

Digital Photography Workflow with Adobe® Camera Raw® 4 and Adobe Photoshop® Lightroom®

If you're serious about photography, you own Adobe® Photoshop® Creative Suite® 3. It can do amazing things with images even if most of us only scratch the surface of its capabilities. Combine Adobe Photoshop with the visual Adobe® Bridge CS3 media manager, Adobe Camera Raw® 4 for processing raw image formats produced by leading camera manufacturers, and the Adobe DNG Converter for translating raw files to an open-standard archival format—and a photographer has the beginnings of efficient, albeit modal, post production for working with captured images.

Adobe Photoshop Lightroom® takes the best parts of all these software components, including Adobe Camera Raw, and streamlines the process for photographers, moving digital photos from capture through editing to output—including slideshows, and print and web galleries. While you can do most of what we will cover with Adobe Bridge CS3 and Photoshop CS3, by using Adobe Photoshop Lightroom you stay in one Adobe application.

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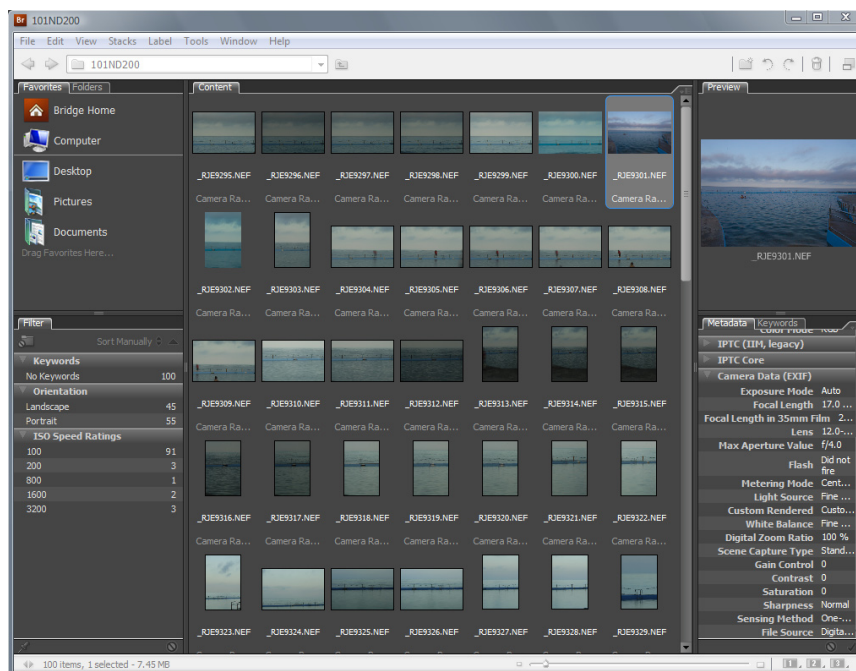


Figure 1: Adobe Bridge CS3 offers an excellent front end to Adobe Camera Raw 4.

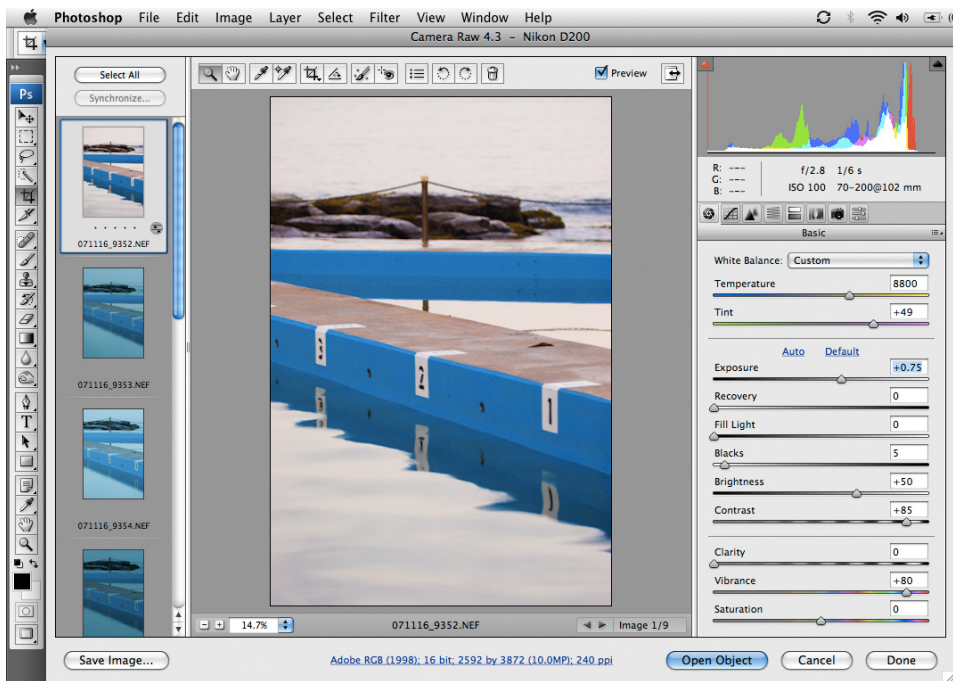


Figure 2: Adobe Photoshop CS3 can also host Adobe Camera Raw 4.

Tightly integrated with Photoshop and Adobe Camera Raw, the most widely used raw processor in the professional photography market, Photoshop Lightroom offers flexible file management, a scalable architecture, and use of such open standards as DNG and XMP in a modular, easy-to-use interface. Lightroom shares the same underlying processing engine as Adobe Camera Raw, for consistent results across Adobe applications. In fact, the Lightroom and Camera Raw releases mirror each other, so that when Camera Raw is updated to include new cameras, so is Lightroom, and vice versa. As you will discover, Lightroom offers roundtrip metadata, which means you can share Camera Raw settings with the Adobe Creative Suite CS3, and vice versa.

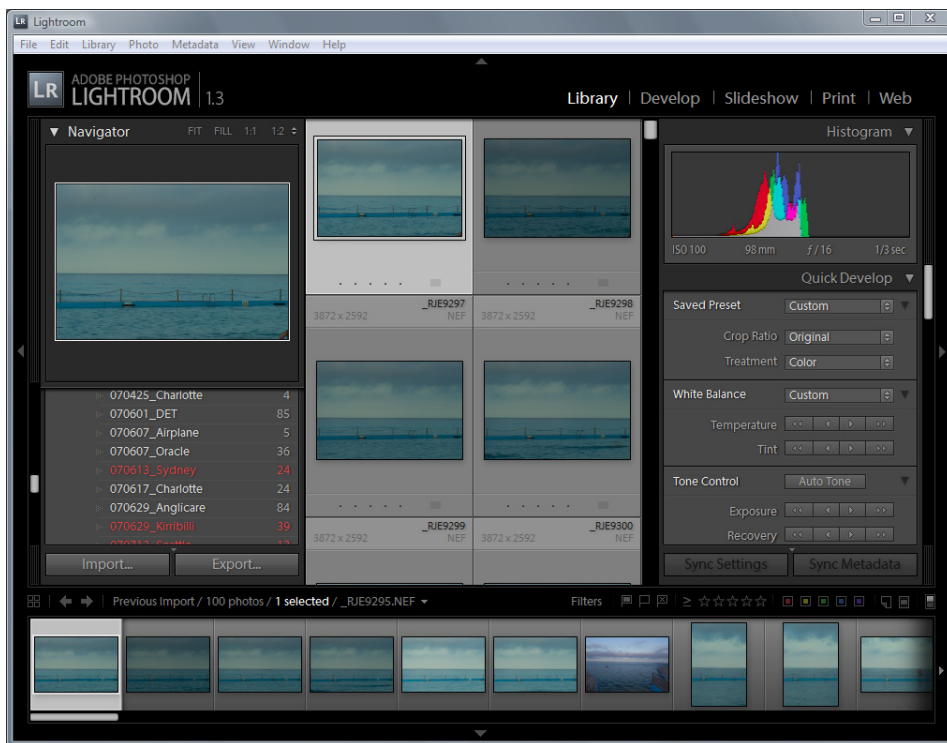


Figure 3: Adobe Photoshop Lightroom presents Adobe Camera Raw technology in a new interface.

About a digital workflow

Workflow is the buzzword to come with digital photography. This mystical term promises to minimize your time in front of the computer. Most workflows are too much work with hardly any flow. This paper is about achieving that workflow nirvana: keeping yourself organized and protecting your images now and for the future, with Photoshop Lightroom.

Our goal is to get images onto the computer, back them up, do some adjustments, present them to our client for review, and then spend time fine-tuning the keepers. Sometimes you or your family are the client. In the end, we only want to spend time on the important images—not every image, especially not the duds.

