

# Moose's Print Lab

## Sharpening Worksheet



Where does the viewer's eye go first in your photograph? More importantly, where do YOU want the viewer's eye to look first in your print? These are very important questions and the answers directly affect how your print grabs the viewer. Sharpening is not for fixing a focusing problem, but needed for technical and creative refinement.

If you're following someone's formula for sharpening just because, you're robbing your photograph and print of its true power. Focus is a critical element in your visual communication and to use just any old formula or use the same formula over and over again means you really don't care where the viewer focuses in your photograph. I don't think that's the case, more than likely you just don't know any better. It is for sure a very confusing part of the print making process. You took the time at point of capture to

focus on a particular element in your photograph, you selected the appropriate aperture to limit or expand your depth of focus, don't throw that away by just sharpening willy nilly. Just as any other step in photography, sharpening for printing is a very important element in your image finishing.

With that said, I hope you don't expect a "sharpening formula" from me. Rather, what I have to present are a number of options that just scratch the surface that you will have to think through and apply accordingly as they apply to YOUR visual message. When it comes to sharpening your content and the print and which sharpening method to use, you have to ask yourself the same basic questions you asked when you framed the scene, selected its focus point and then how much DOF to use. "What's the subject?" Before you select which

sharpening method(s) you're going to use (yes, you might sharpen more than once), you have to think things through.

This means, there is no one correct answer for sharpening but multiple choices and options. To find the right answer for YOU and YOUR print, you have to play, experiment, take notes and make some experimental prints. You will have to experiment with what size your image should be displayed on your monitor as well because not all monitors display sharpness that the print will produce. I don't know any way around this. You are going to come across some images that simply can't be sharpened enough for the print size you desire (often starting with the image not being sharp when the shutter clicked). You will find some image literally TOO sharp and will have to be toned down. So with all of this in mind, let's talk about some sharpening methods I have found that work for me. Keep in mind, I'm still experimenting, these are NOT all the possibilities!

### 1<sup>st</sup> Sharpening

The first sharpening is THE most important one. You screw up here and you will NOT have a sharp print no matter what other technique you try. The first sharpening happens at the camera when YOU FOCUS the LENS! Way too many photographers do not take this serious enough but it can't be ignored. Focusing in camera, sharpening in its most basic form, is technically and aesthetically essential for visual communication success!

There are a number of components that go into creating a sharp image. You have lens, aperture, file format, camera and pilot technique just to name a few. All of these components working together go into a sharp capture. There is a reason why I shoot only Nikkor optics, typically primes with fast f/stops. It's because they are damn sharp! Is this critical sharpness important for landscape images? I don't think so; the mind fills in so much info that having every pixel sharp isn't required. Is this important for critters with feathers and fur? You're damn straight! When you have a subject with eyes, you've got to have them tack sharp so the viewer's mind and soul can attach and make contact.

You must decide what the subject is and then focus on it. Once you've focused on it, you've got to decide then how much is going to be in focus. Depth of field is such an important part of the visual story telling. And while you might not think about it, light is a very important part of this formula. How? Contrast! You probably thought sharpening was no more than Unsharp Mask with a couple of special numbers plugged in. Had you fooled!

Once you get past this initial focus issue you have to think about file format. If you're shooting Jpeg for

example, the sharpening you set in camera is something you're stuck with, forever! If you're shooting Raw, you have the ability to alter your in-camera setting later in post. But file format does affect the sharpness of your print.

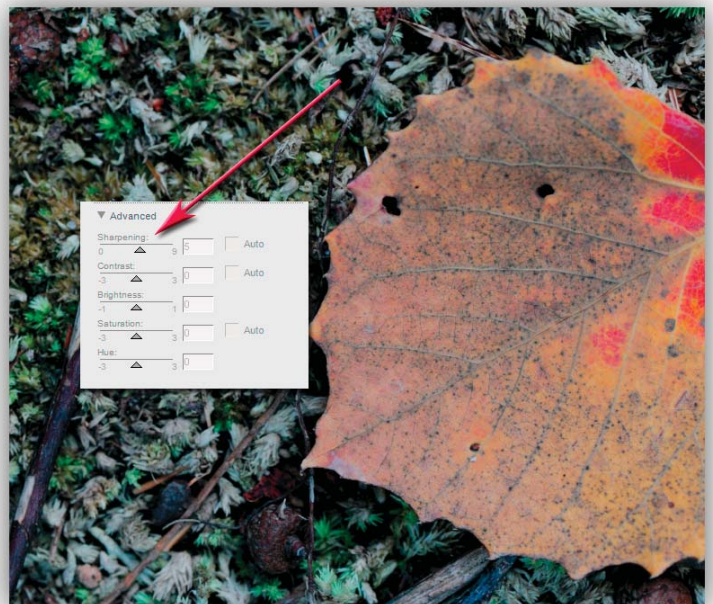
After all of this, you have the act of actually clicking the shutter. The majority of focus / sharpness issues folks see in their prints come from pilot error at the camera. Simply put, camera movement! Proper handholding and long lens technique are a must. No matter how sharp of a lens you might be using, the camera moves and you're toast. At the other end is subject movement. Use too slow a shutter speed and subject movement can douse your efforts.

