



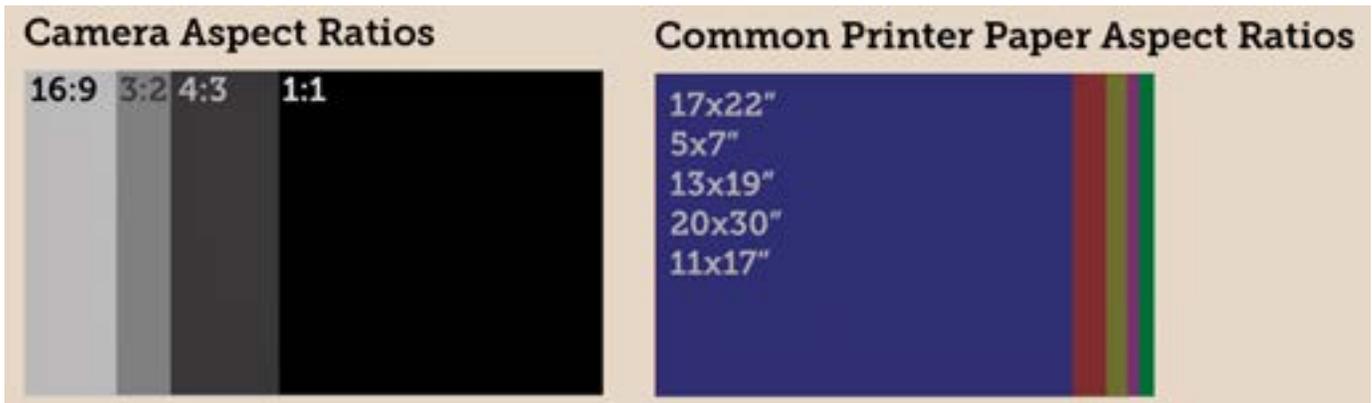
Lightroom Print Module

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Let's talk printing! In this lesson, we'll cover what's needed to make great prints in Lightroom. (There will be a separate lesson on printing from Photoshop.) I love printing from Lightroom and I love the features that Lightroom has for printing.

Step 1: Consider the print when shooting

Different cameras have different aspect ratios, and therefore the final images can be different shapes. Some shoot 4:3, others shoot 3:2 etc. Different papers also have different aspect ratios. If your camera shoots with one aspect ratio and the paper is a different aspect ratio, then you will either need to crop the image to fit the paper or end up with white space somewhere around the image. Knowing this, I will leave room for cropping when I'm out shooting in the field. This will allow me to crop in later (if necessary) without losing any of the key subject matter.



Step 2: Optimize for printing via soft proofing

Soft proofing allows us to preview what the print will look like on screen, before ever hitting the Print button. I will turn on the soft proofing mode and then adjust the brightness, contrast and color, making sure it's ideal for the particular paper type and printer I'm using. Note that the soft proofing process is covered in a different Masters Academy lesson.

Notes on soft proofing

- It allows you to preview the printed result on screen.
- You will need to use the printer profile that matches the printer/ink/paper combination you're using.
- Determine the ideal rendering intent: relative or perceptual. (This is a necessary setting you'll see while in soft proofing mode.)
- Compensate for color shifts.
- Evaluate Shadow/Highlight detail and fine-tune.
- Save the printer/Ink/paper-specific proof copy.

Step 3: Crop to desired aspect ratio[s]

It's a good idea to crop your image in Lightroom before moving to the print module so that you can be really precise about making sure that the crop will match the paper size you're going to use.

Basic considerations:

- The camera aspect ratio rarely matches the print ratio.
- Do you want to print to fill the paper?
- Do you want to print for standard frame sizes?
- Custom sizes require more expensive custom framing.
- Consider the desired matting.
- You can add space in Photoshop using the content-aware fill command in conjunction with cropping (sometimes).
- Save a print-specific crop as a snapshot or a virtual copy.