Let's first make it clear where Lightroom fits in. This paper is based on a Camera Raw 4 workflow in Lightroom; however, Lightroom manages JPEG, TIFF, and PSD the same way. Lightroom is for photographers who want the most productive way to bring their digital photos from camera to computer as well as organize the images they already have. Lightroom uses a database to keep track of your photos and settings. Images can be on multiple media (internal hard drive, DVD, network, and so on). Even when not connected to the storage media, Lightroom can display fullscreen previews from which you can print, run slideshows, even add metadata. All your information lives in a SQLite database and can be pushed into the files if and when needed—such as on export (and subsequent conversion).

(Where the Camera Raw implementation in Adobe Bridge of Photoshop has the same functions as Lightroom, you'll find virtually identical options and sliders. That means you can move back and forth without confusion or the need for extra learning.)

This is a really efficient way to work because Lightroom never actually alters an image; rather it saves instructions on how to display and export your photos. It's much quicker and more efficient than changing pixels and allows you to make virtual copies without saving new, multi-megabyte versions each time. All Lightroom does is store a tiny set of instructions for each version: black and white, cropped, color, split-toned, whatever. You can always change your mind later because these edits are not altering pixels. In Lightroom this nondestructive editing works the same way for JPEG, TIFF, PSD, and Camera Raw files. Photographer Peter Krogh, author of *The Digital Asset Management Book for Photographers* (O'Reilly, October 2005) has written a white paper dedicated to this nondestructive editing.

Like all file browsers, Adobe Bridge can only show you what is in the folder at that time. Bridge is for everyone who works with digital images; designers, art directors, animators and photographers. It displays all kinds of graphic files including Adobe Illustrator® and Adobe InDesign® documents, PDFs, and Adobe Flash® movies. For photographers, Bridge is useful for quickly browsing a folder of images.

Photoshop is, well, Photoshop! Not Bridge, Lightroom, or anything can replace it. Photoshop is the application for altering pixels, making local area adjustments and special effects. If your workflow involves CMYK, you will end up in Photoshop.

Step 1: Download

The first part of a workflow is also the most vulnerable. Thankfully, Lightroom makes getting images from camera to computer easy. What's more, your images will be made more secure in case of hardware failure, human error, or copyright infringement. And it's all automated for predictable, repeatable results.

We need to set up Lightroom preferences before all this can happen, after which it really can be as simple as pressing your Return or Enter key.

1. From the main menu choose Lightroom > Preferences (Mac OS) or Edit > Preferences (Windows), and click the Import tab.
2. Select the Show Import Dialog When A Memory Card Is Detected option (Figure 4).

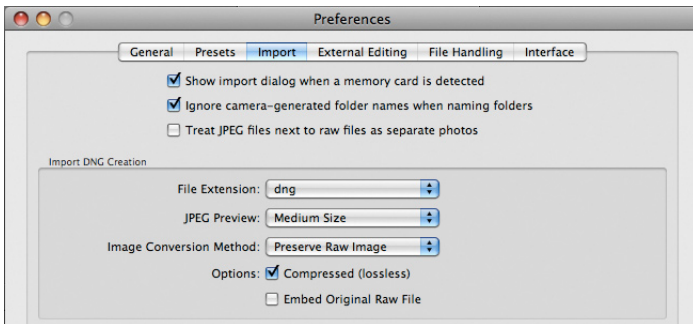


Figure 4: Set Lightroom to open the Import dialog box when you insert a memory card.

3. Select the Ignore Camera-Generated Folder Names When Naming Folders. This causes Lightroom to flatten the folder structure, ignoring the card's folder hierarchy, and helps prevent overwriting existing folders and images.

With these preferences set, the Import From Card dialog box will open when you insert your memory card into your card reader. I suggest that you don't connect your camera, especially while it's running on batteries, directly to the computer; doing so treats the camera like an expensive card reader. If the batteries fail, your images may be corrupted. Here's how to import images into Lightroom.

1. In the Import From Card dialog box (which appears based on the preferences you set in previous step 2), click Import.

The Import Photos dialog box appears, which lets you set options to copy the images to your computer, back up to an external hard drive, add your copyright and contact info into metadata, batch-rename to a unique filename, and convert images to the archival DNG raw file format.

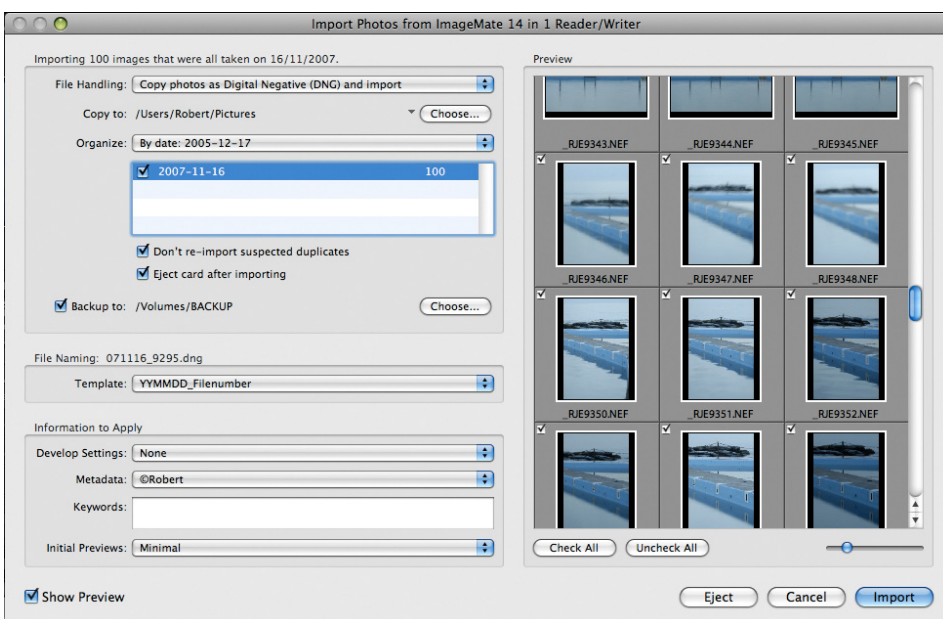


Figure 5: The Import Photos From dialog box can display thumbnails of images on the card.

At the bottom left corner of the Import Photos From dialog box, the Show Previews option lets you sneak a peak at what images are there. At this stage, just download all the images rather than pick and choose.

2. Set File Handling to Copy Photos As Digital Negative (DNG) And Import. As will be explained in step 12 that follows, Lightroom will back up your Camera Raw files.

The what and why of the DNG file format, an open source archival file format for the raw files generated by digital cameras, is beyond the scope of this paper. Suffice to say that DNG (Digital Negative) will be around longer than camera manufacturers' proprietary raw file formats, is fully documented, and lets you store settings with the file viewable in any application that supports it. DNG helps ensure that photographers will be able to access their files in the future. Converting to DNG also verifies the integrity of your files because Lightroom can't make the conversion if the original is corrupted.

3. For Copy To, click Choose and browse to your Pictures folder, where images will be downloaded.
4. Set Organize By Date: 2005-11-17. Lightroom will make a folder based on the capture date in the format year-month-day.
5. For Backup To, choose an external hard drive. This is your temporary storage in case something goes wrong, whether it's hard drive failure, a lightning strike, or accidental deletion. After import, disconnect this external drive from the computer and main power.
6. Select the option Don't Re-Import Suspected Duplicates, in case you re-use the card without formatting. Also select the Eject Card After Importing option, so you will be ready to download the next card.
7. Rename your files. Filenaming isn't rocket science. You only need to make sure every filename is unique. I use "YYMMDD_Filenumber" (Figure 6). Like the folder name, this uses the capture date in reverse order, plus then adds the last four numbers in the image suffix. So when the camera records an image as "_DSC9987.JPG" shot on 26 January 2008, Lightroom will rename it to "20080126_9987.JPG."

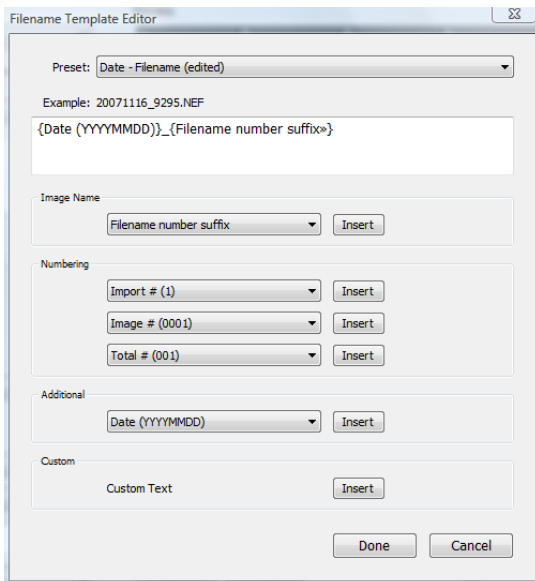


Figure 6: Here is the preset I made to have Lightroom generate unique filenames on import.

