

# The Sharper Underwater Image

MAKING DIGITAL PHOTOS TACK-SHARP

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**B**oth digital-camera images and scanned film lose some of their sharpness during the transition from real-world data to digital. To help reverse this process, technology has produced a fabulous tool called the image-sharpen function. It can be found in three locations, which include a submenu in digital cameras; the image-scan setup in film scanners; and as a tool in most image-editing software.

We'll start with the digital camera. The sharpening default in most cameras will be Normal or Auto. In most all cases, you can leave that setting alone, as the default is the best choice.

After extensive testing, though, we still find that software does a better job.

You will usually find several variations of the sharpen function in your photo editing software. Typically, you will have Sharpen, More Sharp, Sharpen Edges, Smart Sharp and the Unsharp Mask function. The first two will sharpen the overall image with no concern for grain, image size, highlights or shadows. The Sharpen Edges does just as it says, but in most cases it is not enough. The Smart Sharp, which is found in programs other than Adobe, will analyze the base structure of an image and sharpen it as much as possible without oversharping the image.

The final function, the Unsharp Mask, is generally is the best choice. When you open its menu, you will find a thumbnail-preview image and three sliders that control the level of sharpness — threshold, radius and amount. We have found that for underwater images the threshold should be from one to two, and the radius should be from two to three.

The amount is the control that really regulates the overall sharpness of your image. For scanned images, the amount should be around the 100 percent level unless you have cropped the image, in which case it would be less. With a three- to six-megapixel digital camera, the amount can be set from 100 to 150, depending on the amount of the camera's megapixels. With 12-megapixel cameras, the amount slider can range from 150 to as high as 300. When you are working with the Unsharp Mask, use the preview box to quickly see the before-and-after results.

Third-party software companies also make plug-in filters that work in Adobe Photoshop-compatible editing programs. We have tested two programs, and the results were as good as with the Unsharp Mask, plus they were much easier to use.

The first is from nikk multimedia ([www.nikmultimedia.com](http://www.nikmultimedia.com)) and is called Sharpener Pro. This filter is unusual: It requests the desired image height and width, the printer dpi, the printer quality and the print viewing distance. Once these factors are determined, your image is sharpened to fit those parameters. If you change any of them, then the sharpening effect is modified. This is why you should save new sharpened files with a different name than the old file.

The second plug-in is from Acclaim Software ([www.focusmagic.com](http://www.focusmagic.com)) and is called Focus Magic. In addition to sharpening digital-camera and scanner files, it also repairs images that are blurred because of camera movement. The program requires that you provide information about the image so it can determine the best sharpening method. Once you have indicated your image source, blur width and noise data, the program sharpens the image accordingly.

Experiment with several underwater images. Zoom in on small sections so that you can really see the sharpening effect. Be careful not to oversharp your images. Review your changes before saving, and look at both the full-screen and zoomed-in versions before saving the files.

*Join us on our digital dive adventures planned for 2004 and 2005: Dec. 7-16, 2004, aboard the Nai'a in Fiji; April 30-May 7, 2005, at Captain Don's in Bonaire; and Aug. 11-23, 2005, aboard the Bilikiki in the Solomon Islands. For more information, go to [www.jackandsuedrafahl.com](http://www.jackandsuedrafahl.com).*