Step 4: Choose the print template and tweak as desired

Things to keep in mind:

- Page setup (Mac): Determines paper size and printer margins.
- Printing to the edge of the paper requires bleed (because it will slightly crop into the image). When you add bleed, you're adding extra space around the edge of the image so that there is no little white slivers of unprinted paper around the edges of the print.
- Print resolution = How large the pixels are when printed. The normal range is 240-360. Once you get about 720, you can't see any difference.
- The resolution setting you choose affects the fine detail & sharpening.
- Create a "Saved Print" if you plan to make an identical print in the future.

Step 5: Print now or save to JPEG file for offsite printing

This is a choice that you have within Lightroom's Print Module. There are some different settings depending on whether you are printing from your home/studio printer or using an external printing lab.

Step 6: Consider the print viewing conditions

Good light sources:

LED: Look for a high color rendering index or CRI (100=perfect). The lower the number is, the more the colors will blend together.

Color Temperature: 2700K (warm white) is similar to Tungsten/Halogen, which is common in homes. D50 (professional imaging standard) is more blue.

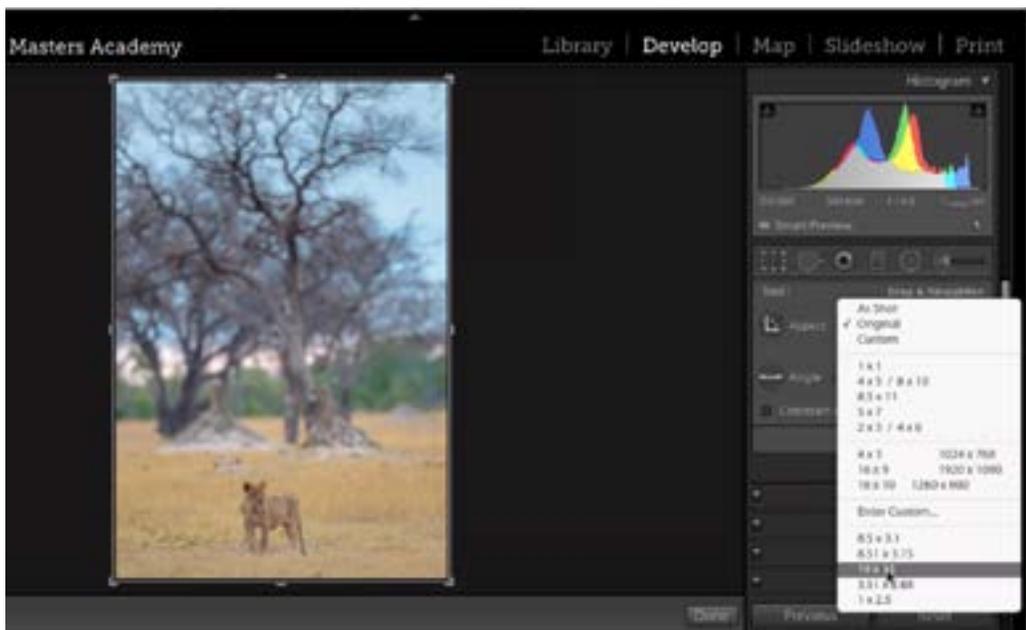
Here are a few brands of lighting that render color well:

- <https://www.ottlite.com>
- <https://gtilite.com>
- <http://www.solux.net/>
- <https://www.soraa.com>

