Print Lab 2021

01.05.21

Printing serves so many positive aspects of our photography. Printing is all about sharing the wonders and stories our cameras have captured with others! It helps us improve our own photography. And it permits us to master the digital world. Whether it's for business or pleasure, putting a print in the hands of another is one of the most rewarding aspects of photography. Digital in so many ways has made the process much easier, convenient and on demand. On the other hand, digital has brought new challenges that can frustrate some and stop others in their tracks in sharing their photos via the print. I'm going to do my best to move past all of that by explaining the back end as well as the front as simply as possible. Being a printing madman, I've stepped on all the landmines which I can navigate you around. I want your printing experience to be as stress free and wonderful as possible, so let's dive in.

After a number of years with no real change in printing, we are now offered a number of new and improved ways to share our images with others. At the same time, there are some old, lingering myths that need to be hashed through to find the truth so we can move on. In all of this the one thing that must remain true, and that's you! The print is your final expression of that photograph, the final period on the visual story YOU want to tell. And while some things might seem carved in stone, you must at all times, try to avoid the temptation to do so. Once you have a firm foundation in printing, it is your duty to explore and experiment in the pursuit of being true to your own photography! Let's dig in!

Monitor Calibration

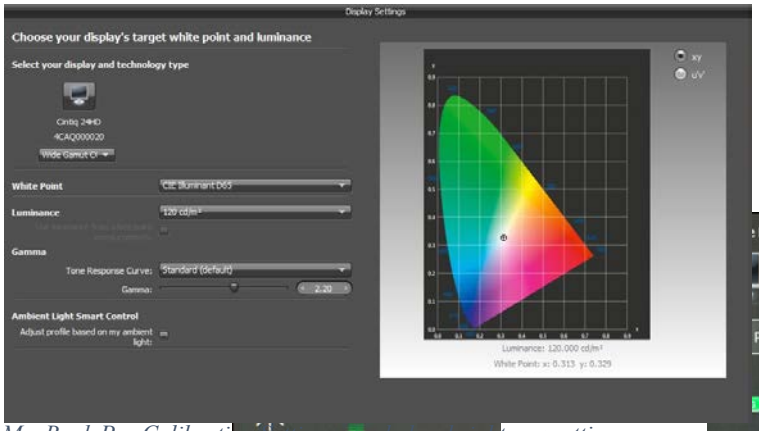
Monitor calibration is VERY important, at least I think so but probably not for the reason you might have heard. Even in this process, light still rules the day and, in this case, we're working with two different light sources. The light coming from our monitors is called transmitted light. You might call it backlit, which it is,

but that light is “pushed” through our monitor screens which is defined as transmitted light. This is important, and we’ll get back to it in a moment.

Our prints, whether on paper, wood, metal, plexiglass, whatever the material, if they are lit by room light, window light, print lamp, by any means other than backlight, that light is called reflected light. The light coming from our source strikes our print and then that light “bounces” or reflects off the print and to our eyes.

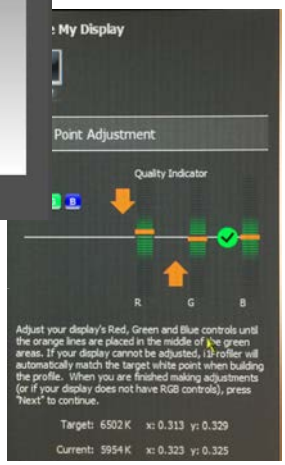
These two light sources are not the same, they are different. The question to ask is, “Can they match?” We need to ask that because the reason most commonly given for calibrating our monitors is to match it to the print. The common phrase is, match the print to the monitor. Using match as a verb, the most common definition for this is, “be equal to (something) in quality or strength.” If we are dealing with two different light sources, can they match? They cannot! They can be close, but we all know that only counts with atom bombs and hand grenades. Why then do we calibrate our monitors?

My reason for calibrating my monitors and why I’m encouraging you to do so is for consistency. Cameras, papers, post processing, printers, they all come, and they all go. And as time marches forward, so does our photography and if we want to be able to look back on past images to see our progress, there needs to be a consistency to which we can measure it by. At the same time, if you’re in the business of photography, delivering a consistent product is essential. That’s the reason why I calibrate my notebook every three weeks and my desktop / digital library monitor every Tuesday morning.



MacBook Pro Calibration Controls – only has brightness setting

There are many methods and sensors available to calibrating your monitor. Is there any one best system, sensor? For a number of years, my preference is the X-Rite i1Display Pro. This small and effective tool where the sensor is part



Cintiq 24HD Calibration Settings – monitor has controls for every aspect of calibration

of a two-part syster es the monitor through a number of steps consisting of changing color and contrast that with the sensor hanging on the monitor, measures the light being transmitter and from that then creating a profile. That profile is used by the computers operating system to present to our eyes a consistent light, contrast and color. In photographic terms, that consistent light contains color, contrast and brightness.

My personal preference for calibrating my monitors, which I’ve done for years is as follows. My desktop computer monitor is a Wacom 24HD, an amazing LCD monitor loaded with just about all the ways possible to manipulate its parameters for operation. I have the monitor on and let it “warm up” for at least 30min prior to calibration. Technically this is not required but old habits die hard. I then hang the sensor and run the software. I personally set my monitors to a brightness of 120 but the actual brightness level rarely actually hits that number.

That's OK. The last step is to change the profile name when I save it. I added that day's date to the name, so I know when it was made.

When it comes to the MacBook Pro, things are a little different. I warm up for the same time, but I set the brightness to 11 (off is 0, brightest is 16), always. That's because I was told that was the optimum for the MacBook Pro for calibration. Whether that's carved in stone or not I do not know. I've just always done it that way and it works for my photography and printing. And that's what it's all about.

Printers – Just My Thoughts

The magic that is digital printing still amazes me! To this day, I still try to stare at and keep pace with the print head as it swishes back and forth laying down the ink! On average, about 110 24x30" and/or 17x22" prints are produced each month by our Epson printers. Since I first started printing digitally, I've used only Epson printers. There are many reasons for this, the main one being that it is a complete package, printer, ink, paper and profiles. And while I've not had issues over the decades, I am aware of some who have. Those who have reached out to me I've been able to assist but for myself, I've enjoyed nothing but success and fun. There are two workhorse printers in the office right now, the P7000 and P900. No matter the printer you use, the steps and techniques I cover here apply. The ease it all works for me I credited solely to Epson products.

The Epson P900 is as far as I am concerned a game changer when it comes to printers and print technology! The SC-P900 is simply a marvelous, gorgeous, small, and efficient printer! I love it! You might not be aware that Epson brought out two new printers in the last few months, the SC-P700 & SC-P900. The SC-900 is the Cadillac of desktop printers replacing the SC-P800. What makes it so? Glad you asked!

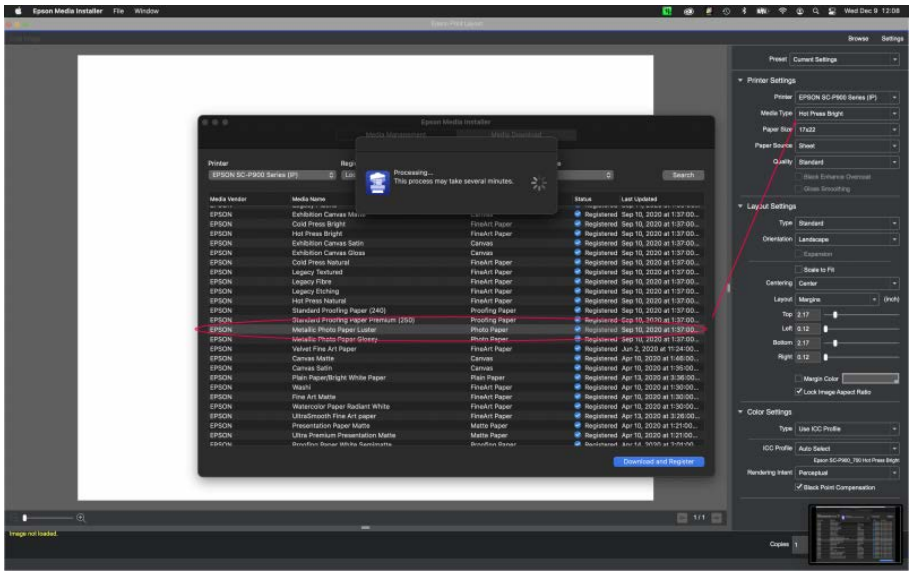
Let's start with size, it's so much smaller! The gray area above is the size of the Epson SC-800, a grand printer but as you can see, it much larger than the SC-P900. If you add the roll paper holder like I used, you almost double the SC-800 footprint. The SC-P900 even with its roll paper holder (vastly improved) doesn't come close to the size of the SC-P800 alone. And in this new small package comes a new ink (now a 10 ink set) and new features.