Only use letters, numbers, underscore, and hyphen, and include an extension. You can instruct Lightroom how to handle illegal characters in preferences. Your filename should be fewer than 31 characters including the extension. This reduces risk of truncated filenames down the line, but really there's no reason it needs to be anywhere near that length. The filename (and folder name) doesn't have to describe the image content. Lightroom lets you add metadata to images that can better describe it. The problem with relying on the folder name is an image can exist in several groups: dog, pets, hunting, and so on.

8. Leave Develop Settings blank until you have a favorite setting further down the track.

In a moment, you'll create a metadata template. It adds general IPTC metadata that should be included with every image. IPTC is the International Press Telecommunications Council that provides an industry-standard set of metadata fields to which Adobe contributes. Stuff like your copyright notice and contact information can be stored inside the image. Adding metadata on import means it's there from the beginning and any derivative image will include it. IPTC metadata allows anyone to find your details inside the image when they want to use, attribute, and license your work. The Orphan Works Bill, proposed U.S. legislation that would affect content providers worldwide, makes this information essential. This bill basically says if people can't find the author of a work, they have free use of it. (For more information, see <http://orphanworks.blogspot.com>.)

9. To make an IPTC metadata template for use on importing images, choose New from the Metadata pop-up menu. Enter your details into the IPTC Copyright and IPTC Creator fields, and then name your preset meaningfully, such as "© Robert" (where pressing Option+G (Mac OS) or Alt+0169 (Windows) on the keyboard creates the copyright symbol. Use this same template to add metadata to any images you have already shot but that contain no copyright information.

This Preset template will now be available in the Import From Card dialog box as well as in the Metadata panel.

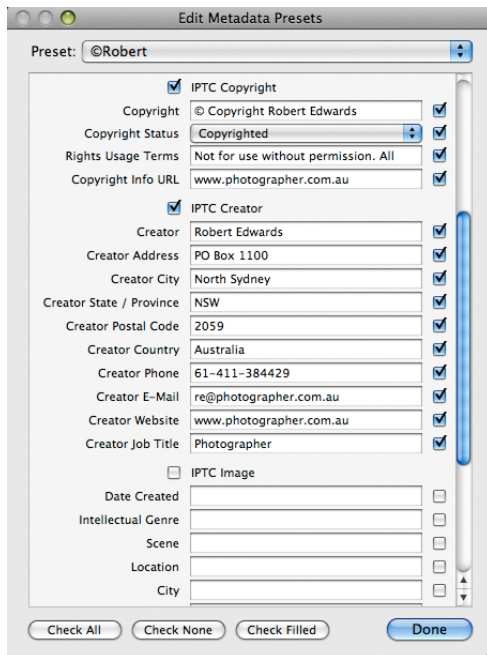


Figure 7: Create a general Metadata preset that includes your contact and copyright information.

10. Leave Keywords blank. You will use a predefined set of keywords later.

11. Set Initial Previews to Minimal for fast importing. You will be taxed for the time saved here when previewing images later. If you're happy to have a cup of coffee while Lightroom imports, then select the option to Create Previews On Download. The impatient soul that I am, I want the download and backup to go as fast as possible.

12. Now just click Import, and Lightroom will copy the images to your computer, back up to an external hard drive, add your copyright and contact info into metadata, batch-rename to a unique filename, and convert images to the archival DNG raw file format.

Step 2: Set up the workspace

During download, your images will appear as thumbnails in a grid in the Library panel. While we're here, let's look around Lightroom. Adobe designed the workflow to move you logically through the panels left to right, top to bottom (Figure 8). The Library panel is where you organize and find images. The Develop panel fine-tunes them. The final three panels, Slideshow, Print, and Web, are ways of presenting your work. At the bottom is the Filmstrip, viewable in all modules.

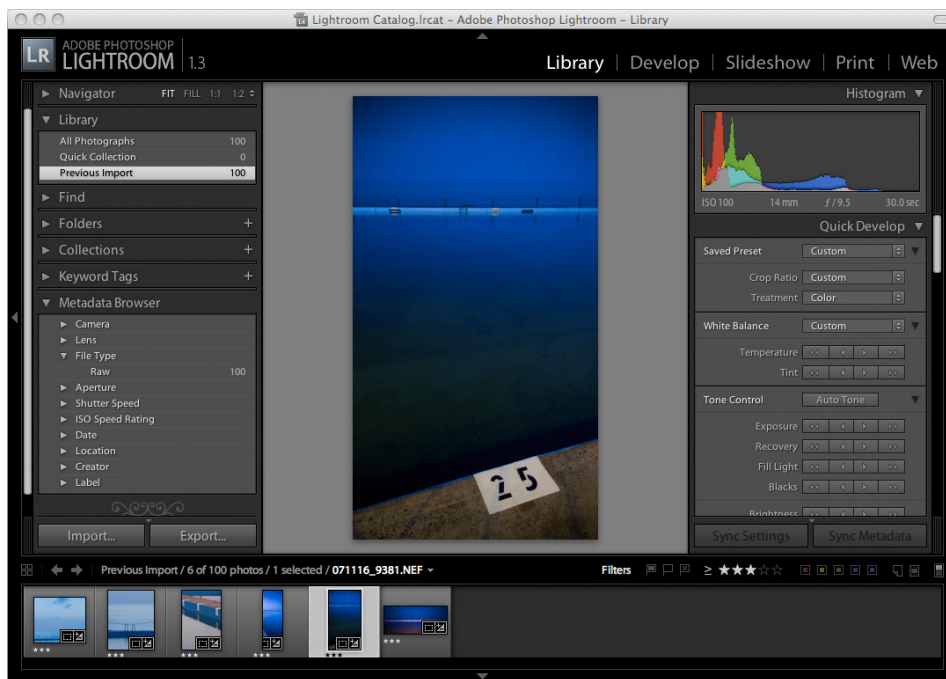


Figure 8: The Lightroom interface guides you logically through the workflow.

In each module, the left panel has presets and templates. The right panel contains the tools for that module. In the Library, for example, you'll see the Quick Develop buttons. Scroll down and you'll find the Metadata information (Figure 9). If it isn't visible press Command+3 (Mac OS) or Ctrl+3 (Windows). This will include EXIF data such as shutter speed and the lens used, as well as the IPTC metadata.



Figure 9: The Metadata panel displays your EXIF and IPTC information.

Lightroom will be very familiar if you have used Photoshop, as will many of its keyboard shortcuts. To start, let's maximize our screen space by pressing the F key twice, then pressing Command+Shift+F (Mac OS) or Ctrl+Shift+F (Windows). Pressing T will hide the Toolbar.

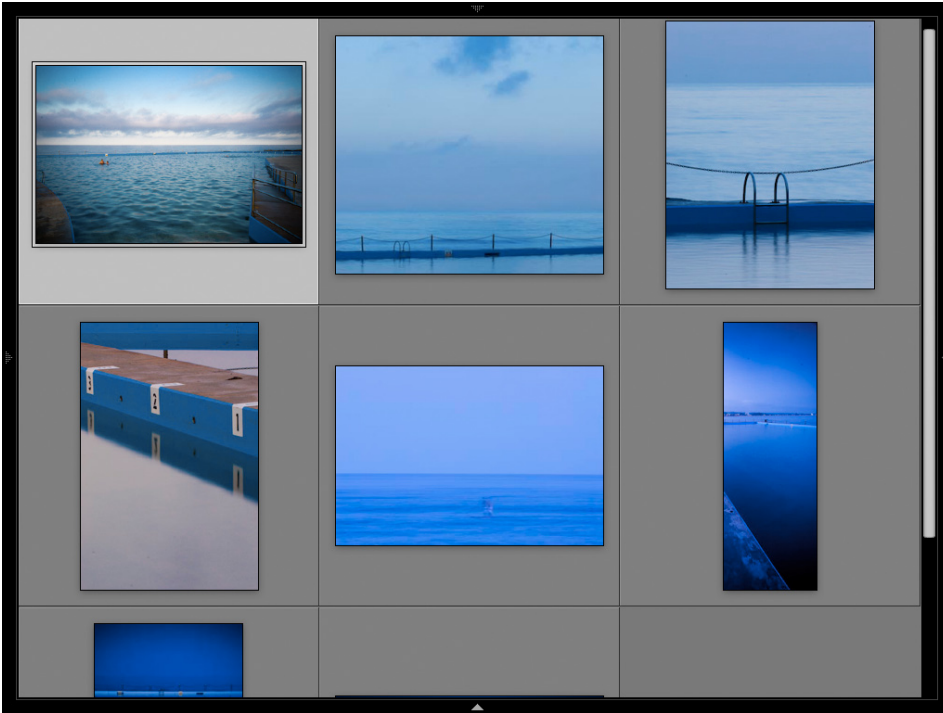


Figure 10: Lightroom can use every inch of screen space.