Preparing images for print

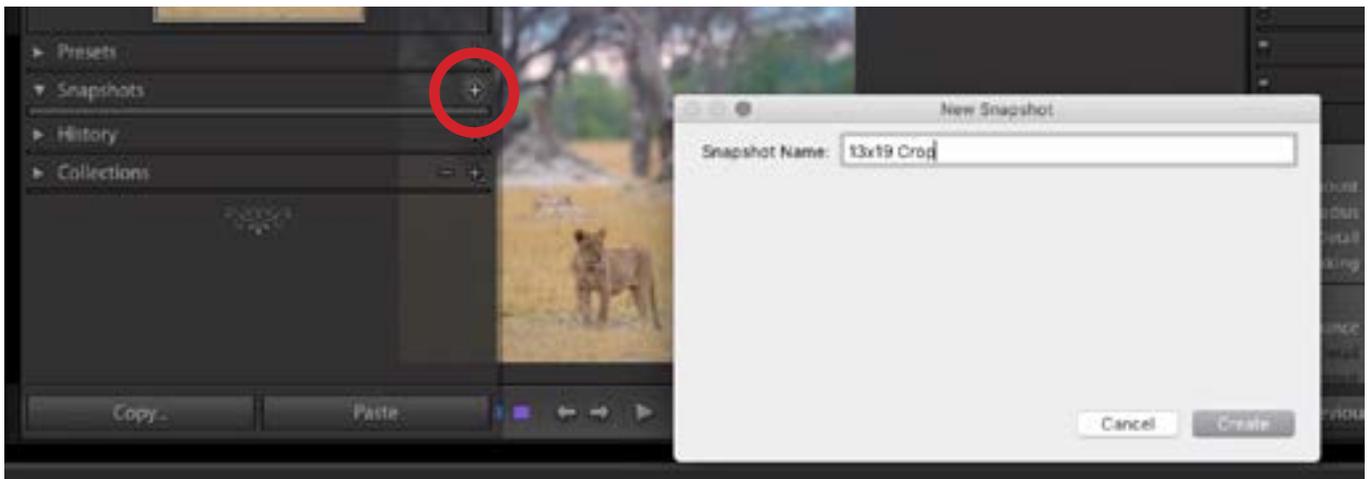
Soft Proofing One of the first things I think about when printing from Lightroom is what the colors are going to look like. I will optimize the colors by soft proofing. Remember, there is a different Masters Academy lesson on this topic.

Cropping After soft proofing, the next thing I think about is the crop of the image. I will crop the image in the Develop Module so that I have the most precision. The Crop Tool can be found above the adjustment panels on the right side of the Develop Module. With the Crop Tool active, the crop settings will appear on the right side of the interface. I will click on the Aspect menu to change it from Original (what the camera captured) to the aspect ratio of the paper I plan to print on. The crop box will lock to that aspect ratio and I will drag my image around within that box to fine tune the crop. Note that this is a ratio and not a specific inch/centimeter size.



Here, the Crop Tool is active and we are choosing an aspect ratio from the settings panel.

Snapshots & Virtual Copies After cropping the image for the paper (or frame) size, I will save the state of the image so that I know later why it was cropped that way. I might not want to use this crop when I post the image on the Internet, so it's nice to have both a version with the print crop and one with the ideal crop. There are two different ways that I can save more than one type of cropping. The first is via a Snapshot. Snapshots allow us to save versions of our images in different stages of the adjustment process. The Snapshots panel can be found on the left side of the Develop Module. To create a new Snapshot, I will click on the little plus icon to the right of the panel name and will be prompted to give the Snapshot a name and then click Create. I will generally create one Snapshot for the print and one Snapshot that reflects the ideal crop (the one I'd use to post the image online).



To create a new Snapshot, we clicked on the plus sign at the top of the Snapshots panel (circled) and are now giving the Snapshot a name that reflects the purpose of the crop.

The other way to save more than one type of cropping is to use virtual copies. A virtual copy allows you to have more than one version of the image without actually duplicating the image. It is only saving the copy as a set of adjustment settings that you used. This way, it doesn't take up more room on your hard drive. To create a virtual copy, right click on the image and choose Create Virtual Copy from the menu that pops up. (The same choice is also found under the Photo menu.) I will create a virtual copy for every different crop I apply to an image, and they will all show up alongside each other in the folder/filmstrip. You can assign unique

names to each virtual copy by selecting it, going to the Library Module and scrolling down to the Metadata panel, where you will find a field called “Copy Name.” Here, you can type in the new name for the virtual copy. I like to use names that reflect the purpose of the crop.

After creating more than one virtual copy, I like to stack them, placing the version with the ideal crop on the top of the stack. This just cleans up the folder when viewing the images as thumbnails. To stack multiple images, click on the image that you want to be on the top of the stack, hold down the Shift key and then click on the last image. Then, go to the Photo menu and choose Stacking > Group into Stack. Alternatively, you can use the keyboard shortcut Command+G (Ctrl+G on Win).