The LCD panel can be customized to your printer needs. When printing, the photograph being printed fills the SC-P900 LCD as confirmation. There is a LIGHT inside the SC-P900 that shows you whats being laid down on the paper that moment. And if you're like me, it just makes it easier to watch the print head go back and forth. Or, you can use the light to help load certain paper media.

And for those who print on Metallic paper like myself, there is a new setting, Carbon Black that when you have a big DMax really makes a stunning print (don't use this on other papers, doesn't work the same). I've reprinted two of my aviation images and man, what a difference. Zow! Here's a quick list of other features:

- **Outstanding image quality and color** — all-new UltraChrome® PRO10 Ink with Violet produces a wide color gamut for vibrant and rich colors
- **No Photo and Matte Black ink switching** — dedicated nozzles for both black ink types — no switching needed
- **New 10-channel MicroPiezo® AMC printhead** — consistently delivers prints with outstanding speed, consistency and accuracy
- **Easy printing from smart devices** — print color-managed files directly from your iOS® device[1] using an easy-to-use interface
- **New Carbon Black Driver Technology** — all-new Carbon Black Driver mode dramatically increases Dmax for best-in-class black density on glossy papers
- **Professional media handling** — accommodates rolls[2] and sheet media up to 1.5 mm thick of Epson Professional, Signature Worthy and Legacy papers as well as third-party media
- **Easy to use** — features 4.3" customizable touchscreen, wireless connectivity and interior LED light for fast, convenient operation
- **Compact design** — up to 30 percent smaller than our previous generation
- **Industry-leading print permanence** — UltraChrome PRO10 ink is expected to create prints that have WIR display permanence ratings of up to 200 years for color and 400 years for black-and-white

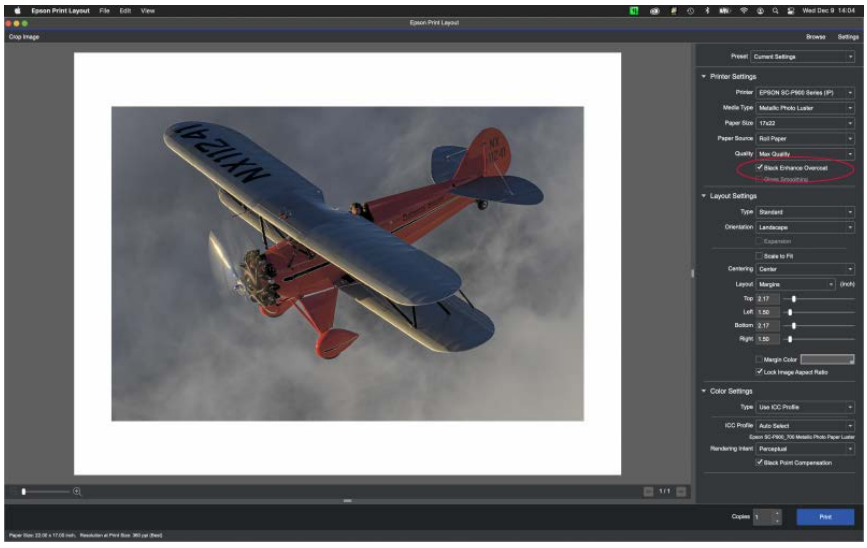
My efforts at being a reformed print-aholic have gone out the window with the new Epson SC-900! The roll paper adapter is a totally new animal from any previous model making printing even easier. No more spool to insert. No more hassle loading paper through the back slot. You literally drop the paper roll into the back (don't drop it!), unroll the paper slightly into the slot, press a button and you're ready to print! I know, I've already gone through a roll in less than a week. The prints coming out are simply, gorgeous to the point I've reprinted two for my own walls! But it doesn't stop there.



Using Epson Print Layout 1.5.2, adding a new paper profile is soooooo simple! I clicked on Media Type, add Metal Luster and EPL went out to the web, grabbed the profile, and loaded it onto the Mac. It couldn't have been simpler or easier. But the goodness doesn't stop there!

As I mentioned before, EPL has a special treat for us Metallic users. The Carbon Black or Black Enhance Overlay produces stunning results! The visible difference in the DMAX makes the reds in this print jump off the paper. If you're looking at upgrading or getting a new printer, I can't recommend the SC-900 enough to you!

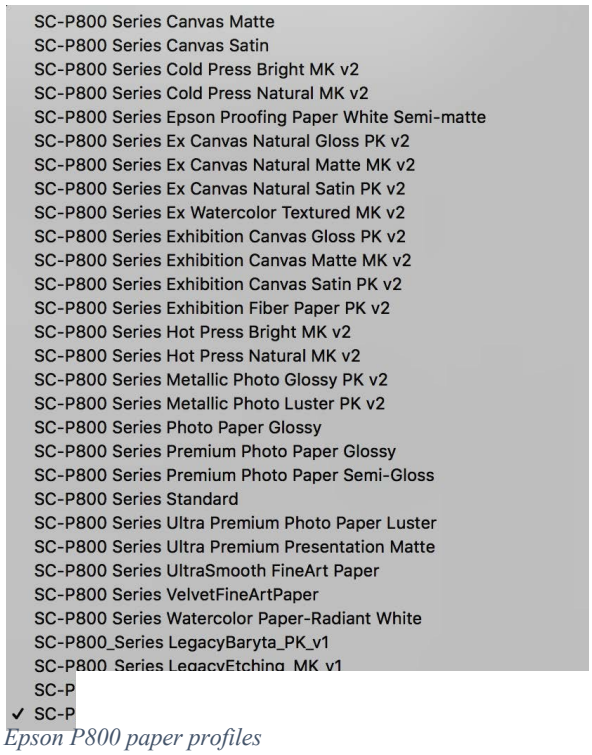
As you might be aware, I love shooting and printing B&W. Without a doubt, the SC-P900 produces the most beautiful B&W of any printer I've had in the office. It's easier than ever with the updated and improved Epson Print Layout 1.5.2. The bottom line, printing just got easier, more fun, and more importantly, better with the SC-P900. I'm glad we've got empty walls at The Ranch, I've got some gorgeous prints to frame and fill them up!



Note: if setting up on a Mac, be sure to select the SC-P900 (IP) printer and not the one using Bonjour.

"My nozzle's clogged" is a common complaint I hear. Most think the inks we use are liquid when in fact, they are a "powder," a dry ink. With a clogged nozzle, they run over and over again the cleaning cycle not realizing it's just making things worse. Ever had a chocolate chip shake and you're sucking away on that straw until everything comes to a halt? You've got one of those sweet chips stuck up in the straw (I just hate that). Now if you keep sucking harder and harder on that stuck chip, all you get is an even more plugged up straw. Normally though, we just blow and the chip flies out and we go back to enjoying that shake. Same thing with our printers. The cleaning cycle when there is a clogged nozzle just sucks and sucks. That works no better than with that shake and chip. All you gotta do to take care of that clogged nozzle is blow out the clog. That means, put in a cheap piece of paper and make a print or two and the vast majority of the time, you're good to go.

It was suggested to me when I first got the P7000 (a gorgeous printer) in the office just to leave it on all the time. My first concern was the waste of electricity then it was the thought, how can this help in preventing clogging issue? Well the draw of electricity when sitting idle turns out to be about nil. And knock on wood, I've never had a clogged nozzle on the P7000. I'm just passing this along because for me, it works.



Epson P800 paper profiles

Do I create printer profiles for my printers? I do not. There are lots who do and produce gorgeous prints. The process of creating a printer profile for each paper is a time consuming one which is why I don't. I use Epson paper printer profiles which produce gorgeous prints. There are many battles to pick in printing and this is one I've personally caved in on and have taken the easy route. With that said, there are two steps I do in printing I do knowing that I wouldn't have to do them if I took the time and expense and create my own printer paper profiles.

There are a couple of things I do when I'm printing that you don't have to do when printing, but I highly recommend it. When printing with any wireless printer such as the Epson P800 (a great printer), turn it on before you sit down at the computer. You don't have to warm up a printer, I just always have and always do. This time does permit the printer to connect to the network which at times does seem to take longer. Once you sit down, make sure you have gone to the Preferences for your printer, so it will check for firmware updates automatically. Those updates are important, and they MAKE a difference.

