

Scanning Underwater Images

SCANNING UNDERWATER IMAGES IS A TRIAL-AND-ERROR PROCESS FOR BEGINNERS. BUT YOU'LL SOON DEVELOP THE NECESSARY EXPERTISE.

■ So you've purchased your scanner and have your computer monitor balanced (see the Digital Horizons column in the August issue of *Sport Diver* to refresh your memory). Now let's get started scanning images.

It's best to start by scanning slides, since they have a visual reference point. Play with all the controls – change the contrast, brightness and modify the color balance. You don't have to achieve perfection, just get the preview close to what you want. The controls in the image-editing program are generally better than the scanner's, so fine-tuning should be done during the editing process.

The default settings for the scanner's color management probably won't work for most of your underwater pictures. This program is designed for topside pictures that have a definite black and white in the image. Many macro images will have both black and white aspects, so you can leave the color management on for macro, but turn it off for the rest of the underwater shots.

Slides tend to lose a bit of image resolution when run through the scanning process. Although scanners do have sharpening controls to counteract this loss, we recommend using the more sophisticated sharpness controls found in your photo-editing programs. Adobe Photoshop has *Sharpen*, *More Sharpen*, *Sharpen Edges* and *Unsharp Mask* settings. The *Unsharp Mask* has the most control but requires experimentation to gain competence. When you finally determine a set of values that work, write them down so you can apply them next time.

Color negative film has a greater exposure range than color slide film. This makes it easier for the film scanner to capture the density range to provide smoother color gradations. The downside is that color negative film has larger grain than slide film, which becomes



■ YOUR SCANNER'S COLOR MANAGEMENT PROGRAM IS NOT SET UP FOR MOST UNDERWATER IMAGES. AS A RESULT, YOU'LL NEED TO DO SOME EXPERIMENTING TO GET THE RESULTS THAT YOU WANT.

more pronounced as it goes through the digital process. This is especially true if you use the sharpening tools in your editing software. The key is to use slow films with low ISO ratings and finer grain. If you do get graininess by using higher-speed films, you can use the *Despeckle* or *Blur* filters in your image-editing program to reduce the overall grain effect.

One of the most confusing aspects of scanning is the Gamma setting. By default, most film scanners have the Gamma set to 1.0. That setting works great for topside images, but underwater images have a totally different range. It is best to start with 1.2 to 1.3 as the Gamma setting for most of your underwater images. Scan a typical underwater image at 1.0, 1.1, 1.2 and 1.3 to see the comparison. Select and save the setting that works the best for your images.

Underwater photography produces a variety of images that vary in color balance, exposure and gamma. For that reason, it is important that you group your images before you start scanning. You might set up groups for macro, available light, wide-angle flash and fish photos. As you are scanning images from each of these groups, you will need to adjust the scanner settings. When you finally get a setting that works, save it. This way you will have a good starting point for each type of image the next time you scan. ▀

Coming Soon

■ In upcoming issues of *Sport Diver* we will address digital editing topics like color balancing, understanding gamma control and tips for using the clone tool. These topics all contain key information for both digital camera and film users, so stay tuned.

Let us know if you have questions about digital cameras or editing images. Our e-mail address is digitalduo@jackandsuedrafahl.com.