Here are some other useful shortcuts. Press:

- ` [accent] to swap between Loupe and Grid views in the Library (and the Before/After view in the Develop panel)
- Shift+Tab to hide and show panels.
- J to toggle through grid view options in the Library.
- I to toggle through Loupe view options in the Library.
- Command+ / [forward slash] (Mac OS) or Ctrl+ / [forward slash] (Windows) to display keyboard shortcuts for the current panel.

Refer to http://labs.adobe.com/technologies/lightroom/keyboard_shortcuts.html for a full list of Lightroom keyboard shortcuts.

If you decided to create standard previews on import or you have a fast computer, Lightroom will keep up as you scroll through previews. If you didn't create standard previews, then you can always select all images in the Library by choosing Library > Previews > Render Standard-Sized Previews.

Step 3: Sort and rate

Double-click an image to preview it fullscreen in all its glory. The pointer is now a magnifying glass: clicking anywhere on the image zooms into it 100% to assess sharpness (to see the true effect, remember to view your images at 100% when applying any sharpening); click again to return to view the full image. Using the arrow keys, scroll through the images and press the 0 to 5 number keys to rate them, where 0 = no rating and 5 = highest. Rating your images will add value to them. I use One Star for images OK to show clients, Two Stars for better images, and Three Stars for tagging client selects. Four Stars or higher are for the portfolio and award winners. Your rating system may differ.

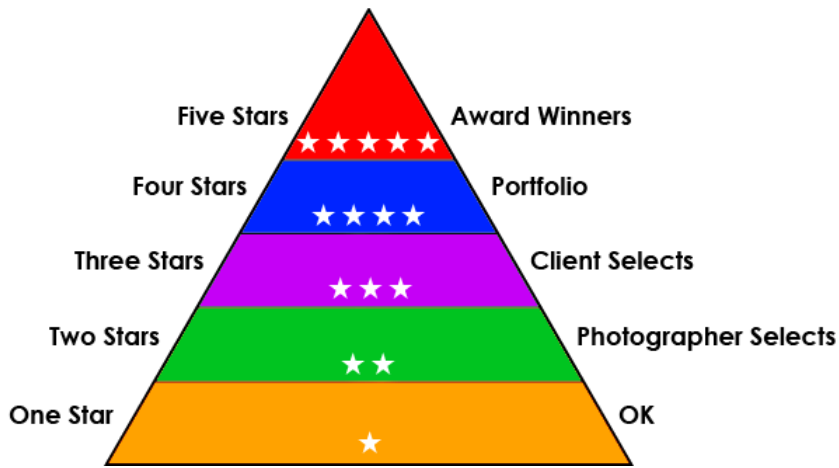


Figure 11: Rating pyramid

While you are rating, you should also add keywords and captions. Like your copyright template, keywording at this stage means that any derivative files you export from Lightroom will contain those terms. Most photographers use a controlled vocabulary, which is essentially a fixed set of keywords. This prevents duplication, spelling errors, and ultimately makes searching keywords more productive. See www.controlledvocabulary.com for more information.

Lightroom introduces hierarchical keywording (Figure 12). Hierarchical means that if you add keywords to a photo of a dog, such as “Poodle,” “Dog,” “Animal,” you can just click “Poodle,” and Lightroom assigns all parent terms. You can save this hierarchy and share it as metadata with other applications. Because this capability is so useful, it’s extremely likely that the IPTC will adopt the Lightroom method.

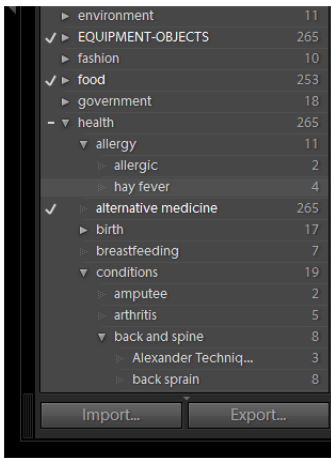


Figure 12: Hierarchical keywords can be saved in metadata and shared with other applications.

There are several ways to add keywords in Lightroom. I prefer to select several images and simply drag-and-drop the term onto them. You can also drag-and-drop images onto keywords.

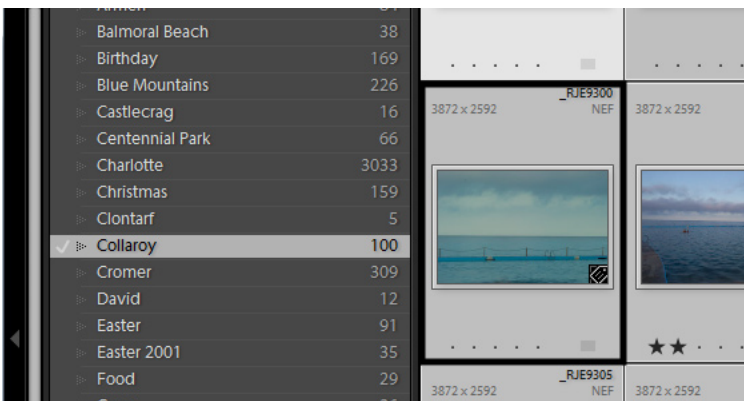


Figure 13: Add keywords by dragging and dropping.

While sorting, don't waste your time looking for images to delete, such as blinks, out-of-focus images, or shots where the flash may not have fired. Doing so means expending energy looking for your worst images. Rather, concentrate on finding your best images from the shoot and rate them highly. By not rating the duds, they will be filtered out. Deleting duds can be false economy because at best you may save a couple of dollars of hard disk space.

If you want to compare similar images in the Library module to find the best one, on your keyboard press C (for compare; Figure 14). I like Survey mode, because it feels just like working on a lightbox or sorting prints. Select images in the Library to assess, press N on your keyboard, and they all appear in preview (Figure 15). Click the X button on an image to remove it from your selection and winnow the remaining photos. Lightroom will automatically regroup them.

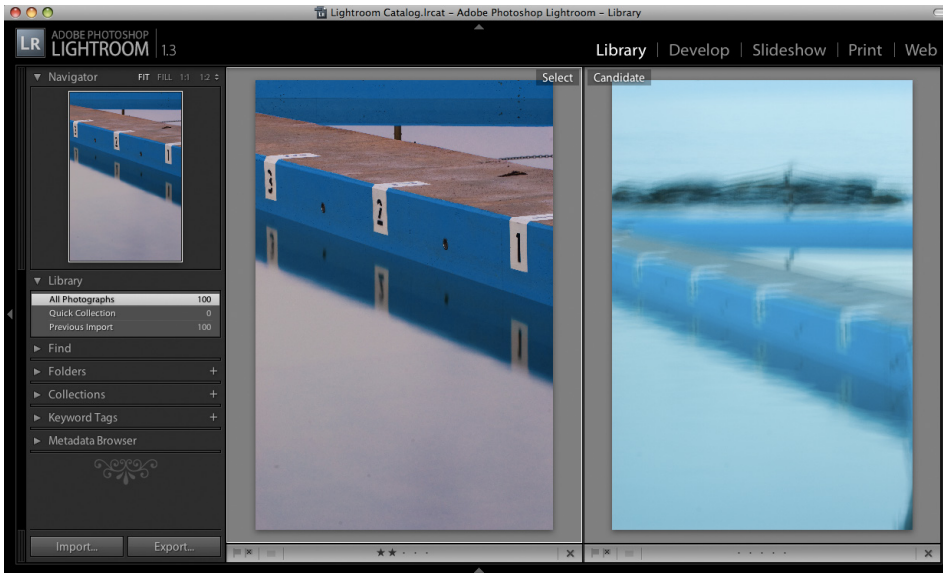


Figure 14: Compare mode is a good way to choose between two similar images.



Figure 15: Survey feels like working on a light box – only faster!

If your work involves layering multiple images together, let Lightroom group them in stacks. This is the digital version of stacking a group of slides on a lightbox (Figure 16). Select the images and press Command+G (Mac OS) or Ctrl+G (Windows) to group them. The grouped image thumbnail now will display a number in the top left; click the number to ungroup the stack, click again to regroup the stack. Those stitched panoramas I mentioned earlier are a good candidate for stacks.

