

Digital workflow

by Peter Rowlands

I thought it would be interesting to learn how some leading underwater photographers handle their digital images once they have been shot.

I apologise for the lack of illustrations!

Paul Kay



I always shoot raw files (often with jpegs if the camera allows (my Canon 1DS does, my 1D does not). I transfer them using a firewire reader onto an Apple 12" Powerbook hard-drive, immediately copy the transferred files folder onto a small portable bus powered Lacie hard drive, and then separate the jpegs and raw files into two folders.

I then use the browser in Photoshop CS to view the files (after allowing it time to generate thumbnails, etc.). When this has been done I rename the files so that they fit into my file sequence. (I rename both raw and jpegs and then store the renamed files on a larger desktop hard-drive - and burn 2 x DVDs as sufficient images are taken). Only then will I open a file. To do so I use a second Apple display (which I calibrate) running from my Powerbook (set-up so that all tools are on the 12" screen and the picture fills the larger display).

I open files in Photoshop after having flagged those of greatest interest. I use the raw adjustment to optimise the file, extrapolate it and generate a 16-bit psd file of around 100Mb. I work on this psd

file cleaning, adjusting, editing and optimising the image before saving it. I then save as a 50Mb 8-bit rgb file (with an Adobe 98 profile).

These 50Mb 8-bit rgb files are the ones used to send out to clients.

www.marinewildlife.co.uk

Alex Mustard



I just use Nikon View to download. It runs pretty efficiently on my Powerbook Mac if you keep it up to date, and will happily download and rename files from the Nikon, Canon and Olympus cameras I have used. Although it won't display RAW files from other camera brands. This way all my images from a trip are numbered sequentially and divided into separate folders for each dive. I keep a basic paper divelog as well which allows me to cross reference any image with the dive site (with the date and time). That said I can always remember when and where I took certain pictures - it is just friends' birthdays I forget (I guess I need to rearrange my priorities).

All images are downloaded into my laptop and the totally useless and obviously duplicated ones are deleted. I often do this on the camera on the safety stop or on the boat ride after diving. I know my camera's LCD screen well enough to trust my judgement when reviewing image on it. I always shoot in RAW.

Once downloaded I also make daily backups from my laptop to a Lacie Pocketdrive - that is powered from my laptop down the Firewire connection. I also run a separate favourites folder on

both that I try and keep to about 4GB - which I back up at the end of the trip to my iPod. On the D2X this is about my best 200 shots. So I am travelling home with 3 copies of my best images and two copies of all the keepers. When I get home I burn a DVD of the favourites selection. And backup the main image folders to my main computer and hard drives at home (PowerMac G5 and Lacie 500GB and older 200GB external hard drives). I also keep an offline backup of my more important files on an older 60GB Harddrive.

I store my files as NEFs (Nikon's RAW format) and convert them to TIFF or JPG output files only when required for outputs. Once converted I also store the finished files in a separate "Finished Tiffs folder".

My filing is done by divesite and location. I know what I shot where and never struggle to find images. I prefer to use Adobe's Camera Raw for almost all my RAW conversions as setting and adjusting the White Balance is very easy.

Most of what I do works well for me. But I wouldn't say I have an optimum system.

I generally always deliver files as colour profiled RGB files (leaving CMYK conversion to the printer). Usually in Adobe 1998 RGB colour space, although I use sRGB for web and on screen applications. I also have routines written in Photoshop that generate 72dpi preview versions of the files as well as sRGB web galleries (which I often include on submission CDs for the client to be able to rapidly browse the images). I have only supplied a transparency on one occasion during 2005!

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- all images are shot on Canon 1D / 1Ds as Canon RAW files (Seacam housing)
- all are processed with RAW Developer and output at 16bit TIF files (Adobe 1998 colour space) ready for working in Photoshop
- any noise cleaning is done with Noise Ninja (both digi or scanned images)
- all image catalogs is via iView MediaPro
- RAW, working PSDs and output TIF files storage / backing up is on mirrored Miglia drive (have not found DVD backups safe, and far too time consuming)
- All scanned material is via Epson flat bed scanner and VueScan (multipass, 16 bit output, Adobe 1998)
- Final output files are 48Mb / 8 bit images sent to stock libraries

The workflow steps are :

- a) RAW processed in Raw Developer, colour balance set against standard grey card shot taken at time of shoot, and adjusted for each image being

