

SHARPENING TUTORIAL – Art Morris

Here, from Digital Basics, is an important note, one that is often ignored even by experienced photographers: Your optimized master file should never be sharpened (except for selective sharpening of small areas using either a contrast mask or very low sharpening settings). Digital images should be sharpened only after they are sized for a specific use. And again later in the text, “All digital image files should undergo final sharpening **only after have been sized for a specific use.**” And more: Larger files need much more sharpening than smaller ones. All such sharpening should—of course—be done at the desired output resolution. (Folks who reproduce the same print at the same size over and over again should of course save a sharpened version labeled as such.)

For small j-peg files to be used electronically, I generally sharpen three times using Filter/Sharpen/Unsharp Mask with the following settings: Amount: 125%; Radius: 0.2 pixels; Threshold: 0 levels. Some folks prefer sharpening once at 350/0.2/0. As file size increases (generally for images that are to be printed in one form or another), there are two options. You may decide to increase the Amount to somewhere between 300 and 500 while keeping the radius approximately the same. (In this case, you may need to sharpen more than once while decreasing the amount each time). Or you may increase the Radius to somewhere in the range of 0.85 and 1.25 while keeping the Amount roughly the same.

For natural history images, the threshold is usually set at 0 to yield the greatest amount of detail. For portraits of people, the threshold might be set as high as 4-8 so that skin imperfections are not emphasized. For natural history images made at high ISO settings or those with large areas of sky, threshold settings of from 2 to 3 may yield the best results. If you ask 100 good digital photographers exactly how they sharpen their images, you would probably get 100 totally different answers. To attain the very best results, experiment with each image by trying a range of sharpening settings and comparing the results.

When sharpening for the web, whether it be for small JPEGs (400-800 kbs wide), or for large slide show JPEGs (1400 X 1050), your sharpening setting should not produce any edge halos or other sharpening artifacts. (Check by working at a high magnification and clicking Preview on and off to see the changes.)

When sharpening an image for printing, whether it be for a 4X6 inch or for a 30X45 inch print, the image on the screen should look *slightly to somewhat oversharpened*, this because some ink is absorbed when it hits the paper.

And, as above, a 400 wide JPEG will need very little sharpening, an 800 wide a bit more, a 1400 X 1050 well more, a 4X6 inch print well more than that, an 11 X 16 print still more, and 30X45 print lots more than that, and a billboard, tons more.

Sharpening in one round or two or three is a matter of personal preference and should not affect the final appearance of the image whether for web or for print. Each photographer needs to study the above suggestions carefully, use the #s as a starting point, *and then learn with practice to sharpen their images to their taste*. When doing so, they must realize that even though images may be the same size (as far as pixel dimensions go), they may need quite different sharpening settings to look good, that because of the amount and type of detail in the image and the file size in kilobytes (web) or in megabytes (print).

The tutorial above was inspired by an e-mail from Bryan Palchik. This is the last thing that I wrote to him, "You seem to be looking for a set of numbers that will yield a perfectly sharpened image each time. As you can see by reading the information above, there is no such set of numbers.

Sharpening is an art that requires time, patience, judgment, and lots of practice.