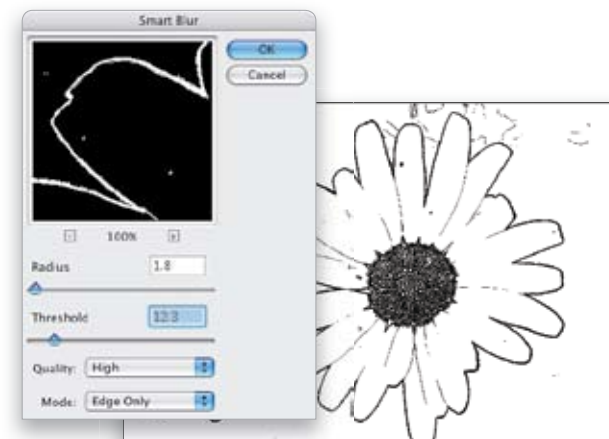
## developing outlines

Some effects look best when applied to an entire photo, while other effects look best when used only in certain areas. By nature, the filter used in this technique will affect the entire photo, but with a little (easy) work, you can create an interesting outline effect on just part of your photo.



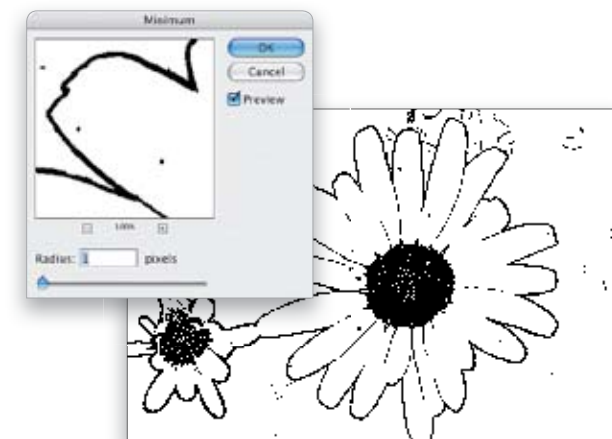
### 1 [DUPLICATE THE BACKGROUND]

This effect will work on all types of images, but may work best when you have a main object you want to draw attention to. After opening and sizing your image, press Command-J (PC: Ctrl-J) to duplicate the Background layer.



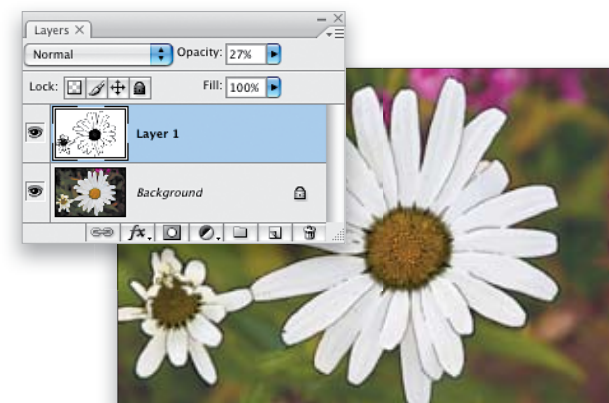
### 2 [APPLY SMART BLUR AND INVERT]

Make sure the duplicate layer is active, and then from the Filter menu, choose Blur>Smart Blur. Change the Mode to Edge Only, the Quality to High, and adjust the Radius and Threshold to get mostly outline details. (Generally, you'll probably end up with a low Radius and a Threshold in the 10–20 range.) Click OK to close the dialog and press Command-I (PC: Ctrl-I) to invert the image.