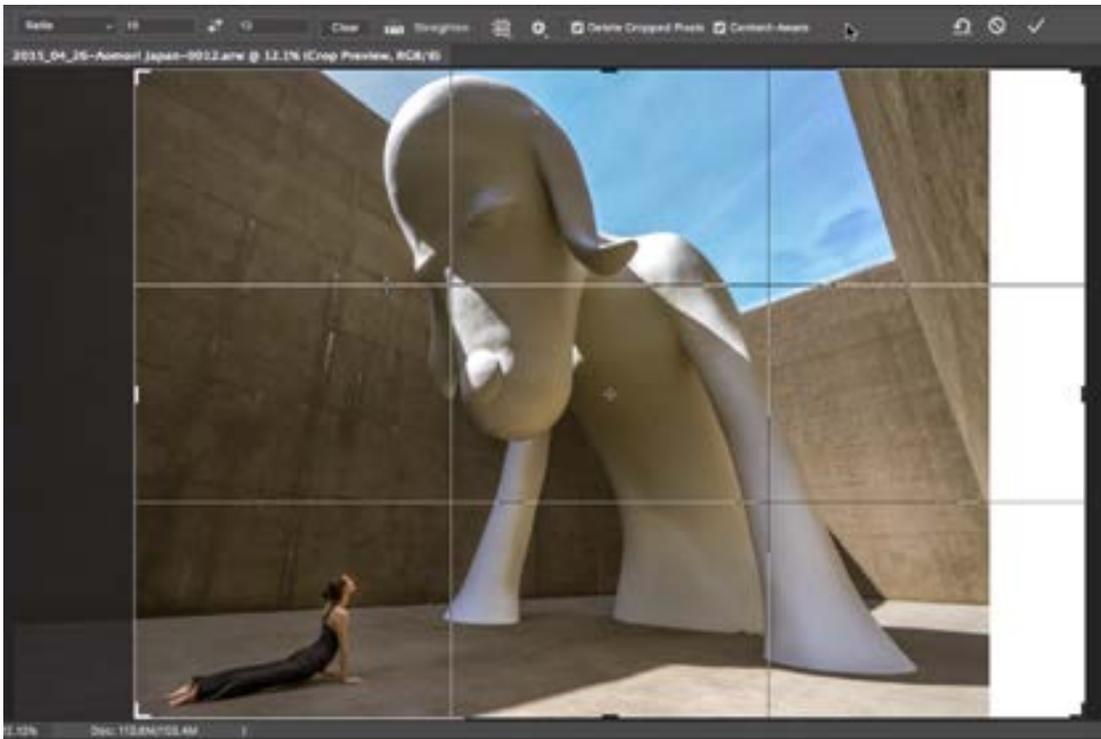


Here, we used virtual copies to create multiple versions of the image with different crops.

