

# Noise Reduction and Sharpening

## Noise Reduction

### Photoshop's 'Reduce Noise'

- Make a duplicate copy of the background (CTRL-J)
- Select Filter/Noise/Reduce Noise
- Click on "Advanced" – allows you to reduce noise by color channel
- Zoom in to 100% and set all sliders to zero to make it easier to see changes
- Check "Remove JPEG Artifact" checkbox. Noise may not always be JPEG artifacts but it saves you from analyzing the noise and it can't hurt
- Move the Strength slider to 10 to see the impact of full softening. It will probably be too much softening
- Move the Strength slider back to the left until you achieve the effect you want
- Move the Preserve Details slider to improve some image details
- Select the "Per Channel" tab and adjust any channel that may still have residual noise
- Click OK with finished

### Noise Ninja – Plug-in for Photoshop

- Aftermarket noise reduction plug-in for Photoshop. <http://www.picturecode.com/> Excellent noise reduction; better than Photoshop's Reduce Noise. Better noise reduction with less softening
- After installing, it will appear as "PictureCode" at the bottom of the Filter menu. (If you don't see it, it was installed in the wrong folder. Check folders for older versions of Photoshop on your PC if you have done any Photoshop upgrades)
- Make a duplicate copy of the background (CTRL-J)
- Once you select Noise Ninja, a dialogue box will appear. Click the "Profile Image" button.
- This will do most of the work. You can go to the Filter tab and adjust the effect by moving the Strength, USM (Unsharp Mask) Amount, etc, sliders.

## Sharpening

### Which sharpening to use?

Photoshop offers filters called Sharpen, Sharpen Edges, Sharpen More and Unsharp Mask. (CS2/CS3 now adds Smart Sharpen – see below). Of these, ignore the first three.

**In all cases, zoom your image to 100% before sharpening (double click on the Zoom tool in the toolbox). This is the only way to accurately see the effect of the sharpening.**

**Like most other adjustments, do the sharpening on its own layer.** Make a copy of the background layer (CTRL-J) and then do your sharpening.

### Unsharp Mask

Amount – You'll probably want something in the range of 100-200.

## Noise Reduction and Sharpening

Radius is how far the program looks for an edge change in order to make its effect. Good values are .6 or .7. Only in rare instances should this go over 1.0.

Threshold tells the program at what contrast to look for differences between two touching shades. The lower the Threshold, the greater the more sharpening effect you'll see. Start at 0 and move up until grain and noise is minimized to your satisfaction. As you increase this setting, only the areas that are drastically different will be sharpened.

### **Only sharpen the parts of the image that need it**

Skies and out of focus areas that have digital grain shouldn't be sharpened. There are multiple ways to do this.

1. Select the areas you want to sharpen and feather the selection. Using the New Layer icon on the bottom of the Layers palette, make a new layer. This will create a layer that only contains the areas selected. Then sharpen that layer.
2. Another way to do the same thing is to create a duplicate layer of the background. Sharpen it. Then add a layer mask and paint away the areas that shouldn't be sharpened. Use a soft edged brush.

### **Sharpening with the High Pass filter**

Here's a quick "trick" to enhance your photos a little in a few steps.

1. First, duplicate your image layer [Ctrl + J].
2. Change the Layer Blend Mode to "Overlay" or "Hard Light". (This will temporarily look like you've ruined your image!)
3. Select Filter/Other/High Pass from the menu and enter a value anywhere from 2-10 pixels.
4. If necessary, adjust the Layer Opacity slider until you get your desired results.

### **Image Skill Magic Sharpener - Plug-in for Photoshop**

Good aftermarket sharpening plug-in.

The defaults are usually a good start. Then adjust the Radius, Edge Sharpness and Line Contrast sliders.

### **Smart Sharpen – CS2 and CS3**

Smart Sharpen does a good job of sharpening an image and can improve the appearance of blurry images.

There are three ways to remove blur. Of these, the Gaussian and Lens Blurs options are the most useful. For maximum results, check the More Accurate checkbox. This will increase the time it takes the filter to process the image but it may be worth it.

The Advanced setting allows you to selectively fade the sharpening effects in either the shadow or highlight areas.