



HOW TO ACHIEVE SHARPNESS IN YOUR IMAGES (Vers 2)

1. CAREFULLY COMPOSE THROUGH VIEWFINDER/LCD TO MINIMIZE/AVOID CROPPING
 - a. Lost pixels means lost sharpness
2. LEARN TO USE AUTOFOCUS/IMAGE STABILIZATION PROPERLY
 - a. Hold shutter button down halfway to allow autofocus and & stabilization to work
 - b. Press shutter button rest of the way smoothly to take picture (hold breath)
3. CAMERA SETTINGS (APERTURE PRIORITY SUGGESTED)
 - a. Avoid using high ISO settings – let exposure time be determined automatically
 - i. Use tripod for less than full daytime illumination
 - b. Use f/8 for aperture (sweet spot for most lenses)
4. PROCESSING WORKFLOW (Correction made 02/14/13)
 - a. Conventional wisdom is that resaving jpeg files causes a noticeable loss of image quality. That may be true for vector graphics (uniform colors, infinitely sharp edges), but for typical landscape images, the loss appears to be insignificant [result of “7 sequential resave” experiments I ran on a typical landscape image; I repeated the experiment for Max, Medium & Low jpeg quality jpeg options].
 - b. It is still good practice to not resave your original files – preserve as pristine source files.
5. SHARPENING
 - a. Do your sharpening last; apply to output formatted image [email, internet, prints]
 - i. Downsize the image, if required, before sharpening
 - ii. When sharpening, use appropriate display magnification [%]
 1. For small files (email, internet) display at 100% [actual pixels]
 2. For large files (for prints), display at ~ 25% and “fit on screen”
 - b. Don’t overdo the sharpening – tipoffs of too much sharpening are;
 - i. Visible halos along sharpened edges
 - ii. Visible noise in uniform area (sky, etc.)
 - c. Pixel peeping (display at 100% to ≥200%); look for edge halos, noise [optional]
 - i. Look for edge halos, noise; good details for setting sharpening parameters
 - ii. Edge width of less than 2 pixels is ideal – signature of a well-focused image
6. FOR LARGE PRINTS, PRINT AT NATIVE DPI OF PRINTER [optional]
 - a. Epson is 288 or 360 dpi, Aspen Creek printers are at 300 dpi [ask if you don’t know]
 - i. For a desired print size, this may require resizing the image [Perfect Resize 7.5, <http://www.ononesoftware.com/>]
 - b. Printing at printer native dpi avoids unknown printer image resampling effects
 - i. Allows the “pixel peeping” sharpening optimization to be preserved
7. FOR HIGH PERFORMANCE CAMERA/ LENS COMBOS, CONSIDER IMPLEMENTING AF MICRO ADJUSTMENT (Canon & Sony terminology) / AF FINE-TUNE (Nikon terminology) [Optional]
 - a. High end cameras with good lenses will likely exhibit residual defocus problems
 - b. Every high end camera contains ability to correct for this residual defocus problem
 - i. Measure defocus, determine and store in the camera a correction factor
 - ii. To measure defocus, go to <http://michaeltapesdesign.com/lensalign.html>
 - c. The improvement can be significant!