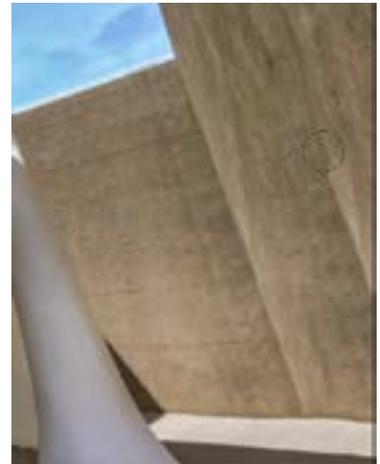
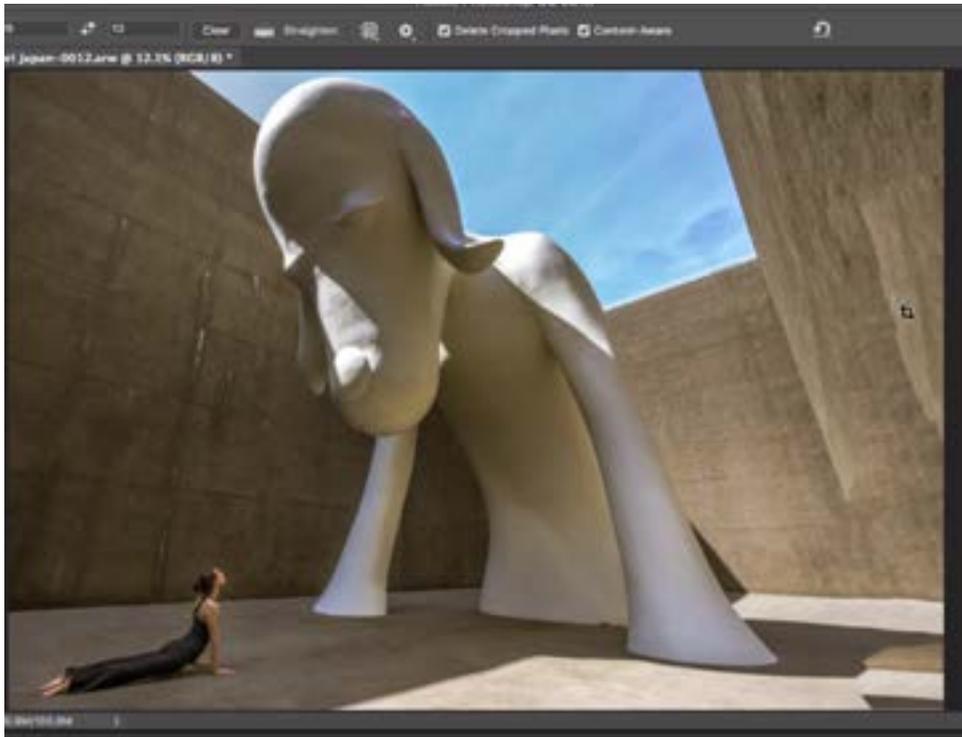
Move uncropped images to Photoshop If I plan to work on an image in Photoshop, I will first remove any cropping that had previously been applied. This way, I will be editing the entire uncropped image in Photoshop. If you take an image that has been cropped in Lightroom and you move it into Photoshop, you will not be able to uncrop the image to bring back any of the content that was previously removed.

Add space to expand an image in Photoshop Let's say that you cropped an image too tightly in the camera and now, your desired aspect ratio results in a crop that cuts off important detail. You can attempt to expand the image by adding space to the side that's needed by using a few Photoshop techniques.

After opening the image in Photoshop, activate the Crop Tool in the Toolbar on the left side of the interface. With the Crop Tool active, there is a Content-aware check box in the Options Bar above the main image window. Turn this on and then use the crop handles to crop and expand the frame to your desired size. Hit Return/Enter to lock in the crop. If you have the Content-aware check box turned on, Photoshop will attempt to fill in the empty area with what it thinks should be there, based on the surrounding content. Photoshop may do an amazing job at filling in the area, or you might need to go in with the retouching tools and fine-tune the results. That was the case in the video example image. Photoshop did not do a good job of filling in the wall area on the right side of our image, so I started to manually retouch the area first by using the Lasso Tool in combination with the Content-aware fill command. This only was able to fix things so much, so I then moved on to the Healing Brush.



The Crop Tool is being used to expand the right side of the image. The Content-Aware setting (circled) is turned on.



Left: The Content-aware feature didn't do the best job on the right side of the image. Above: The Healing Brush is being used to clean up the wall.

In general, you should be able to expand your frame and add content to the image by using a combination of the Crop Tool (using the content-aware setting), the Content-aware fill command (to fill in a selection), the Healing Brush and the Spot Healing Brush.

The Print Module

After setting up the ideal crop for printing, I will move into Lightroom's Print Module. To make the printing process as efficient as possible, I like to use Templates. The Template Browser is located on the left side of the Print Module and it contains a list of all the print templates that came with Lightroom and also those that you create on your own. A template is simply a series of print settings that are saved so that you can use them over and over again. All of the individual settings are located on the right side of the interface and when you click on a template from the Template Browser, the settings related to it will automatically be dialed



Lightroom's Print Module is shown above. The Template Browser is on the left and the print settings are on the right. The main window shows a preview of the print.

in on the right side of the screen. Once you get your templates set up properly, all you will need to do is click on the desired template and then hit the Print button.

Now, let's look at how to set up a print template so that the print process can be that easy. You'll need to work through the settings on the right side of the interface before saving them as a template.

Page Setup In the lower left corner of the interface is a Page Setup option and this is the first thing you should work with when creating a print template. Click the Page Setup button and you will get a dialog where you will specify your printer and paper size. These settings will determine what shows up within some of the panels on the right side of the interface.