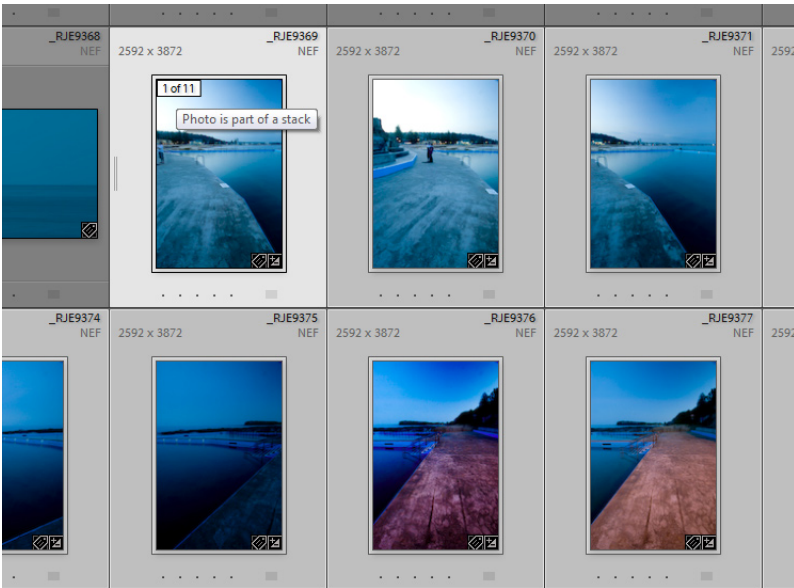


Figure 16: Stacks keep the Library tidy by grouping images as one thumbnail. Clicking the number expands or retracts the stack.

Quite often, one image is repurposed for several versions: a color one, black-and-white, cropped panorama, and so on. Rather than make multiple TIFF versions, Lightroom lets you create virtual copies and save multiple adjustments that collectively may take only a few dozen KBs of space as metadata. Press Command+' [apostrophe] (Mac OS) or Ctrl+' [apostrophe] (Windows) to generate a virtual copy that lives only in Lightroom (Figure 17). When you need a real copy, simply export it. You can have an unlimited number of virtual copies. But be careful if you use 1:1 previews, which can create megabytes of virtual copies.

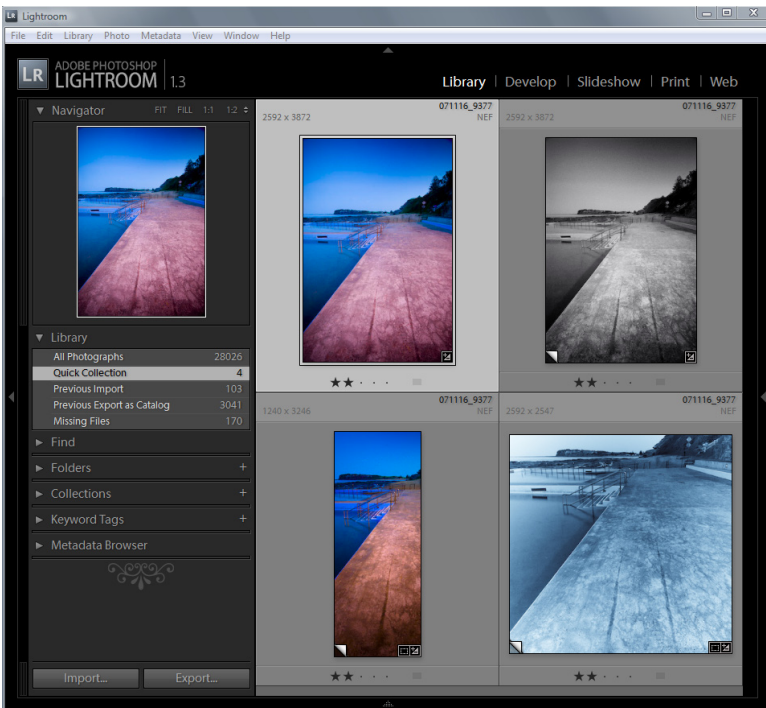


Figure 17: Virtual copies save you having to make pixel copies, by saving only settings and previews.

Step 4: Quick Develop

When you need to make value judgments, it's important to view your images in their best light. As mentioned, don't waste time on poor or unrated images. Instead, you can already benefit from your ratings by fine-tuning only the high-rated images. Click the Filters button on the Filmstrip. You will see several ways to filter your images. For example, click 2 Stars to display images rated Two Stars or higher. Immediately, all the dud images or those only rated OK are hidden.

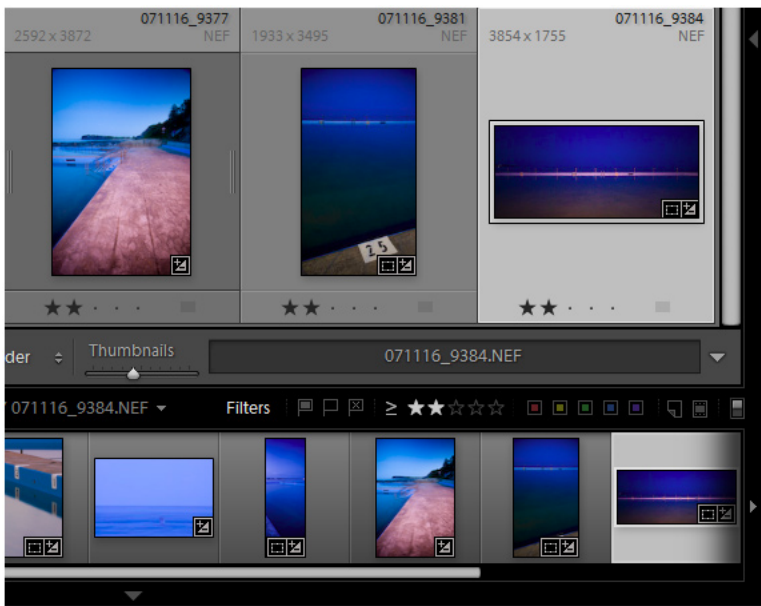


Figure 18: Filter based on various criteria. Here only images rated Two Stars or higher are displayed.

If the exposure or white balance is off, it's hard to assess whether an image really deserves a high rating. Here the Quick Develop panel (press F8) makes life easy. You can make roughly 1/3-step incremental adjustments with the single arrow buttons [>], and 1-step adjustments with the double-arrow buttons [>>]. Lightroom will tweak all selected images. So if a group of photos are one stop under, select them all and press the double arrow [>>] exposure button.

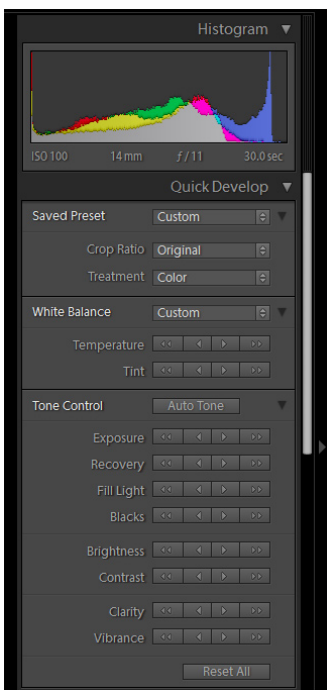


Figure 19: The Quick Develop buttons adjust in 1/3- and 1-step increments.

If I've adjusted one image and then find several similar ones, I'll click the first image to select it, then select the others, and press the Sync Settings button in the Quick Develop panel. Holding

down the Option (Mac) or Alt (Windows) key while clicking Sync Settings applies the last settings in the dialog box, without opening the Synchronize dialog box. Just as Adobe Camera Raw does in Photoshop.

White balance is subjective: adjust the yellow/blue color with the Temperature buttons, and green/magenta with the Tint button. If the photo has a white or neutral tone, press W (White balance) to go to the Develop panel; with the white balance eyedropper tool, click a neutral area. Here are shortcuts to display the various panels:

- To return to the Library panel, press Command+Option+1 (Mac OS) or Ctrl+Alt+1 (Windows).
- To display the Develop panel, press Command+Option+2 (Mac OS) or Ctrl+Alt+2 (Windows).
- To display the Slideshow panel, press Command+Option+3 (Mac OS) or Ctrl+Alt+3 (Windows).
- To display the Print panel, press Command+Option+4 (Mac OS) or Ctrl+Alt+4 (Windows).
- To display the Web panel, press Command+Option+5 (Mac OS) or Ctrl+Alt+5 (Windows).

For images shot in the same lighting, I often copy the Develop settings by pressing Command+Shift+C (Mac OS) or Ctrl+Shift+C (Windows) and press Return or Enter; and then paste the settings by pressing Command+Shift+V (Mac OS) or Ctrl+Shift+V (Windows). You'll find scrolling through like-images and pasting settings this way really quick.

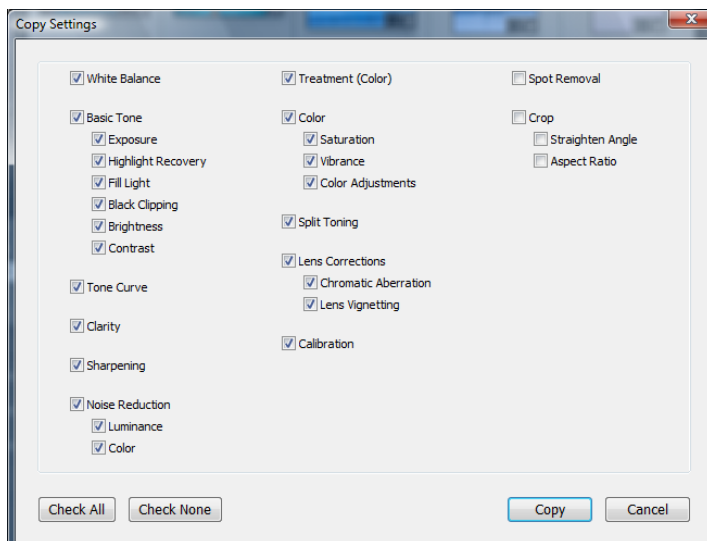


Figure 20: Copy Settings and Paste to other images is a quick way to apply Develop settings.