One consideration in printer selection I want to touch on, and that's size. The foot print size of the printer and the largest size o u want and or need can be a challenge when buying one. My perso 1 P900. It has a small foot print, prints up to 22x17 (and roll) and is very modest in its ink use. It also prints wirelessly which is a space saver as well. In our office we have the Epson P7000 and the P900.

Let's Talk Paper

When it comes to printing, the paper is everything! When I first started printing, I like most I bought whatever paper was the cheapest and went for it. Yes, an image came out and because of that success I was happy. But it didn't take very long to figure out that just like in the wet darkroom, the paper is everything in the digital darkroom. Like most, I started to read about what others used for paper and based on that reading, I bought this or that paper. That still didn't work for many reasons, the obvious one is paper is everything and reading about it doesn't work. There is so much to selecting paper from the paper itself, the ink being laid down on it, the light reflecting off it and most of all, the most important thing, the subject of the photograph!

Putting it in the most basic of terms, there are two types of paper, Matte & Luster. Matte paper has no shine to its surface where luster very much as a shine to its surface. I like to refer to them as carpet (Matte) and linoleum (luster). Each paper from every manufacture has a slightly different surface and even though they all fall within this very broad description, each can make a photograph spectacular as a print where another might

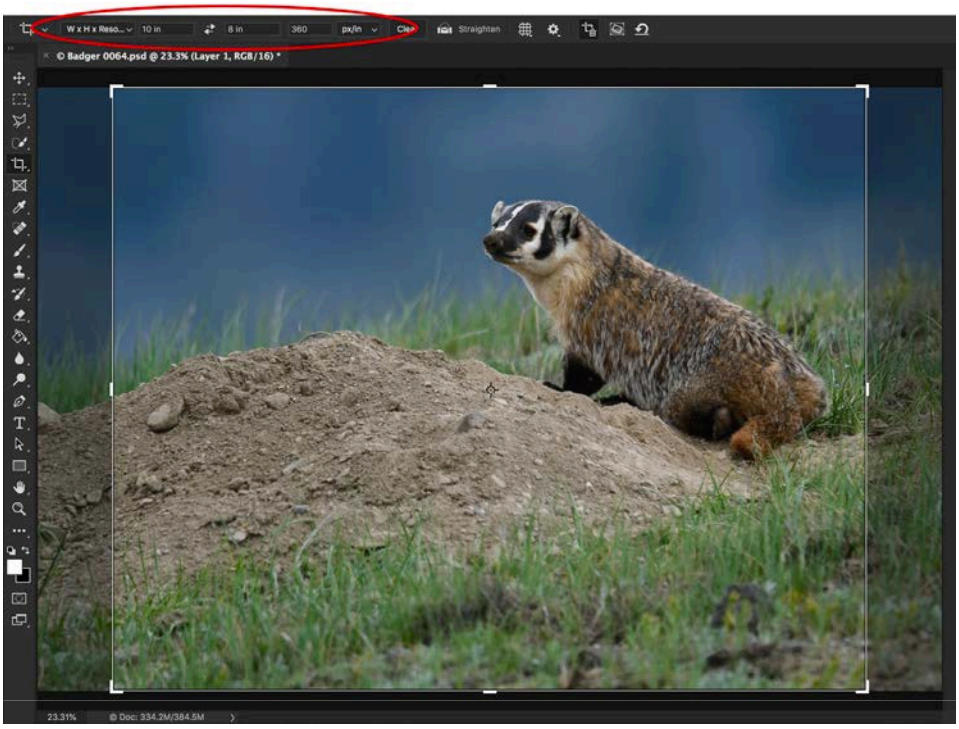
be a total disaster. How do you then weed through all of this and narrow down the paper options to find the right one for you photographs and the story you want to tell?

I recommend whole heartedly you buy SAMPLE paper packs! As a paper junky with boxes of opened paper with just a few sheets missing, don't do what I did and spend the big bucks before getting samples! You can "test" with sample packs quite effectively and get a good sense of what works for you and what doesn't. How do I recommend you test paper to find what's right for you?

(Note: the file is changed to ProPhoto RGB in post in the Raw processing which important!)

It starts with selecting the images to do the test with keeping in mind that it's all about the photograph. I look for images which have a wide spectrum of colors. Greens, reds, browns, Blues, Blacks and Whites are the primary colors I include in the images I pick. Next, I look for images that are "fuzzy" and "shinny" as in a critter and an aircraft. If the sample pack has five pieces of Paper A, five pieces of Paper B, five pieces of Paper C, etc., I select five different images for the paper test.

Each test print is printed on the Epson printers using their ink and paper profiles. The sample packet paper size is typically 8x10". I size the images to 24x30" (my typical print size) and just print an 8x10" portion out of that image (Use the Crop tool and create an 8x10" Crop). I do this because the vast majority of my prints are 24x30" in size, so I want my testing to reflect the possible end result. Because when I like what I see, the next testing is on 24x30" size of that paper. That's when testing gets expensive, only if the original testing is not done thoroughly. I will do this with each of the five images with each different sample of paper until I've printed all the images on all the samples.



Making 8x10 Crop from a 24x30 sized image

This gives us a great direction where to head with our paper selections for the future. It also provides you a baseline for all your paper purchases in the future. You want to KEEP all of these very carefully made test prints because the more you print, the more you will look back to see if or how your printing "tastes" have changed. Never get rid of your tests, they will always be a reference you'll turn to.

With all of that, is there any one "best" paper I can recommend to you? Nope, not a one! I can tell you the papers that I'm in love with right now, but the key here is, right now. As new papers come out or are made aware to me, I go through the testing as I just described and when I find new that is better, I go with that paper. Here's the list of my current favorite papers:

Epson Platine
Epson Baryta
Epson Metallic Luster
Epson Hot Press Bright

I use the Epson Platine for my "shiny" images. I use the Epson Baryta for both shiny and fuzzy. I use Epson Metallic Luster for only aircraft and Hot Press Bright mostly for critters. Are these subjects and paper matches carved in stone? Oh, heck no! There are many times I will print on a particular paper and during the process I will change my mind and try another paper. These are my go-to papers when I first start the printing process for a particular subject but might not be where I end up.

I am often asked about what paper I use for B&W printing. My current favorite is **Epson Exhibition**. I have also done quite a bit for a client on Epson **Exhibition Canvas Matte** which is pretty dang cool too!

50" Deroller which I use

One other consideration in all of this is, and that's the format you get the paper in. I truly love sheets, just makes life in the office easier. Paper like Epson Platine doesn't have a 24x30" sheet size so I have to use roll paper. The roll paper is the same and loading it in the printer is a whole lot easier. The annoyance for me is at the end. Roll paper has a natural curl that needs to be dealt with as soon as the paper comes out of the printer. That's where the Deroller comes into play (no, not making that name up). Me and the deroller sometimes just don't get along. If the deroller isn't kept immaculate clean, then you run the risk of that "dirt" being transferred to the print which means you have to reprint. This normally happens to me when I'm in a hurry getting a print order printed and out the door between my shoots and time is tight. It works great, just not my favorite.

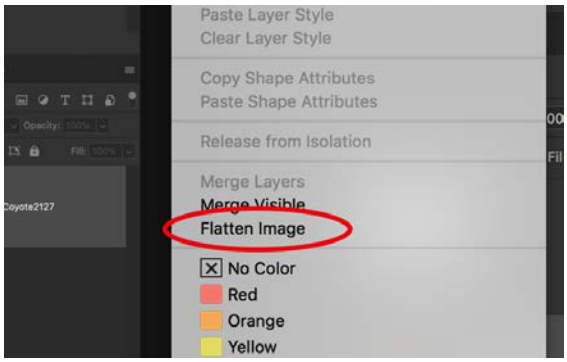
Alternative Printing

We are very fortunate these days to expand our printing beyond our own printers. For example, the printing on metal has come a long way from a fade to a real unique art for and product all on its own. The best IMHO is Image Wizard whose metal prints line my office walls. Another favorite of mine is a combination of my Epson Metallic print "mounted in reflection free plexiglass. The folks at TruLife do a magnificent job showing off our prints in their gorgeous system. These also hang on our walls. Some hesitate to use these services because they are not sure just how to deliver the file to them. It's the exact same process as outlined here to print on your own printer.