Layout The Layout panel contains the settings that determine how large the image will appear on the sheet of paper. The Margin sliders will allow you to control the amount of white space around the four edges of the image and the Cell Size sliders will scale the image down so that it fits within the specified dimensions.

If you want the image to extend to the edges of the paper (borderless printing), then drag both of the Cell Size sliders all the way to the right.

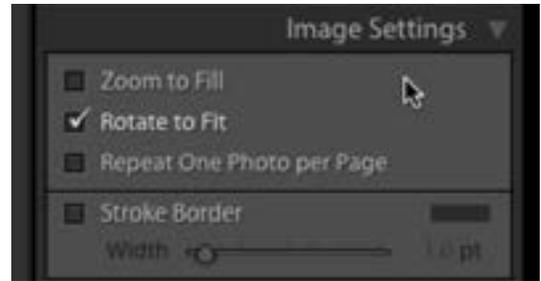
Note that when you drag the Margin sliders to add white space, the image may become cropped and that is a result of the settings specified within the Image Settings panel.



The settings within the Layout panel are being used to control how large the image will appear on the paper.

Image Settings The first setting in the Image Settings panel is the Zoom to Fill check box. If this is turned off, then the proportions of the image will remain intact as you adjust the Margin sliders. The image will automatically scale up and down to maintain its original proportions. If the Zoom to Fit check box is turned on, then the image will become cropped as you move the Margin sliders. The Rotate to Fit setting will automatically rotate the image to best fit the paper. For example, if you have a horizontal image on a vertical piece of paper, the image will become rotated 90 degrees in order to best fill the paper. The Stroke Border setting will allow you to put a colored border around the image and the color can be specified

by clicking the color swatch to the right of the check box. Drag the Width slider to determine the thickness of the border. I mainly add borders to my images when there is white near the edge of the photograph. This way, the border makes it easier to tell where the photograph ends and the paper begins.

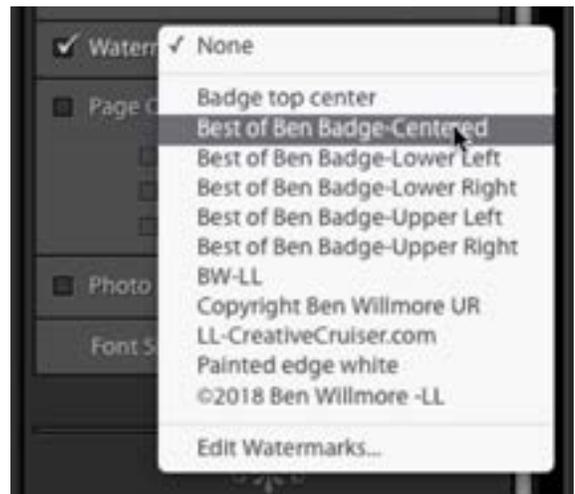


The Image Settings panel

Guides The Guides panel gives you options for placing guides over the print preview. Turn on the guides by turning on the Show Guides check box at the top of the panel. These guides will give you a better visual representation of where the various margins are pushing the image in from the edge of the sheet of paper.

Page If you want the area outside of the picture to contain something other than white paper, you would use the settings within the Page panel. The top option is Page Background Color and this lets you specify that a color other than white to appear around the image. Simply click on the rectangle to the right of this setting to call up the Color Picker and then choose the desired color. The next setting you can turn on is the Identity Plate and this will allow you to insert an existing Identity Plate over the print. With this setting on, you'll be able to choose from your existing Identity Plates, manually drag it around the image to position it on the print and then use the Opacity and Scale sliders to further customize the Identity Plate.

If you have created any watermarks within Lightroom, you can also overlay these on your prints. To do this, turn on the Watermarking check box and then use the dropdown menu to choose the desired watermark.