Whatever you adjust in Lightroom, you can always undo it. Even if you close and reopen Lightroom, it saves its History state in a linear timeline. You can also save snapshots. Not even Photoshop can do that.

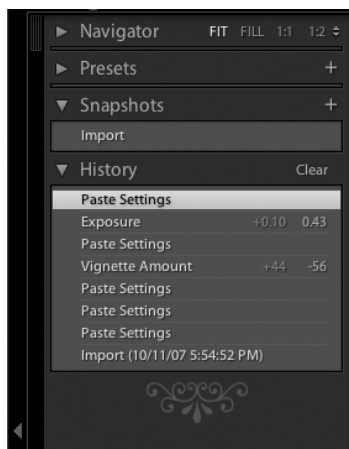


Figure 21: Lightroom saves History states and snapshots of adjustments.

Other Quick Develop tools are Recovery (to recover blown highlights) and Contrast buttons. On rare occasions I may use Vibrance or Saturation (hold down the Option (Mac OS) or Alt key (Windows) to select the latter). More often I'll do a quick black-and-white conversion using a preset such as B&W High Contrast. The goal here isn't to make perfect images. It's to adjust them enough for you, your family, or client to judge whether to take them further in the Develop module and possibly in Photoshop.



Figure 22: Lightroom comes with many presets. You can add your own and download others.

Step 5: Develop for TLC

Some images benefit from more adjustments in the Develop module. When you and your client decide on which images to fine-tune, you will do so in the Develop module and then export them. The Develop sliders are the same as those used in Photoshop CS3 and Bridge CS3 for Camera Raw 4. If you export your settings (Command+S on Mac OS or Ctrl+S in Windows) Lightroom will generate XMP sidecar files to share adjustments with Bridge. To see changes made by Bridge and Photoshop CS3 in Lightroom, choose Metadata > Read Metadata From File.

I won't go into detail about the power of Camera Raw here. Jeff Schewe has written extensively on getting the most from Camera Raw 4 in his latest book and white paper, "Understanding Adobe Photoshop Camera Raw 4" at www.adobe.com/designcenter/.

But two controls I would like to mention are the Spot Removal tool and the Targeted Adjustment tool.

You can save Spot Removal adjustments in metadata and batch-copy them to all images. Now you only need to spot-sensor dust once, as long as the dust is in the same spot on all the images. Hallelujah!

1. In the Develop module, click to zoom into a dust spot and press N on the keyboard.
2. Click a dust artifact and drag to a clean area to sample. Continue cleaning the rest of the image. As in Photoshop, you have the choice of Clone to copy, or Heal, which will copy and retain underlying texture.
3. Press Return or Enter to finish.



Figure 23: Clone and Heal settings can be copied to other images.

Batch-applying your spot removal to multiple images is just as easy and exactly the same as for any Develop setting:

1. In the Library module, choose the image on which you cleaned the spot. Select the other images you want to clean. It helps to have similar images so that the cloned area matches up.
2. Press the Sync Settings button in the Quick Develop panel.
3. In the dialog box that appears, make sure that only Spot Removal is selected and click OK. You can also use the keyboard shortcuts to copy and paste: to copy, press Command+Shift+C (Mac OS) or Ctrl+Shift+C (Windows) and press Return or Enter; and then paste the settings by pressing Command+Shift+V (Mac OS) or Ctrl+Shift+V (Windows).

Even if you need to refine the cloning, remember that Lightroom edits nondestructively. You can always go back anytime and adjust settings, including cloning.

1. In Develop press the N key to make all the spot removal areas active.
2. Click any spot to change or remove it, and then press Return or Enter.

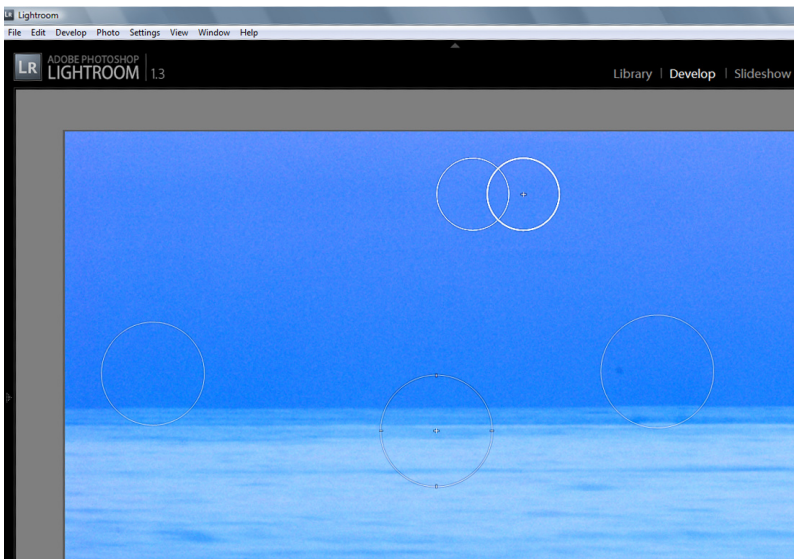


Figure 24: Nondestructive editing means even Heal and Clone can be undone.

Camera Raw in Lightroom and Photoshop have many sliders to adjust Hue, Saturation, and Luminance to fine-tune color, or tweak the Grayscale in a black-and-white image. These sliders offer huge creativity to the power user.

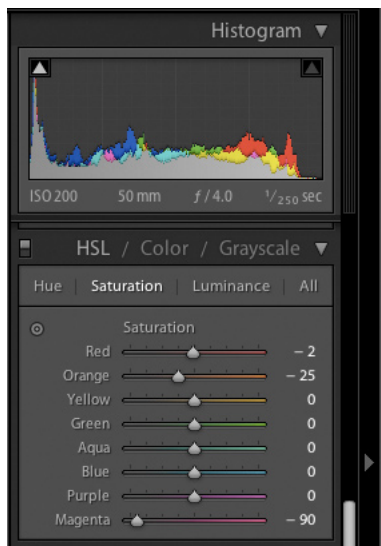


Figure 25: Hue, Saturation, and Luminance offer accurate control over colors.

The Targeted Adjustment tool (TAT) is a great example of how the Lightroom engineers think like photographers. Click the top left button in the Color Treatment panel; then click the color/tone on the image you want to adjust and drag up and down. Notice the sliders following your mouse movements?

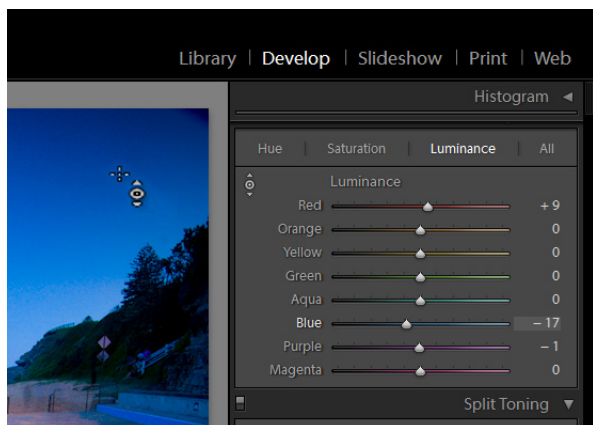


Figure 26: The Targeted Adjustment tool is more intuitive, but offers the same control as the HSL sliders.

A typical treatment for the Targeted Adjustment tool is to reduce the Luminance of the sky to make it rich blue. Lightroom will only adjust the selected blue color, leaving surrounding colors and areas unaffected. Black-and-white adjustments are just as simple, as you interactively move grayscale tones around. It's the easiest way I know to get dramatic skies. For black-and-white images of people, finding just the right graytone for skin is easier with Lightroom and the Targeted Adjustment tool.

Step 6: Show me the images

So let's recap. You've given all your highly rated images keywords and adjusted them to how you envisioned them. Now you are ready to share your images with the world. Your next step is to showcase your images.

Select the images you want to show using the Filters (One Star or higher). Now you can show off your work to the world in a slideshow, as prints, or on the World Wide Web. Lightroom performs wonderful slideshows that can be exported as PDF. Making an impressive web gallery including Adobe Flash® is simple. Printing to a desktop printer in Lightroom is a breeze. There are several templates included with all three modules, plus you can make and share your own. For the latest presets, check Photoshop product manager Jack Nack's blog at <http://blogs.adobe.com/jnack/>.