The first sharpening is without doubt the most critical. Don't think for a moment that even with the most powerful computer and the most expert application of Photoshop you can fix an out of focus image. You have to have it right, right from the start to have a prayer of obtaining a sharp print. Make it happen in camera and the rest is pretty easy. When you're at the viewfinder, keep this in mind and you will be successful!

### 2<sup>nd</sup> Sharpening

You've probably heard or been told you should only sharpen an image once. Well, that myth is out the window. Yeah, many might consider focusing in the camera as not a true sharpening of the image just as the 2<sup>nd</sup> sharpening is not considered by most as an actual sharpening. But you know what, without either one, you'd have an out of focus print. It's hard to argue with that fact.

The 2<sup>nd</sup> sharpening occurs when you process that Raw file. No matter the camera, no matter the



Raw processor, the Raw file must be sharpened when it is saved to a PSD/Tiff file for finishing in the digital darkroom.

Step back for one moment. When you take that photo with your camera, you are taking an out of focus image. Yeah, you focused the image, but the camera must unfocus it for the digital sensor to do its job correctly. Photons and pixels just don't play nicely with each other at this point. To get back to a "zero" point or the sharpness you created when you took the photograph, you have to process your Raw file at the "Normal" setting at the very least. Is that not dang confusing?

You can set the sharpening in your camera to "compensate" or "make up" for this process. While this DOES NOT directly affect your Raw file (but it does affect your Jpeg), the setting you set in your camera is an instruction your Raw processor uses and unless you change it in your Raw processor, it will default to the camera setting when you process the Raw file to a PSD/TIFF. For this reason, for speed and to get the best sharpness for my critter images, I have sharpening set in camera to Medium High. When I process my Nefs in Capture NX, I don't have to worry about or remember setting the sharpness, the file will be processed with a sharpening of Medium High. This is confusing, but keep in mind we must bring the sharpness of the file back to the plane of focus we focused on with the lens. This is what this process is all about. This is also a global sharpening, but of course, it has to be. And technically, this is the 2<sup>nd</sup> sharpening of the image.

### 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> or maybe more Sharpening, in Photoshop

OK, you have your image opened in Photoshop... now what? I can't emphasize enough you need to play and experiment. No matter who tells you what, there is no one way to sharpen and any one particular point in the image finishing process to sharpen. You and only you can decide for YOUR image what the best way is. I do want to encourage you to sharpen for the content during the finishing process and sharpen again once the image is sized for printing. You will find most of the great print makers do this for good reason. With that said, let's look at some sharpening options and what they can bring to our print.

#### Unsharp Mask

This is probably the way 99% of Photoshop users sharpen an image. That makes sense, it's the one in the program that says the word sharpen in its title. It is also the method talked about most and for good reason, it works. Is it the best and only way to sharpen your image though? Strictly personally speaking, it's not my favorite sharpening tool, but I do find a use for it every now and then. For example, let's say I have a dew

drop on a flower petal and I want it razor sharp. In the image finishing process, long before I'm ready to make the print, I will make a layer either by Ctrl (Cmd) J or Shift+Ctrl(Cmd)+Alt(Opt)+e and carefully sharpen just the dew drop using Unsharp Mask. But what settings do you use, and when?

A much smarter man than I has done all the work for you (except for thinking through your solutions). Scott Kelby in his book *The Photoshop cs3 book for digital photographers* lays it all out for you in real simple and clear terms. To understand it in its entirety, you need to buy his book, but here are a couple of excerpts to get you started. Keep in mind that these "recipes" are just starting points. You, the photographer still must think it through.