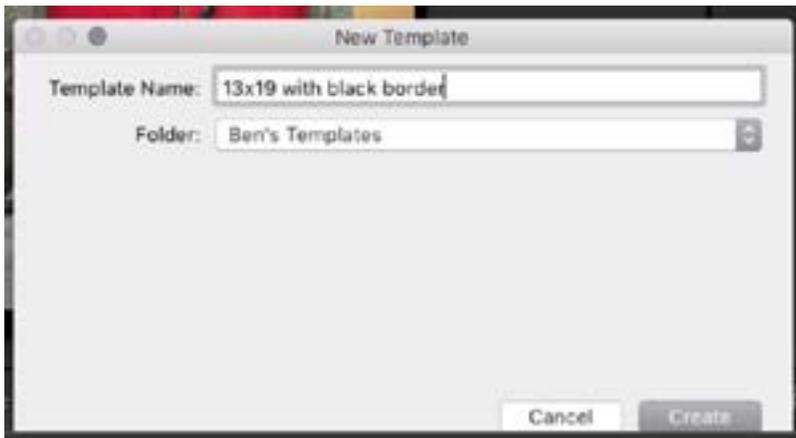
We are choosing a pre-existing watermark to overlay on the image.

The Page Options settings will allow you to insert information like page numbers, Page info and Crop marks over the print.

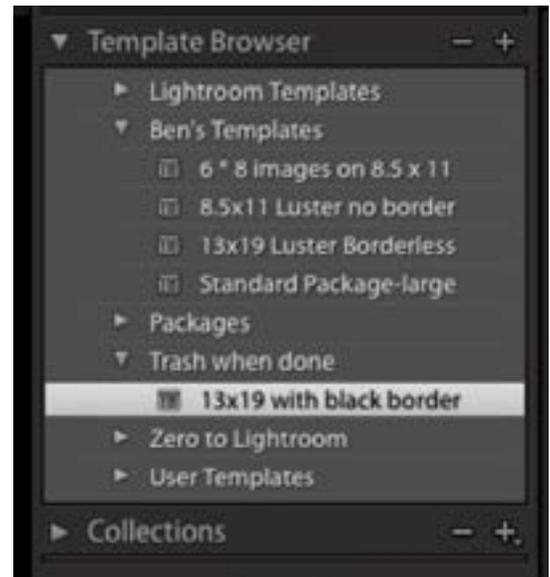
Saving a Template

After you've dialed in all of the print settings the way you like, you can save them as a template for use in the future. Create a template by clicking on the little plus sign to the right of the Template Browser header. You'll be prompted to give the template a name and choose which folder you'd like the template to be stored in. You can also choose to create a New Folder, which will contain templates within the User Templates category in the Template Browser. When you're done naming the template and assigning it a folder, click the Create button.

I like to create a different print template for every paper size and paper type (matte, glossy, etc.) that I commonly print to. I will also create a different template for each print service I use when I want to send my images away for printing. These templates will also be organized into folders, one for printing at home and one for the templates I use for sending images away for print.



A new print template is being created and you can see it appearing in the Template browser.



Print Job The Print Job panel contains all of the actual settings you will use for printing. At the top of the panel is the Print To setting and this is where you determine whether you will be sending the image to a printer or to a JPEG file for sending the image away for print. The underlying settings will be different depending on which option you choose.

Sending to a printer When you choose the Printer option from the Print To menu, the following settings will appear:

- **Draft Mode Printing:** Turning this check box on will disable many of the underlying settings so that Lightroom has to do the least work and the print can come out faster. I usually keep this off.
- **Print Resolution:** If you keep this check box off, it will take the original image and scale it to the final print size but it will not do anything extra to make sure that the resolution is just right. I like to turn this setting on so that I can standardize on a particular resolution. When I standardize on a particular resolution, I find that my sharpening is more consistent.
- **Print Sharpening:** If you turn this setting on, you will need to specify whether you are printing on Matte or Glossy paper, as it will do a little more sharpening for matte paper than it would for glossy. You will also have a menu to choose what level of sharpening you'd like: Low, Standard or High. This is really a personal preference.
- **16-bit Output:** If you turn this setting on, it's going to send more information to the printer and it will take longer to print. Most of the time, you won't notice any difference by turning this on. The time that it will make a difference is if you are making a really large print and it has very smooth transitions, like the ones you'd find in a sky. It's areas like this where you will commonly see a banding artifact and turning this setting on will minimize the banding.
- **Color Management:** This is where you inform Lightroom as to what kind of printer and paper you're going to be using and this is what's essential to making the color accurate. This is where you will choose the appropriate printer

profile, and if the one you're looking for is not included in the menu, choose the Other option to get a dialog where you can view all of the profiles installed on your computer. Turn on the check boxes next to the names of all the profiles you would like to appear in this menu and then click OK.