When working directly with a client and stylists, they love seeing the images in a slideshow. I also enjoy sharing photos with family this way (Figure 27). Make a selection of images anyway you like; clicking them or filtering them through metadata, ratings, and so forth. In the Slideshow module, you have several templates to choose from which you can customize and save as your own templates. With all Lightroom modules, what you see is what you get (WYSIWYG). Live previews make customizing child's play. There's no need to export and preview to see how your slideshow will look. Just click the Play button on the Toolbar to see how your modifications look.

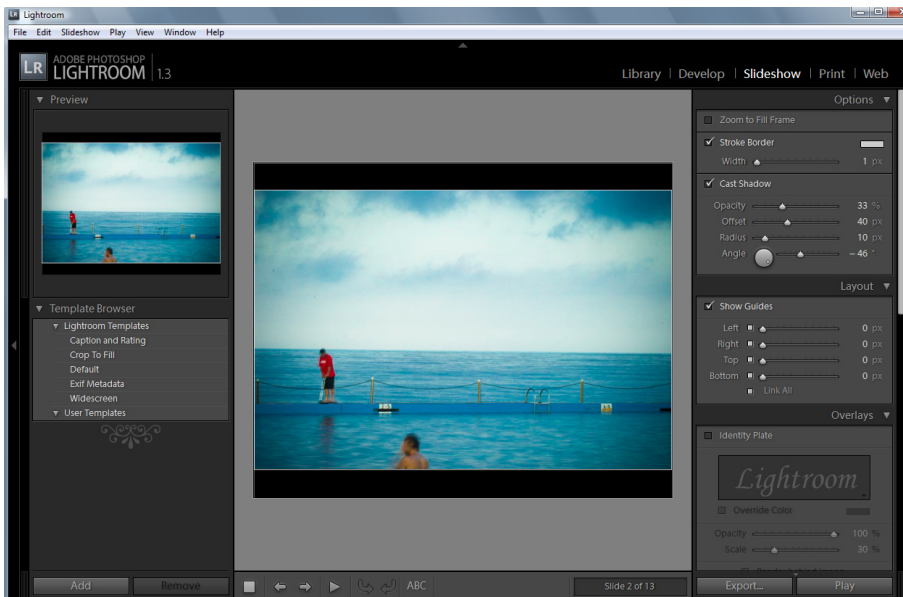


Figure 27: My slideshows have a simple design. To preview a slideshow, use the VCR-like controls on the Toolbar.

My preference is for a simple black background with a thin keyline. For weddings I add some licensed music and drop the bride and groom's name in white with a soft black drop shadow. To add the type with drop shadow, click the Text button on the Toolbar. For a portfolio show or to share work with colleagues and clients, I use my studio logo. I've saved both of these as custom templates. Slideshows, including transitions, export quickly to PDF.

Lightroom offers some powerful printing options, available in the Print module. To print at a lab you would export to TIF or JPEG and soft-proof in Photoshop. If you print to your own desktop printer, Lightroom can use your custom printer profiles. Templates are live here too, and can also be customized. When I need to make index prints for clients that look like the contact sheets made in the darkroom, we have several templates. In Draft Mode Printing (see Figure 28), Lightroom uses the cached previews so the printing process is lightning fast.

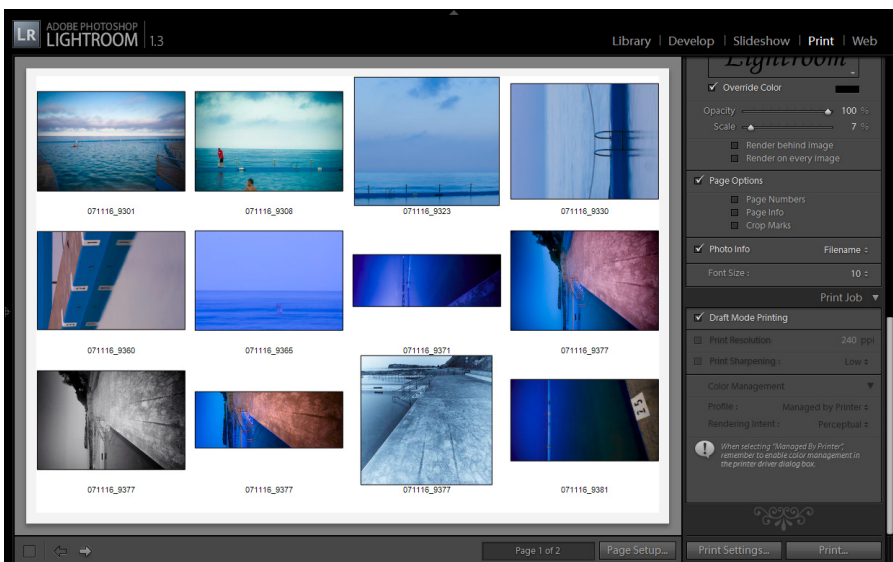


Figure 28: I use the Print module for making index sheets. Selecting Draft Mode Printing in the Print Job panel greatly increases printing speed because Lightroom uses its cached previews.

The Web module is how I now deliver most of my commercial work. Lightroom uses the new Adobe Media Gallery. You don't need to know any HTML or Flash to create stunning web galleries, thanks to the Lightroom WYSIWYG display (Figure 29). You can create HTML or Flash-based galleries from any of the file formats supported by Bridge. Upload your web galleries (Figure 30) directly to your website using Lightroom's built-in FTP, or save to your computer and upload later. You could even burn the web galleries to CD as a means of distribution to clients and friends. For more information, visit Photoshop Product Manager John Nack's blog at http://blogs.adobe.com/jnack/2007/06/new_flash_html.html

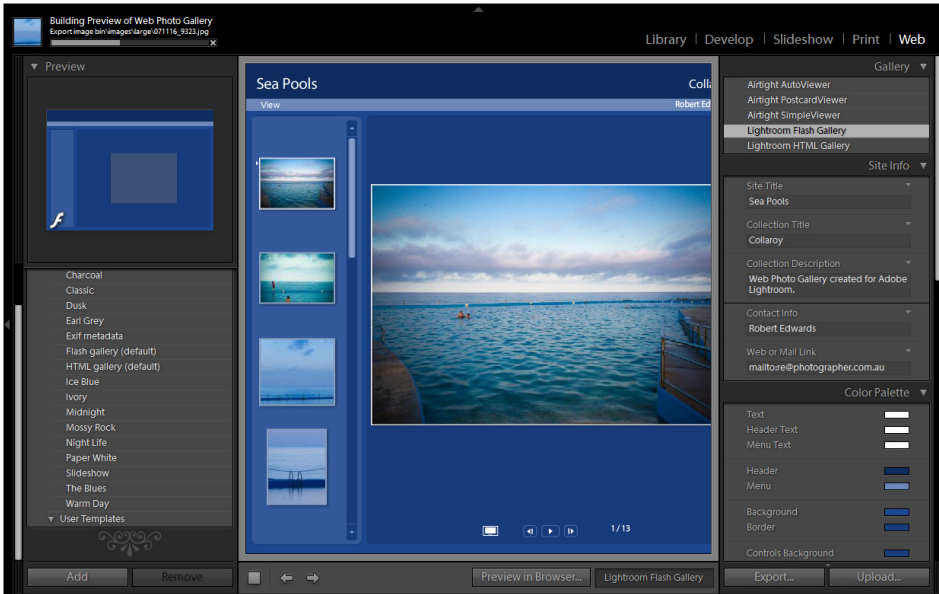


Figure 29: WYSIWYG Lightroom modules make it easy to preview your settings.

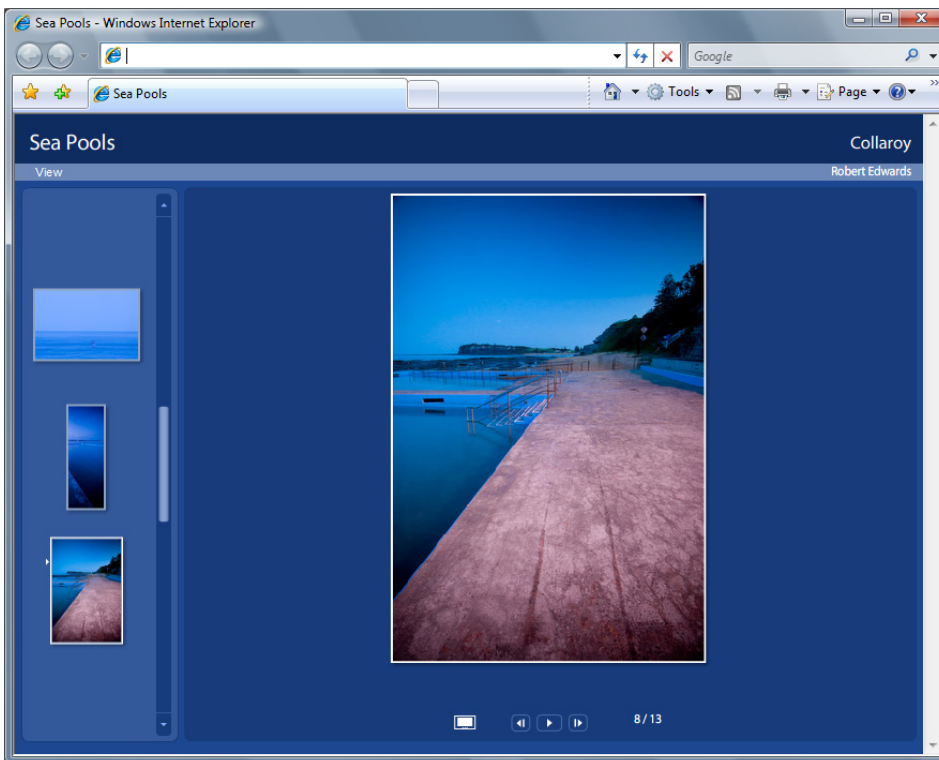


Figure 30: Web galleries are a fast, cost-effective method to get your photos seen.