The Printing Process – Where I Begin

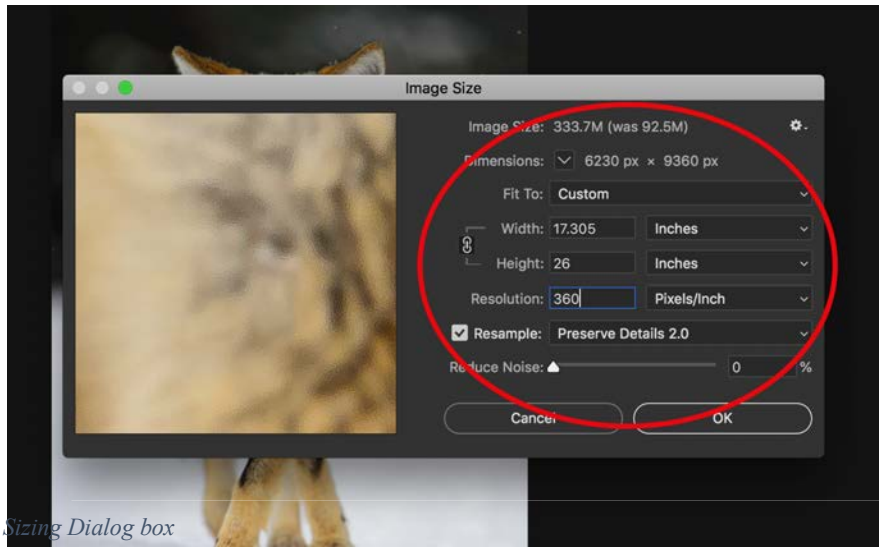
Photoshop, Lightroom and Epson Print Layout are the three methods for outputting I can recommend. There are many differences between each other and each on different platforms, Windows or Mac. No matter which way you go on either platform, the printing process starts at the camera! One of the most important aspects of printing is understanding the importance of the capture at the camera. The more information you gather when you take the photograph, the more information you have to lay down as ink on the print. I'm not going to go over all that must go into that photograph to make the best possible print. You can find that information from me on my website and my many Photoshop classes on KelbyOne. We are going to just move forward with the assumption (which is a big one) that you have the best possible file to print.

It's important to understand that this first part of the printing process is my own personal workflow. You DO NOT have to do this. I do it simply to save myself, from myself. It begins with working with a COPY of my finished file. I do not print from *the* finished file because the first part of my printing process is to Flatten the file. Many of my images that I print have many Layers. I still save all my layers for many reasons but when I Flatten a file for printing, those layers are lost. That's why I work with a Copy of the finished file and not the original finished file. I Flatten the files because that makes the files its smallest possible size which speeds up moving the file to the printer (especially helpful when printing wirelessly).



Right Click on Background Layer and choosing Flatten Image

Once the file has been Flattened, I size it for printing. This brings up a slew of questions to which there's more questions than answers. The first question is, "What size do I make the image?" The actual print size is determined by the paper size, for example a 17x22" paper is a print size of 17x22" or 24x30" is 24x30'. But the image size printed on that paper unless printed borderless (which means cropping the image), will be smaller than the actual paper size. My personal preference is I never crop an image so printing borderless is not an option for me (and borderless is not an option on some printers & paper). With that then the image is sized based on personal preference. In the Fine Art world, leaving a white border around the image is the norm and while I don't work in that world, I leave a white border around my image when I print. On 24x30" paper I size the longest side of the image is 26" and on 17x22" I size the longest side to 19". This leave a 2" and 1.5" white border around the image respectively.



Sizing Dialog box

There is no right or wrong as far as I'm concerned but there sure is a lot of thought about it out there. Since I provide my clients my prints with a white border, they then have the option of my autographing it and options when they go to frame it. Giving the buyer options is a good thing (Center in printing is important for this. Discussed shortly).

You might be wondering why I said, "size the longest side" and didn't mention both sides? If you look at the Image Size box above, you will see between the Width and Height a Chain Link. With that not grayed out, when you enter a number, in this example, 26, Photoshop automatically changes the other dimension according to the aspect ratio of the image file. In this example, I'm printing on 24x30" and the longest side is the Height so I entered 26" and Photoshop took care of the other dimension so the aspect ratio of the image stays consistent.

The majority of the time when you enter a number in the Image Size box, you are going to "size up" the file. In other words, the image size on the print will be larger than the native file size. If you're working with a "high res" camera such as the Nikon D850 or Z7, there might be times when you enter a number on the longest side that is actually smaller than the number already present. That's called "sizing down" the file. In either case, we need to tell Photoshop how we want it to do this.

You will see in the Image Size dialog box the word Resample and to the right of it is a drop-down box. If you click on its arrow, a menu drops down with all sorts of options. All those options are how you want Photoshop to make stuff up. That's right, when you size up an image, Photoshop has to make stuff up to "fill" in the holes created in sizing up the file. Each release of Photoshop over the decades has had one method better than the other and in CC2019, Preserve Details 2.0 is the preferred method. I have not tested them all. Someone I trust told me that was the one to use. They weren't wrong, it works beautifully!

Last question to answer is the Resolution number to enter. There are hundreds of theories of how to come about this number. I'll be honest with you, I never tested all the theories to see which one is the best for my printer and paper. Rather, I used the number Epson recommends, 360dpi, and that works beautifully. On an interesting note, when you're using Epson Print Layout, you will see the Resolution number for each different paper and size change slightly from 360. I find it fascinating to see.

The Printing Process – Sharpening

There is only one time you can truly sharpen an image, and that's when you focus the lens and take a picture. After that, you are simply tricking the eye with a slight of hand, so we perceive things as sharper. When you got it sharp in the camera, your only task is not making it softer when you process the file. After that, when

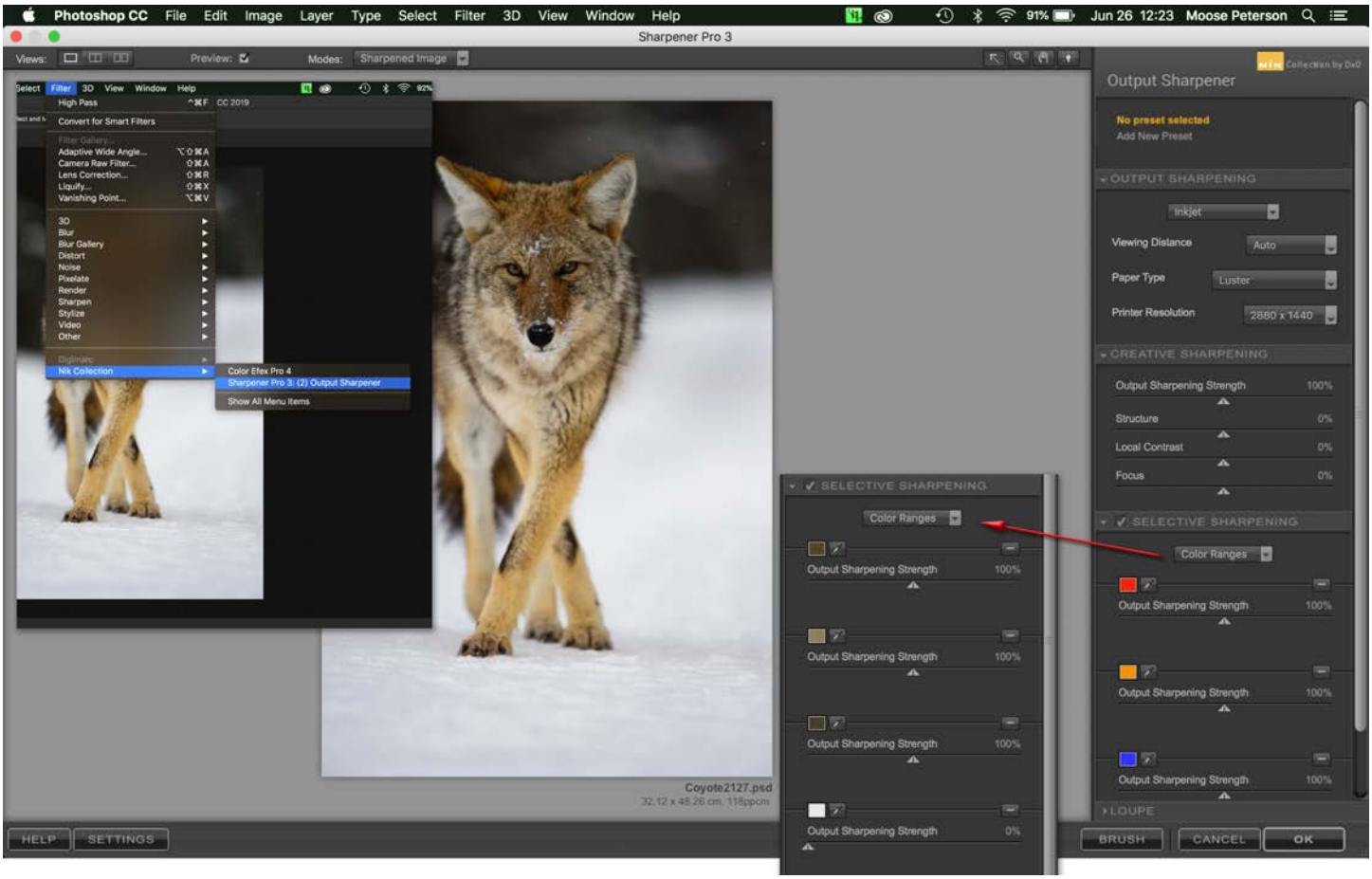
we talk about “sharpening” for printing, it is strictly maintaining the sharpness we capture when we took the photograph.