#### Moderate sharpening:

Amount 225%, Radius 0.5, Threshold 0

#### Maximum sharpening:

Amount 65%, Radius 4.0, Threshold 3

#### All-purpose sharpening:



Amount 85%, Radius 1.0, Threshold 4

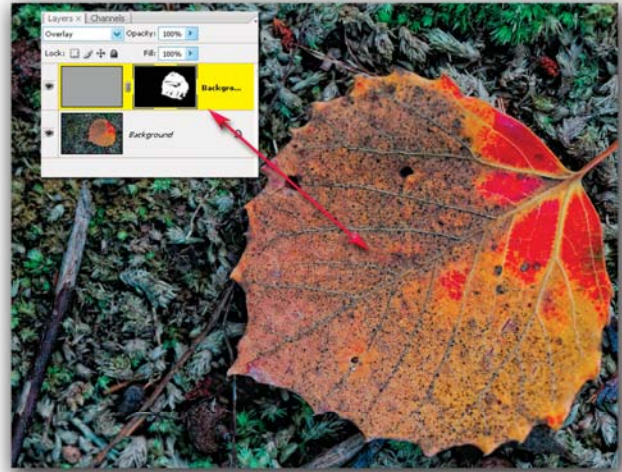
Scott, being a very wise soul, provides you with a way of coming up with your own "sweet spot" using a combination of Amount, Radius and Threshold in his book as well. So for these techniques and a whole lot more that can help you, pick up Scott's book!

#### Critter Sharpening- High Pass

There are two ways I typically like to sharpen, this is one I use quite often in conjunction with the next method for critters. It's so easy, it's a no-brainer! But keep in mind that most in the biz think of this as an advanced

Photoshop technique. I use it so often, I have created an action to run the steps for me.

**Step 1** – Duplicate the Background Layer. The easiest way to do this is flatten your photograph and Ctrl (Cmd) J to create a layer copy. You can use Shift+Ctrl(Cmd)+Alt(Opt)+e as well to make a new layer



sharpened.

This technique can produce with some images undesirable side effects of increasing contrast, saturation or even color fringing. If that is the case, there are techniques using Adjustments > Threshold to deal with the problem. If you run across this problem you'll need to do a little reading to learn how to eliminate the residue using Threshold.

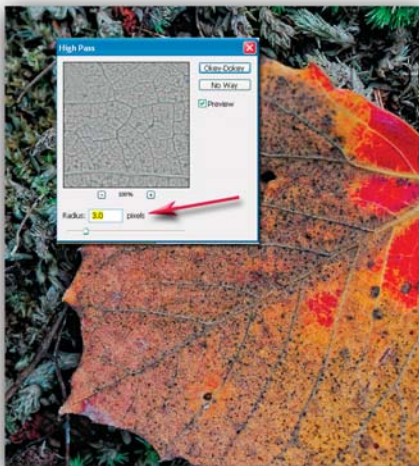
### Nik Sharpener Pro 2.0

I use Nik on every photo I print, why? It's fast, selective and I like what it produces. It's a real simple plugin to use. When the dialog first opens, you need to set the Paper Type and Printer Resolution. The Paper Type is important because the way the ink is laid on the paper is slightly different for each type of paper. Sharpener Pro uses this information in calculating how to sharpen your image. Printer Resolution is important as well; I set it to 2880x1440 for the Epson 3800/7800. Once this is done, I click on the Advanced Tab.

In the Advanced dialog box you'll find five eyedroppers and sliders. Sharpener Pro is really cool because it sharpens by color, sharpening not by adding

which is a combination of all the layers below the one you've created. Change the blending option for this new layer to Overlay.

**Step 2** – Select Filter > Other > High Pass, this brings up a dialog box. Simply select 1.0 if printing on glossy paper or 3.0 if printing on matte paper. (Note: You can fine tune this later if you need to by either changing the opacity of the layer, or changing the blending mode to Soft Light (decrease softness) or to Hard Light (increase sharpness) as long as you keep the layer.)