- processed (for scanned material I don't have grey card references and use the image best white, grey and black points as references)
- b) Optimise levels in Raw Developer
- c) No sharpening applied
- d) Check if de-noise is necessary (especially shadow areas), if Raw Developer can do it ok, apply it, otherwise use Noise Ninja on the output TIF file
- e) Output to 16bit TIF file
- f) If file required de-noise, and step d) above was not done, open file in Noise Ninja and remove noise, and re-save TIF
- g) Open in PS, check white and black point using threshold levels and set them if necessary (black point at 4 and white point at 245). Adjust midpoint as necessary; if contrast is low, use curves to spice things up. Check each channel for inconsistencies (especially for scanned images). On extreme digi wide angle work, check and correct all 'purple fringing' artefacts (CA can be a major problem, worsened by domes)
- h) Work on image(s) or composite as required
- i) Clean any dust marks etc on the comp
- j) Strip EXIF data and update image details ready for stock agency
- k) Check image size, re-size as required
- l) Sharpen as required (applied by airbrushing through layer mask)

- m) Save finished 'working' file as a PSD
- n) Flatten and save as TIF / 8 bit / Adobe 1998.
- o) Eventually (when batch of relevant images is complete, add to iView catalogs.

James Wiseman



I shoot a Canon 1DmkII with a 2 gig high-speed flash card. It will fit about 185 RAW photos per dive. I shoot RAW underwater and RAW+Jpg topside. On a really rich divesite, I'll take perhaps 100 photos, so I generally get two dives before changing my card. The same holds true for my strobe batteries, so it the system works well for me. After the dives, (perhaps at lunchtime) I'll copy the images to my laptop, using a cardbus CF adapter and Downloader Pro software by Breeze Systems. The cardbus adapter is the fastest made, and Downloader Pro renames my images with the date, location, and leaves the image number (example 050930-bali-IMG0001.crw)

The images go into a folder called "new" and from there are moved to a folder for that day's dives.

I use BreezeBrowser to quickly look through the photos between dives

and delete the obvious dogs. That evening, I might move the "keeper" images over to a "keepers" folder for later development. Every few nights, I'll make a backup copy of my images from my laptop to a portable hard drive. By the end of a divetrip, I'll have two copies of my photos, one on the laptop, and one on the portable disk. I always pack the two in different bags, in case we part ways during travel. At the end of a trip, usually at home, but sometimes on the airplane, I'll develop all of the keepers images using either Photoshop CS or Capture One Pro (C1). If I'm at home, I'll be using my calibrated CRT monitor, and on the road, a calibrated laptop LCD screen. I prefer using Photoshop for macro images, because it has great CA correction. I like C1 for wideangle photos as it has a better white balancing function. I use the RAW converter to do 90% of my image adjustment: white balance, CA correction, exposure correction, etc. I usually convert to 8-bit JPEG, unless I'm working on a specific image for a client or for a personal print, then I work in 16-bit. After developing the RAW photos, I use "actions" in Photoshop to prepare them for web presentation, digital slideshow presentation, or print. As an example, my "web action" resizes the photos to 400 x 600, shapens them, places my watermark, and converts the color

space to sRGB. I then upload my web-sized photos to my online gallery, and back everything up to a second hard drive. All of the images come off of the laptop and onto my desktop computer at home which has an array of redundant hard disks.

So for backup, I have a copy of all the images on my drive array, and a copy on a portable hard disk. After everything “checks out” I’ll erase the images from the laptop.

www.reefpix.org

Mark Webster



My approach to processing workflow has developed slowly and I realise is probably not the most efficient. I used to import

images via Nikon view(BTW I do object to paying extra for Nikon Capture!) and make basic RAW adjustments before saving as a tiff for Photoshop processing. Now I simply copy the folder to my hard drive and then open the RAW files in Rawshooter Essentials. This has a very neat slide show viewing system that enables you to prioritise and segregate the images you want to keep/work on - this is a free download programme which I find easy to use

www.uwpmag.com

– it also handles D2X files as well.

Normally I just adjust exposure and WB in RSE and save as a tiff – although there are a host of other features available and you could do everything in RSE if you wanted. However, I find that final processing is best in Photoshop 7 which I use to make any further adjustments to levels, colour, brightness/contrast etc. and finally sharpen with unsharp mask and save as a tiff. I occasionally use a batch processing droplet if the images are very similar. I use a batch process to convert to jpeg copies.

My aim is really to minimise the amount of time I spend on the computer, and so I try to post process as little as possible. I aim to try and get the correct exposure in camera, just as you would when shooting slide film, but if anything tend to under expose slightly to get the best from shooting in RAW.

For file management I have played with a number of bits of software but not settled on anything so far. So for the present I archive manually to my own folder structure, but really need some software to assist with searches, renaming etc.

For back up I store images on portable hard drives and back up all RAW and processed images to DVD. It will be revealing to see what others are doing out there!

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