The next “sharpening” I do when printing is commonly called, Sharpening for Content. These fancy words simply mean we’re going to sharpen JUST the subject and not the whole image. This reinforces where we’ve told the eye to first look in our print for the subject. There are many methods of Sharpening for Content, my preferred is called High Pass. I do it very simply by creating an Action that applies the Sharpening for Content to the area of the photograph I have selected. Using the Quick Selection Tool (W), I select the subject. Then I go to my Action panel and click on High Pass and it runs the Action “sharpening” just the subject (You can get my action on KelbyOne). You will not see some radical “sharpening” of the subject, in fact you’ll see almost no difference. In fact, you might after testing a print with and without this think there is no difference. But to someone who looks at the print, their eyes will go to that subject first and that’s what’s important.

Subject selected and High Pass Action ran

The next thing I do is sharpen again. You read correctly, I “sharpen” again. This time, the sharpening is to tell the ink how it should laid down and then spread on the paper. Some experts use a RIP to accomplish this same task, I’ve chosen to go what I feel in a simpler route. What we’re going to do is help the printer know what size ink “drop” to lay down as it prints. I like to explain it all like this.

As I mentioned, I think of luster paper as linoleum and matte paper as carpet. Now if we had an 8oz glass of water and we poured it on the linoleum and on the carpet, would we have the same size spill? We wouldn’t would we. The linoleum would be a big spill and the carpet a small one. That’s because the linoleum doesn’t absorb the water and the carpet does. Well luster paper and matte paper do the same thing. Luster doesn’t absorb the ink the same as matte. I use Nik Sharpener Pro 3 to help the printer know just how to lay down that ink based on the paper I’m printing on.



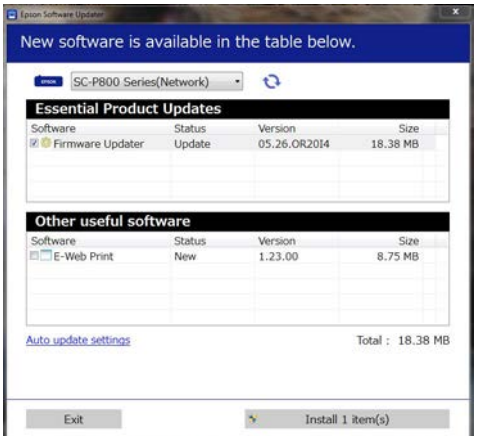
Nik Sharpener Pro 3 in Photoshop under Filters, Sharpener Pro 3 UI and Color Ranges panel

With Nik Sharpener Pro 3 launched, simply go down the check list the right panels present. Start with setting it to Inkjet, leave Viewing Distance at Auto. Set Paper Type to the type of paper you're printing on, in this example it's set to Luster. Next set the Printer Resolution to the resolution for the printer you're using as per the printer's instruction book. This is the setting for my Epson P7000 & P800. Skip right past Creative Sharpening and head down to Selective Sharpening.

This is where we can work some more printing magic with a simple couple of clicks. Selecting an eyedropper, click on the SUBJECT selecting a color. In this example you can see where I have selected three difference colors in the Coyote, my subject. If you look, the last eyedropper, I selected the snow which is white. And the numeric value is set to 0. I've told Sharpener Pro 3 to tell the printer that the Coyote is important, and the snow is not. To sharpen the Coyote and not the snow. You can think of this as another form of Sharpen for Content through making the ink spread work to tell the eye where to look first in the photograph.

The Printing Process – Ctrl P

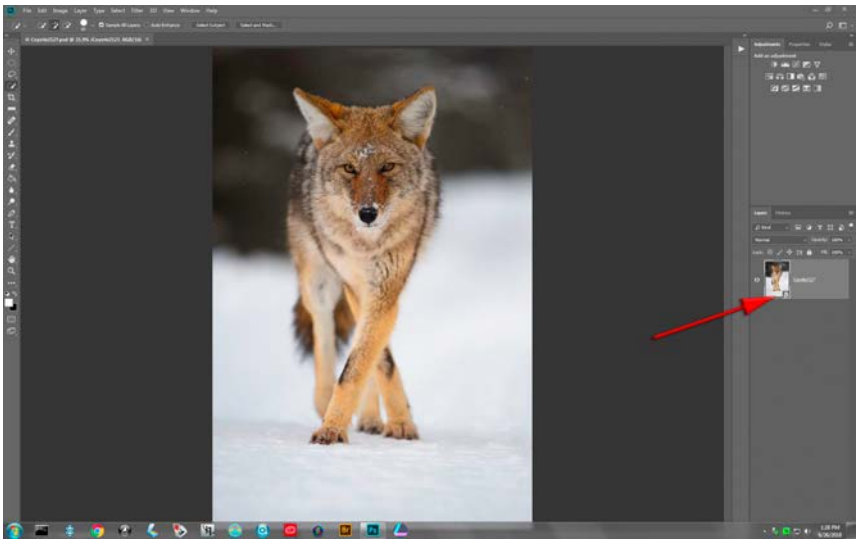
The actual mechanics of producing a print can seem like hand to hand combat for some, there is no doubt! That's the last thing I want you to experience when printing. It needs to be fun, rewarding, entertaining, enlightening and consistent. That's my goal here so what I have below are the three different ways I recommend you go about the mechanics of producing a print. Is there one best method? The answer is yes but the best for you might not be the best for me which is why I offer these three methods.



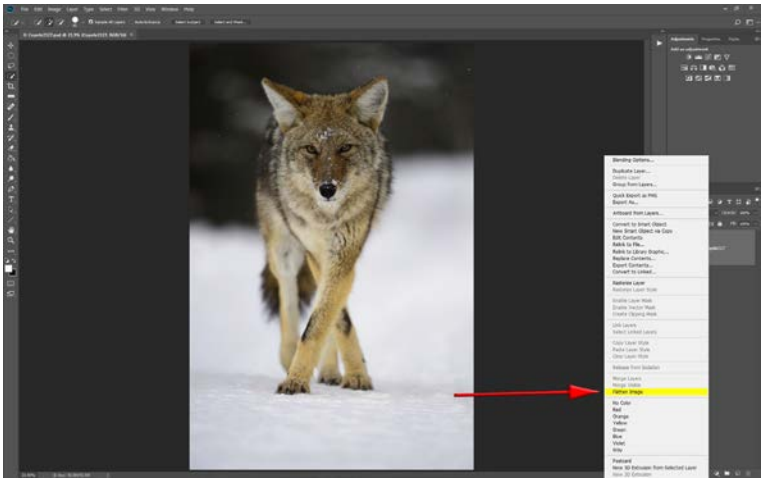
Remember before you sit down to print, turn on your printer! Give the system time to go out and check for firmware updates which you want to do BEFORE you print!

I have broken down one method, printing with Photoshop into Windows and Mac platform. I've done this because personally, I find Windows the easiest and fastest way to print. Mac, while more menu items are sticky, cause you to either have memorized or written down all the options you want every time you print. The other thing about the Mac interface that I find a hinderance is the Mac printing dialog has many options hidden and if you don't know to click on certain boxes, you won' find them. Not that having all the options obvious like on Windows isn't confusing, but at least you can see the options. Here are the mechanics of Windows, Photoshop printing.