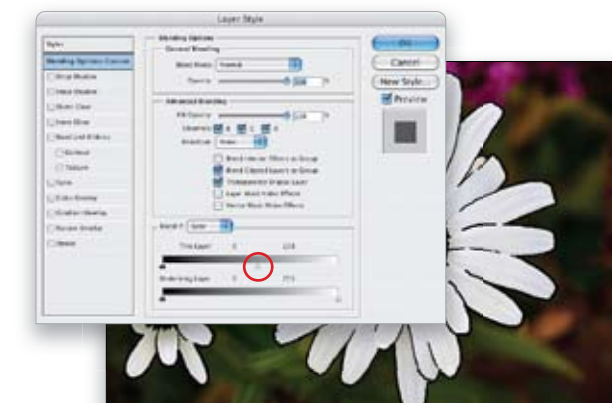
### 3 [APPLY THE MINIMUM FILTER]

To make the black lines thicker, go to the Filter menu, choose Other>Minimum, and set the Radius to 1 (for higher resolution images you may need to increase the Radius to 2 or 3). Click OK.



### 4 [PAINT IN MORE DETAIL]

Now fine-tune the effect by using the Brush tool (B) to paint over the areas with white where you don't want to have any outlines. Then, lower the Opacity of the outline layer in the Layers panel and paint with black to add more detail to the outline where needed (use a brush size that matches the width of your outline). When you're finished, return the Opacity to 100%.

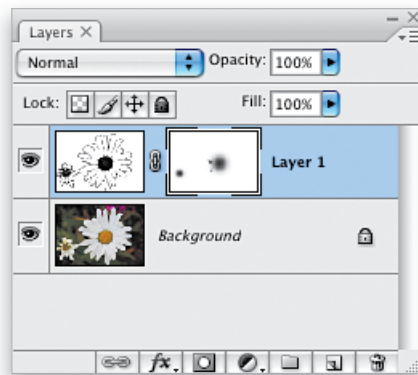


### 5 [MAKE THE WHITE SEE-THROUGH]

To make the white areas see-through, double-click to the right of the layer name in the Layers panel to open the Blending Options. Go to the Blend If sliders at the bottom of the dialog and drag the white triangle on the This Layer slider to the left. As soon as you do, the white areas should become completely transparent. Click OK to close the dialog.

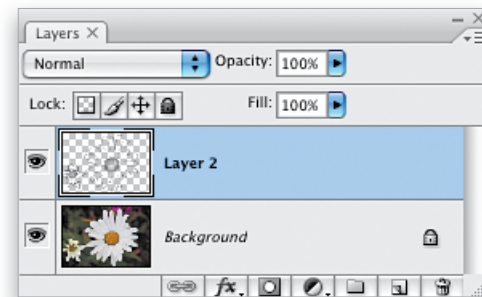
[If you'd like to download the image used in this tutorial to practice the technique, visit [www.layersmagazine.com/downloads.html](http://www.layersmagazine.com/downloads.html). This file is for practice purposes only.]





## 6 [MASK IF NECESSARY]

If there are any areas where the outline effect is too strong (such as the center of the flower in this example), add a layer mask by clicking on the Add Layer Mask icon at the bottom of the Layers panel. Using black as the Foreground color and a brush Opacity of 30–40% in the Options Bar, paint over the areas where you want a less obvious outline.



## 7 [CHANGE THE COLOR, PART 1]

There are a couple of steps to change the color of the outline. First, click on the Create a New Layer icon at the bottom of the Layers panel. Drag this new layer below the outline layer. Click on the outline layer and press Command-E (PC: Ctrl-E) to merge the two layers together (this will permanently change the white areas to transparent).



## 8 [CHANGE THE COLOR, PART 2]

Use the Add a Layer Style pop-up menu at the bottom of the Layers panel to add a Color Overlay. Click on the red color swatch to access the Color Picker, choose a color, and click OK twice. (By using the Color Overlay layer style, you can easily change the color by double-clicking on Color Overlay in the Layers panel.)



## 9 [ADD A LAYER STYLE]

If you want the outline to stand out, you can try adding other layer styles such as a drop shadow (shown here), bevel and emboss, inner shadow, etc. (Note: You can only add these styles if you completed Step 7.)



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Dave Cross is Senior Developer, Education and Curriculum, for the National Association of Photoshop Professionals. He is the author of Photoshop Finishing Touches and The Photoshop CS2 Help Desk Book, and is featured on a series of Photoshop training DVDs.

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