- The Intent option refers to Rendering Intent and this is something that you determine while soft proofing. If you are printing yourself, you will switch between the two options while soft proofing (Perceptual and Relative) to see which looks better to you.
- Print Adjustment: When you turn on this check box, there will be sliders for Brightness and Contrast. If you move these sliders around, you'll find that there is no visible difference in the main image window, but the results will be different in the print. I recommend that you keep the Print Adjustment check box turned off because it's better to accurately profile the display and use the correct printer profile in order to get the desired results. These settings are really meant to compensate for inaccuracies and you'll end up needing to do a good amount of experimentation. It's better to get these settings correct in the first place than to need to correct for them later.

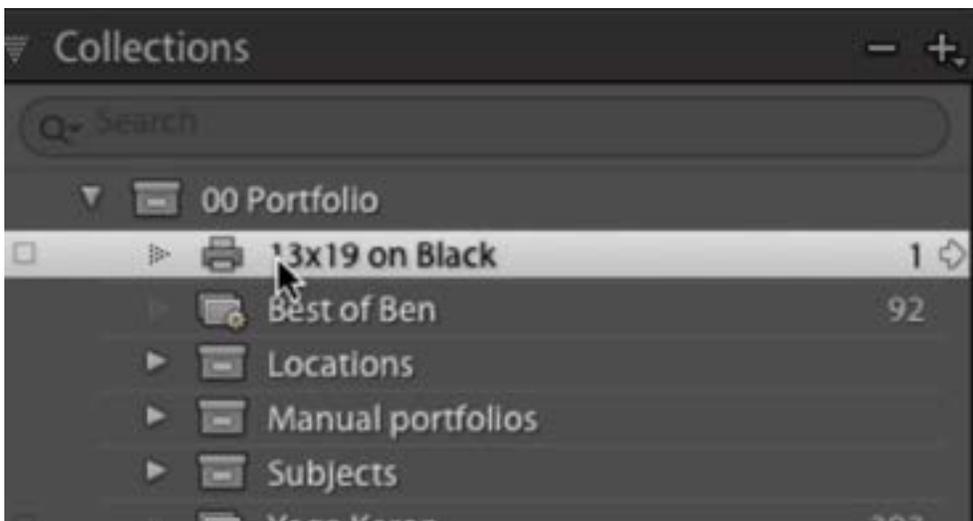
Print To actually make the print, click the Print button at the bottom right corner of the interface. If you need to change the settings for the printer, click on the Printer button (next to the Print button) and a dialog will pop up, providing you with these settings. When you make changes to these settings, Lightroom will remember them for the next time you use the Print Module.

Create Saved Print If you know you are going to make the same exact print in the future, you can create a saved print, which will save all of the settings for that particular image (or images) so that you can quickly print it again in the future. All of your Saved Prints will appear within the Collections panel. To do this, click the Create Saved Print button in the upper right corner of the image window. A dialog will appear asking you to name the print and specify what Collection you'd like it

to appear inside. After saving, the Saved Print will appear within the Collections panel and it will have a little printer icon to the left of its name.

If you would like to apply those same exact settings to another image, simply drag that image over the Saved Print name in the Collections panel and it will be added to that Saved Print series.

When you're ready to print the image or images, click on the little arrow to the right of the Saved Print name. You will be sent to the print Module with all of the correct settings already dialed in. You just need to click the Print button.



Saved Prints will appear within the Collections panel and they will have a little printer icon to the left of them.

Extra tip: Auto-Collapse panels There is a setting that lets you determine whether multiple setting panels can be expanded at once. I like to make it so that only one panel can be expanded at a time, as I feel this cleans up the interface.

Hold down the Option key (Alt on Win) and click on one of the little disclosure triangles to the right of a panel name to toggle between the two options. When the triangles are solid, it means that many panels can be opened at a time. If the triangles are speckled, it means that only one panel can remain open at a time.