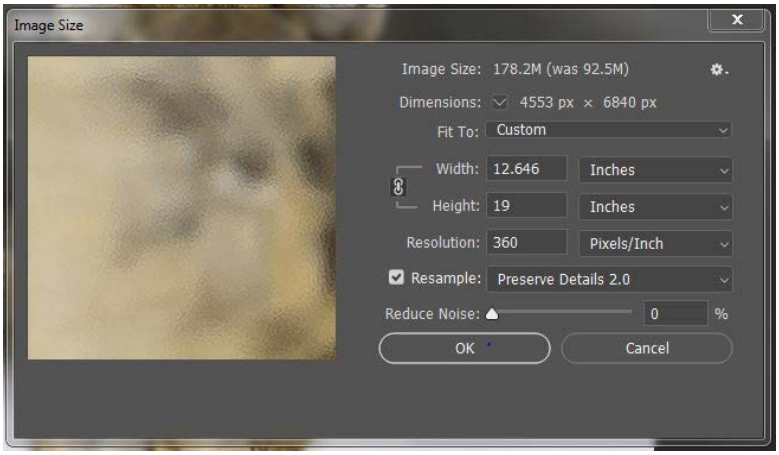
Windows – Photoshop Printing



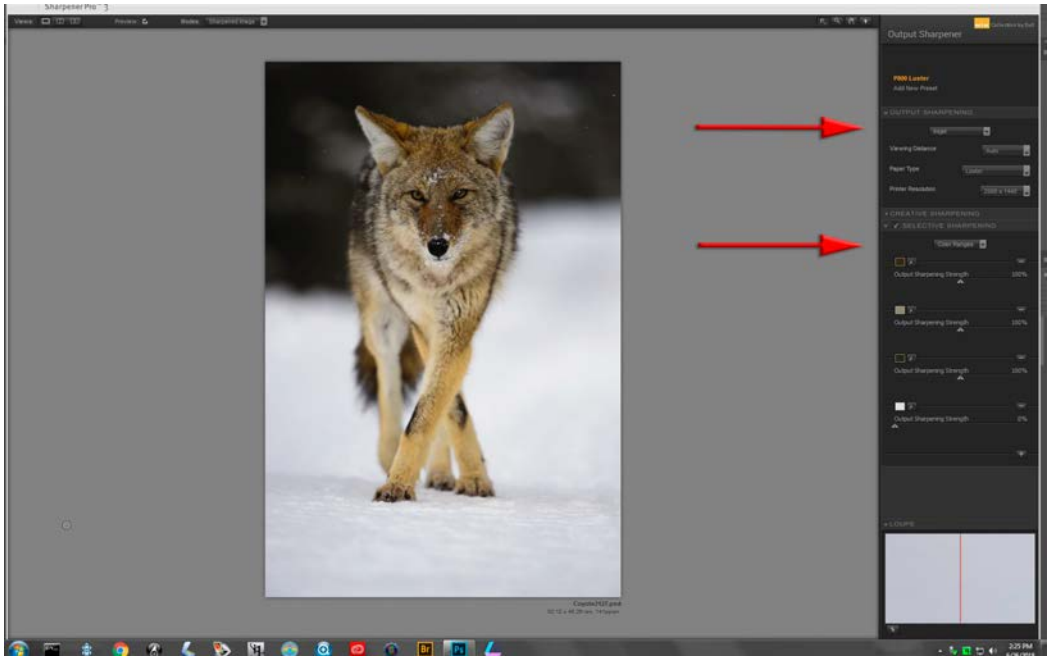
#1 It starts with opening the file. I highly recommend working with a copy of your finished file and not the original finished file. This is because we often have Layers in the process in finishing our files. Those Layers provide us the flexibility we want in our finishing if for no other reason for when we update our printer/paper and want to make modifications. In the example to the left, there are no obvious Layers, but it does have a Smart Object. In the Photoshop scheme of things, that is a Layer. Working with these files, you still want to work with a copy.



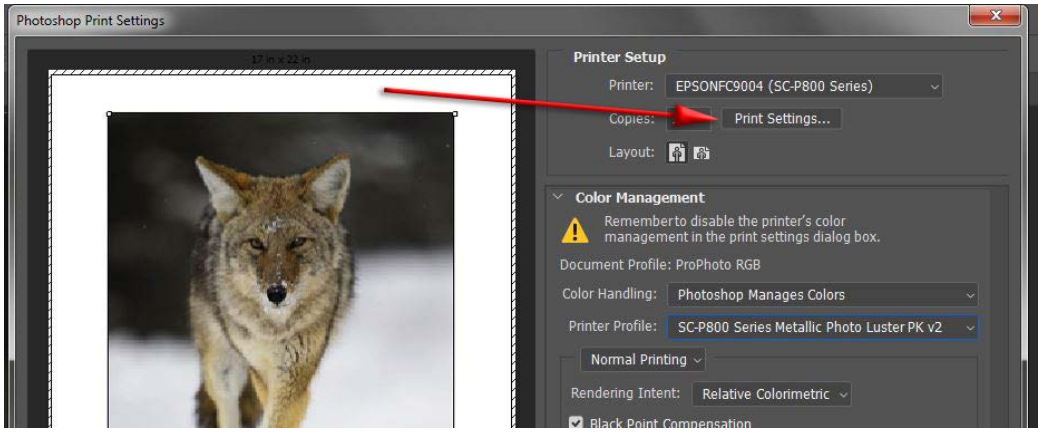
#2 The next thing I recommend is to flatten the file. This makes the file the smallest possible size and much easier to push through the pipeline to the printer. Since it is a copy and not the original, you always have a fall back in case anything goofs up (and it does at times). Simply right click on the bottom layer, select Flatten Image and click on it to perform this process. One layer you don't see here is the Sharpening for Content. That would be done as described above prior to Flattening the file.



#3 As described above, we want to then size our image for printing. Whether Windows or Mac, this is a must. You can see that even on Windows, I size up the file by putting in the longest side measurement and then let Photoshop calculate the other length. The resolution will still be 360dpi and the Resample method will be Preserve Details 2.0 (using Photoshop CC2018).

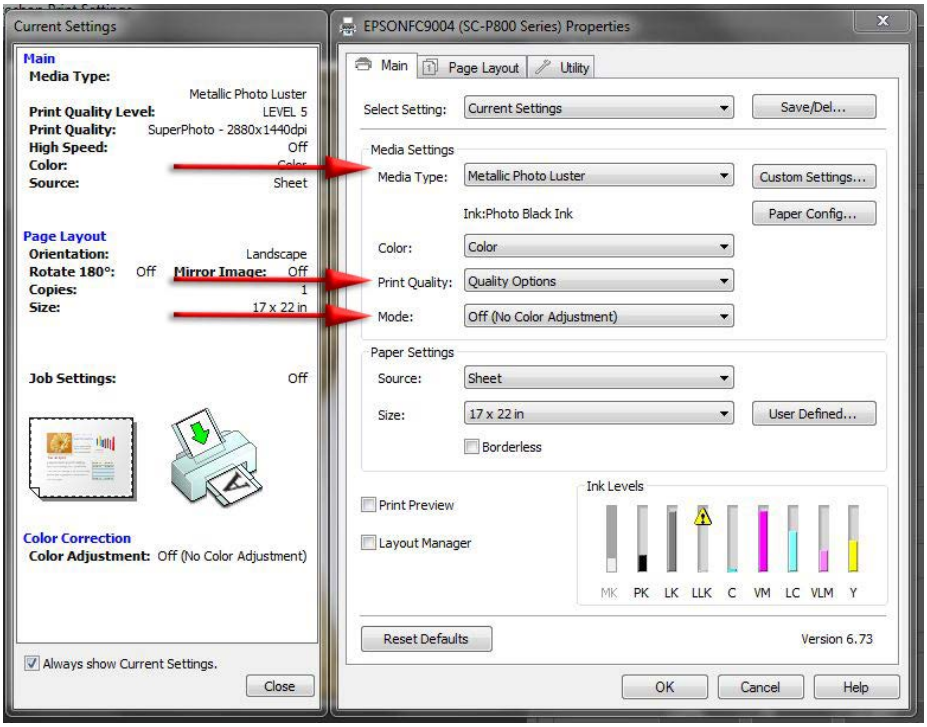


#4 This is the step where Nik Sharperner Pro 3 is launched. As described above, go down the checklist and insert the correct setting for each applicable option. Be sure to take advantage of the Color Range for Sharpening for Content. In the Settings box for Sharperner Pro 3, there is an option to save all the changes done with Sharperner Pro 3 to the same layer. This is not the default option. Since I like to have the smallest possible file when printing, I select this option because I'm working with a copy of the original file, would redo it if I needed to reprint the file and it keeps the file size from doubling or adding the extra step of flattening the file again.