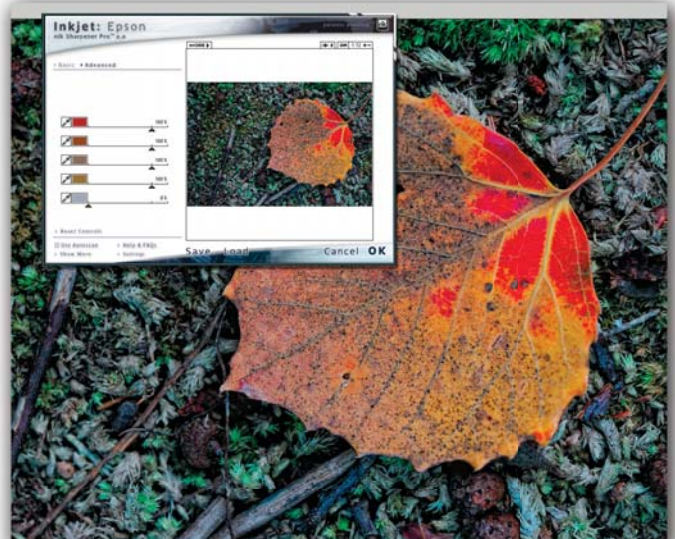


sharpness) as long as you keep the layer.)

### Step 3 –

You'll want to fine tune what you've sharpened which you can do by changing your foreground color to gray and painting on the layer you just sharpened. You do this by clicking on the foreground

color and changing the values of the HSB to H:0, S:0, B:50. Turning off all layers except the High Pass layer, you can paint out (Brush tool, 100% opacity) what you don't want



contrast but by working the actual pixels. The beauty of this system is it's selective, you sharpen by colors. You can tell Sharpener Pro to sharpen certain colors (slider to 100%) or not to sharpen certain colors (slider to 0%). It doesn't get any easier or any finer.

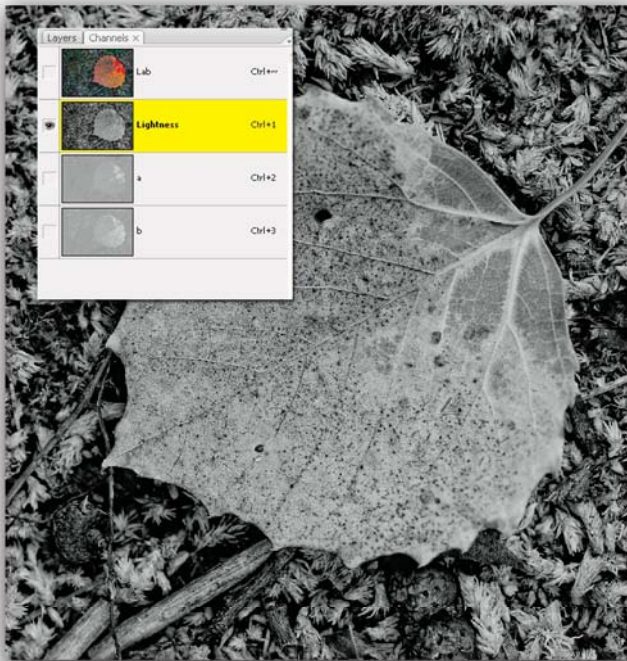
### L Channel Sharpening

Those who have read Dan Margulis's book Photoshop LAB Color are familiar with the L Channel. The Lightness or L Channel is something you can access only when you're in LAB Mode. Why do I bring this up? For some images, sharpening when in the L Channel can really help, especially when you have an image with infinite details in colors and/or lots of noise. Some use a technique of sharpening in RGB by incorporating the Luminosity Blending mode. The L Channel in LAB works along the same theoretical lines but does it much better. If this all sounds like Greek to you, that's OK. If you're looking for another method to sharpen, you might want to invest some time and read Dan's book and do some experimenting.

When in the finishing process do you sharpen? You've probably heard it should be the last step, some say it should be first. The answer really depends upon which sharpening we're talking about. Much of what we're doing is Creative Sharpening, sharpening to make

finishing process. If you're about to create a print, you size the file and then sharpen for the output. As you've learned then, sharpening is not just a one time operation. It can be done many times and in many ways.

As you can see, there are many options for sharpening your file right in Photoshop. Mastering these only requires time and printing, but you're sure to find answers that work for you and your print. If you run a web search for sharpen plugin, you'll find all sorts of plugins pop up. One of these might be the right one for you. Personally, I've taken the fast, easy and effective way for sharpening my files for printing. I can only take the fast way because I started off with a sharp image and a defined subject. You can do the exact same thing and in doing so, you will have a print that screams your message to the viewer!



the viewer see certain elements in the photograph. Sharpening certain elements in the content is a must for most photographs. We also need to sharpen for output, the final print. If you're sharpening the eyes of an owl, that is creative sharpening and is done during the