Step 7: Polish in Photoshop

When your clients indicate the images they want, you can return to Lightroom to give the images some TLC in the Develop module. Once you are happy with your changes, export them as TIFF or JPEG by pressing Command+Shift+E (Mac OS) or Ctrl+Shift+E (Windows). In the Export dialog box that appears, you will be presented with several Lightroom presets and the ability to make your own. I have several presets: full-size TIFFs, full-size JPEGs, low-res JPEGs. By the way, it is safe to increase your image size here as Lightroom uses the same excellent interpolation method as Photoshop CS3.

If your work has a signature style, you will most likely end up in Photoshop CS3 to polish your images. To get to Photoshop from Lightroom:

1. Press Command+E (Mac OS) or Ctrl+E (Windows) (where E stands for edit).
2. Select Edit A Copy With Lightroom Adjustments.
3. Choose a file format; I use TIFF.
4. Use the same color space as Photoshop. I prefer AdobeRGB (1998).

AdobeRGB (1998) is a very common—and safe—color space within the industry. It has a much wider color gamut than the consumer sRGB color space, allowing for better color reproduction for prepress, inkjet printing, Kodak LED, and Lambda printers. Some of the latest monitors display the full AdobeRGB (1998) color space, or close to it.

Only for power users with the right knowledge and equipment would I recommend ProPhoto RGB, which offers an even wider color gamut than AdobeRGB (1998). In fact it is so large, no monitor can show all the colors. Some inkjet printers can print more color than AdobeRGB (1998), which is where ProPhoto RGB comes in. Users have to be very careful working in such a large color space, to be sure they know what colors are being reproduced.

5. Choose 16 bits.
6. Choose a compression setting. I set this to ZIP, which is supported by the Creative Suite 3.
7. Choose Stack With Original.
8. Click Edit.

Lightroom will create a TIFF image and open it in Photoshop. Now you can go to town with all the power of Photoshop CS3. Once you have finished and saved the image, Lightroom will automatically import the flattened TIFF and stack it with your original DNG, which remains untouched. (Note that Photoshop layers will be lost when returning to Lightroom.)

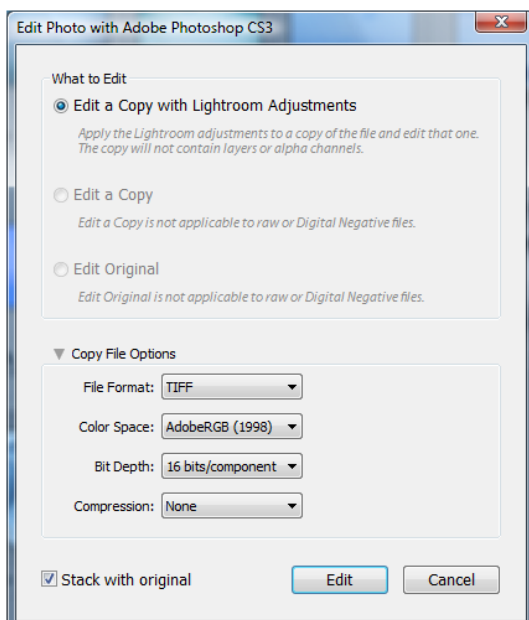
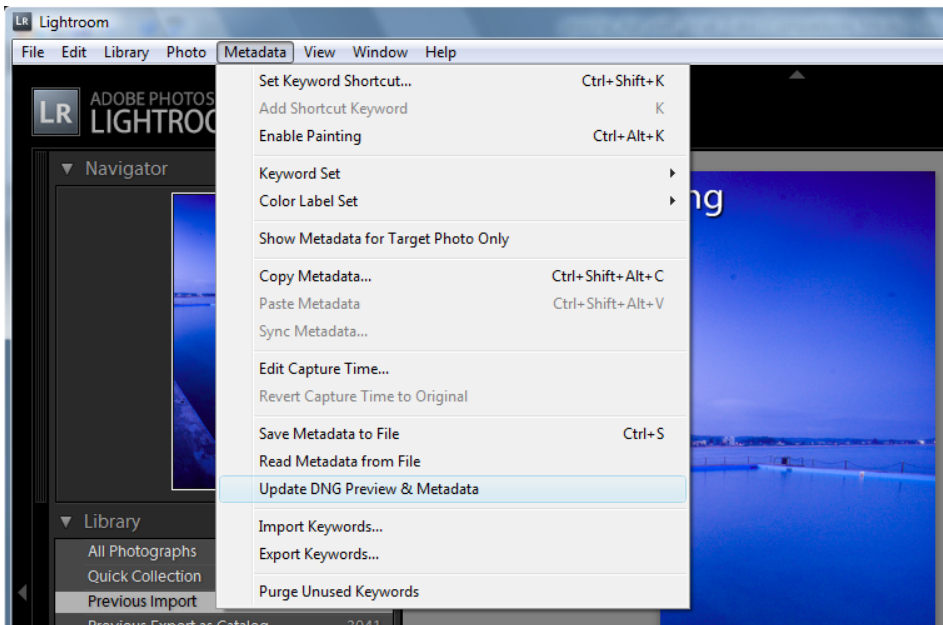


Figure 31: Lightroom can seamlessly export a copy to Photoshop CS3 and import it afterwards, stacking it with the original.

Step 8: Back up

Always back up your Lightroom database and images. Lightroom can be set to back up (File > Catalog Settings), but I use my own backup application that includes the Lightroom database. For good measure, you can embed the Lightroom settings into the DNG file (Metadata > Update DNG Preview And Metadata) and update its thumbnail and preview, so other applications can read it (Figure 32).



ABOUT THE AUTHOR

Robert Edwards is a digital workflow specialist helping creative professionals drowning in data. He is a photographer, educator, and writer based in Sydney Australia; National Vice President of the Australian Institute of Professional Photography; and a member of the Association of Australian Commercial and Media Photographers. Robert is instrumental in establishing Digital Photography Standards as chief author of the Australian Photographic Digital Guidelines, and a founding member of and contributor to UPDIG (Universal Photographic Digital Imaging Guidelines).

Figure 32: Lightroom stores its settings in a database. To future-proof your work it's worth updating the DNG preview and metadata.

What Lightroom does in a single program previously took four, five, or more applications. Keeping it under one roof makes you more productive because you only need to learn one program. For a photographer, Lightroom is intuitive and at last makes your work flow.

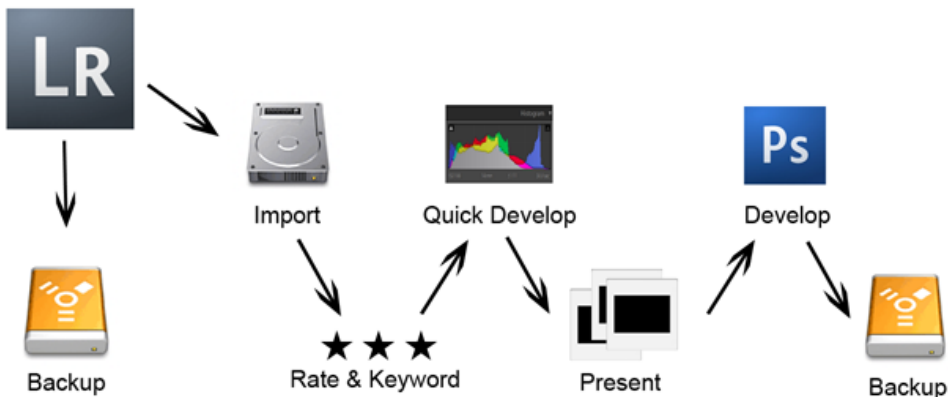


Figure 33: The workflow from beginning to end.