#5 Next is clicking the old, Ctrl P which brings up the Win print dialog box. After selecting the printer, you want to print with (if you have more than one printer) click on the Print Settings box. This is where all the big decisions are made. Don't be fooled like many are that you bypass this unimportant looking option box and just need to fill in the information below it. This is what often causes what is called Double Profiling. Another

description for this is profile mismatch. You MUST open the Print Settings dialog and "fill in" all the required info that is offers. So, click on the Print Settings box and this dialog appears

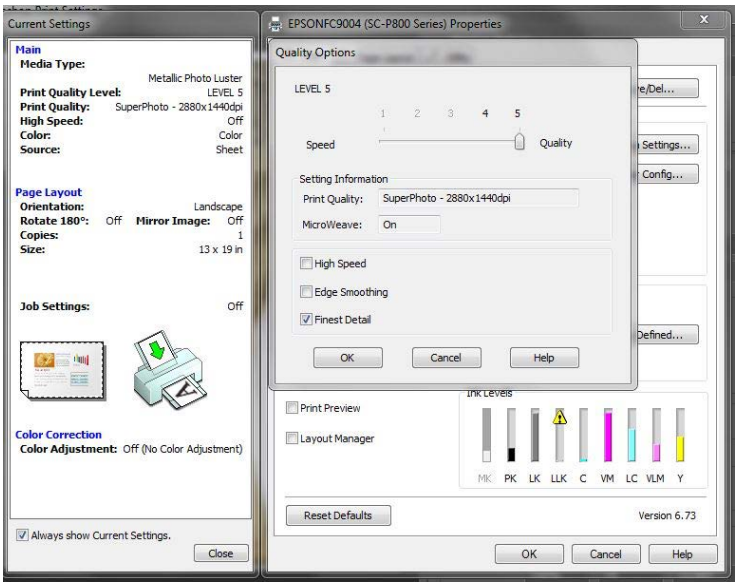


#5 cont – If it is the first time you've launched the Print Settings, Current Settings is what you'll want. If not and you have Save(d) your settings from a previous session (which I encourage you to do because it makes printing almost instantons) you will find that under Select Setting (I name a setting for printer/paper ie: P800HPB).

Media Type is where you tell the dialog the paper you're going to be using. I've never had an issue finding the paper I'm going to use in the list of papers. If you find that problem, check that you have the current version of Photoshop and of the Paper Profile installed. This is easy to do on the Windows platform.

Color: If you're printing color, the selection is obvious. If you want to print in B&W, you want to select Advanced B&W Photo (I won't be going into B&W printing in this Print Lab. This brings us to the Print Quality dialog.

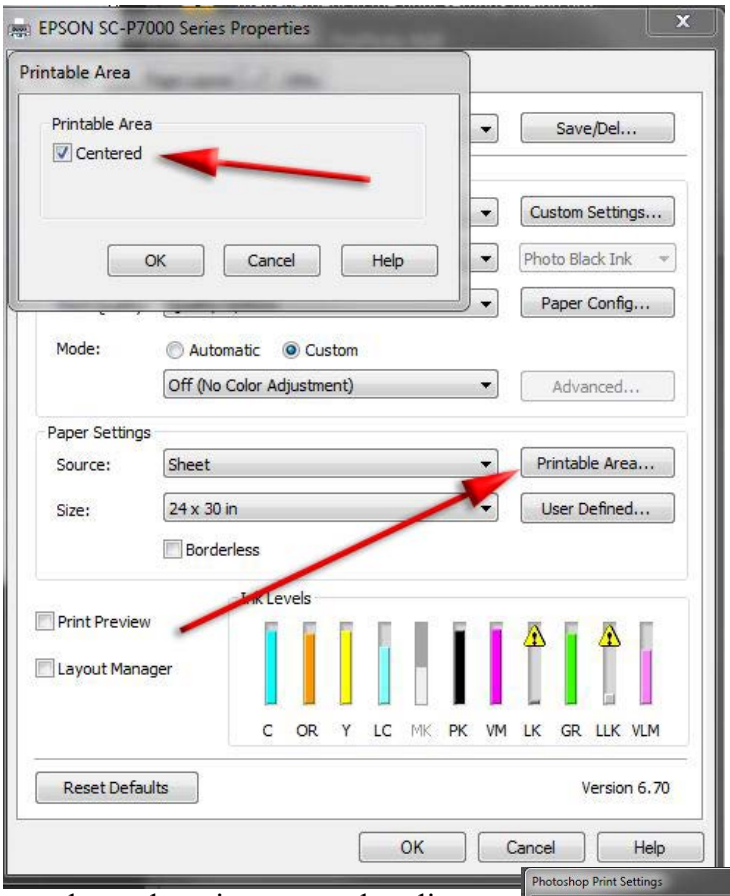
When you click on the Print Quality menu, you want to select the Quality Options and click on it. That brings up another dialog box. It will not have the same settings as you see to the right. What you see to the right are the settings that I prefer. The settings you see to the right will cause the actual printing process at the printer to be at its slowest as in, it will take the longest period for the print to actually be printed. It will IMHO also produce the best possible print quality. Do I ever select High Speed and uncheck Finest Detail to speed things up? Nope, I just allocate more time to the printing process. The print is your final expression of your photograph, its story. I don't feel this is the time to take shortcuts in that process. Once you have made your selections, simply click OK to close this dialog box.



That brings you back to the main print dialog window again. You want to click on the Mode option and select Off (No Color Adjustment)! This is vital!! This is how you prevent double profiling or better known as the "green wash" in your print. It's real simple to prevent and so simple to overlook so be sure you have Off (No Color Adjustment) selected!

Paper Settings are pretty self-explanatory. When you click on Source, the options that appear will change based on the printer you are working with. The P800 has five options where the P7000 has three. If you are using paper like Poster Board that requires special loading in the printer, follow the printer instructions for loading and be sure to select the correct Source option for that paper in this drop down menu. Not doing the can

put you in printing hell as computer / software / printer get all confused confusing you even more. It's an easily overlooked step that just starts a big mess that is easily avoided from the start.

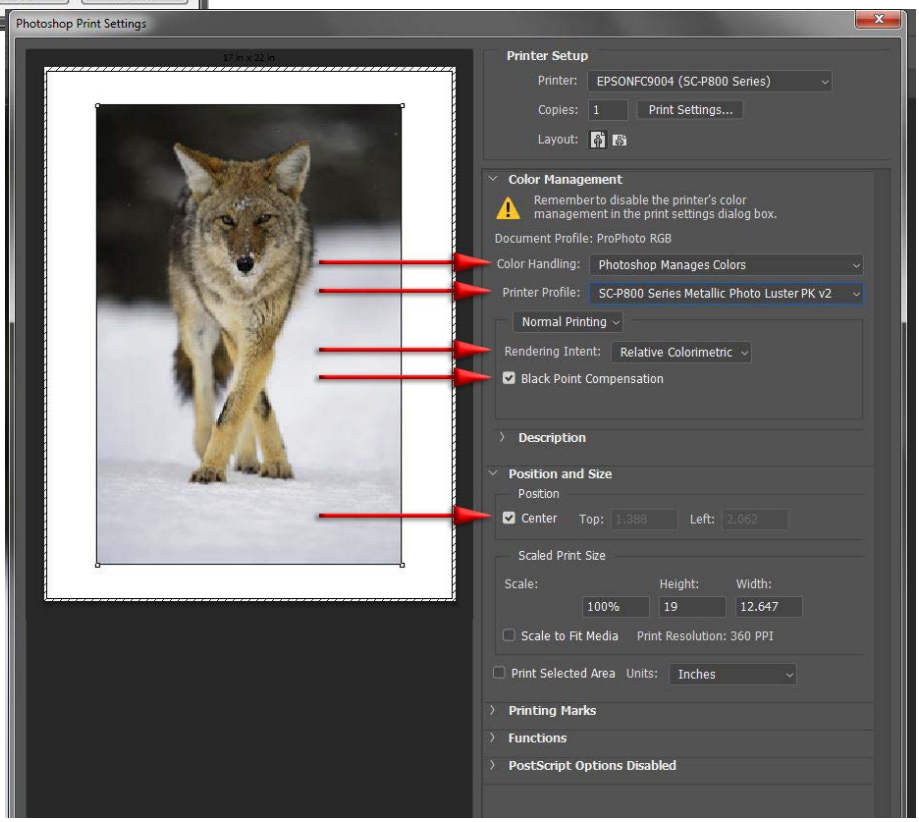


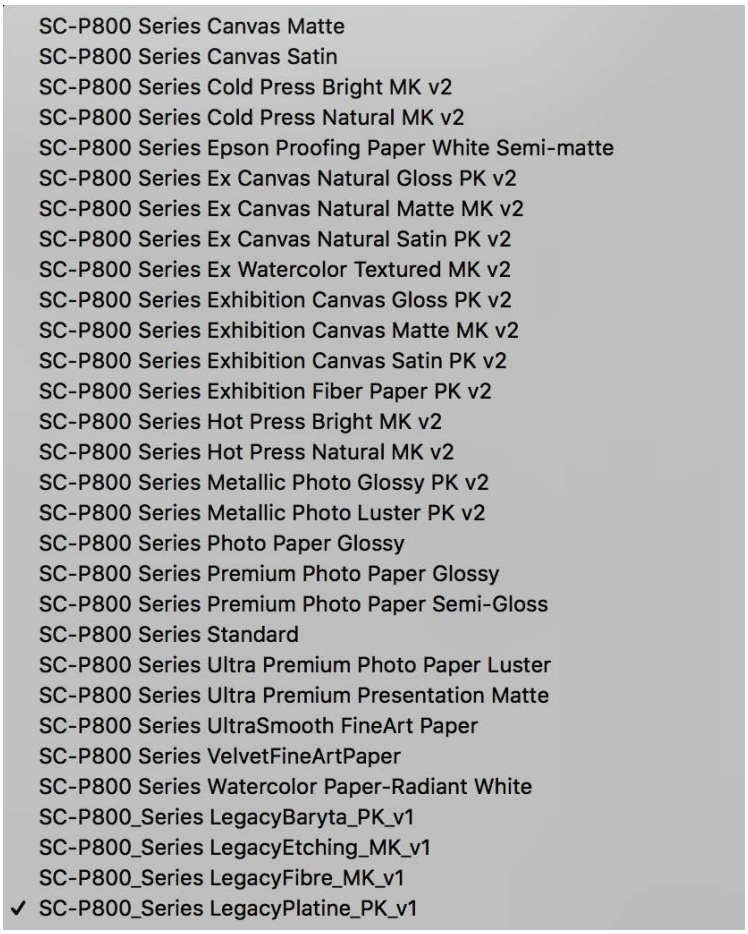
#5 cont – When working with some printers, the Epson P7000 in this example, you will see a new box appear not present when working with the Epson P800, Printable Area. When you click on it you see appear the inset box. You want to click on Centered. I bring this up because centering your print on the paper is a huge complaint many have as it can be quite annoying. You have to be looking for this option to find it which is why I'm bringing it to your attention.

The last thing to consider with this dialog box open is the Page Layout tab. If you intend on producing a lot of prints or, simply don't want to remember everything to check before each print, you go to this tab and set the Orientation to the one you most commonly use. In my case, I select Landscape, what us old photographers call Horizontal. Then with that done and everything else in the Main Tab selected is when I go to Save/Del and create a Paper Custom Setting as I mention before. I have a long list for the Epson P7000 and a much smaller list for the P800. This not only makes the printing process faster, it brings consistency that you can count on either to crank out the prints or as a baseline as your printing skills and demands grow. And with that, you click OK.

#6 This brings us back to the Ctl P dialog box we first opened when starting this process. As you can see from the red arrows, we're not done telling the software exactly how to make the print.

Color Handling is a biggie! It is imperative you select Photoshop Manages Colors! This is last possibility you have to avoid double processing or color profile mismatch. You want Photoshop taking care of the color management and life is simpler. Yes, there are other options, but these just complicate the printing process exponentially! Who wants that, right?!



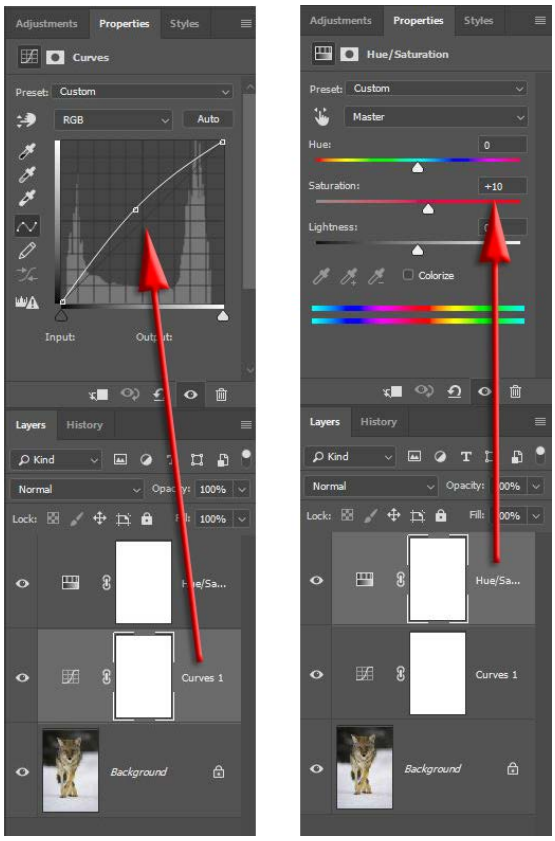


Next, we must tell the program what Printer Profile we need and that is based on the paper you'll be using. This again is essential to get the right color in our print. As you can see, the P800 comes with a bunch of profiles when you install the printer (If you don't see the one you need, head to the manufacturer and download and install it).

You might notice that some profiles are the same except end with either PK v2 or MK v2. PK represents Photo Black ink and MK represents Matte Black ink. Be sure that you select the right profile for your paper! Photo Black (PK) is for luster paper and Matte Black is for matter paper. Why are there two options for one paper surface? When you dive more into the creative possibilities of digital printing, you will find that this expands your world of Fine Art printing. What I simply label as Artsy Fartsy, what others might call alternative or non-reality printing.

The next two options in the dialog, I'll be upfront with you, I've never really understood why we select these two but was told long ago just to do it and I always have and since it works, why change? For Rendering Intent select Relative Chromatic and check Black Point Compensation. The bases for both of these is simply better color.

Last thing to click on is Center and you're ready, finally, you've jumped through all the hops and you're ready to print!

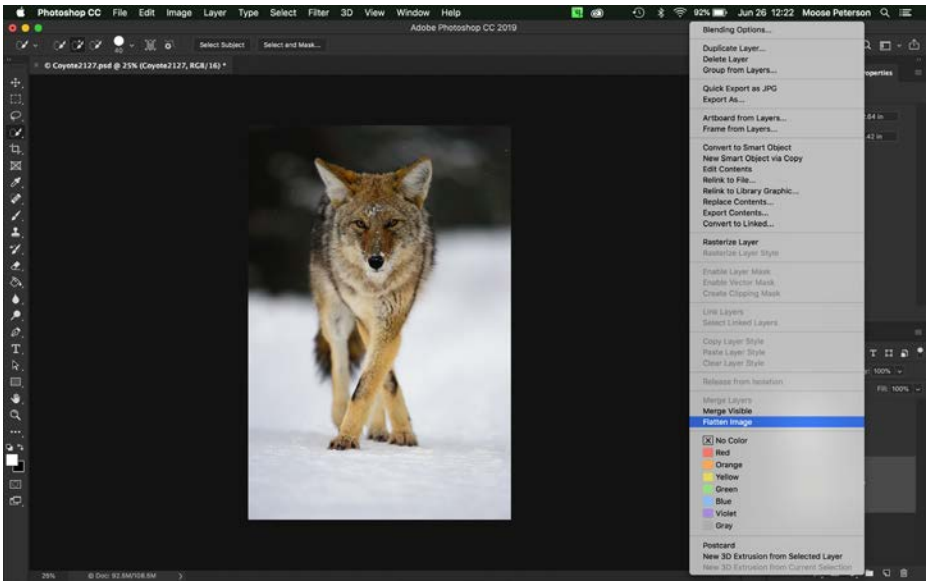


The Printing Process – After It's Out

#7? - There is a ton, a ton of "discussion" about how to "dry" and view a print after it comes out of the printer. Personally, after being in many of these discussions and seeing the final results (which is what really matters), it's YOUR final results that truly are the guide. Personally, I let my prints sit and "dry" for a minimum of 24 hours before sending them out to clients. And when it comes to viewing the prints before making my final decisions on the finishing, they will be in the office and I will look at them with many different types of light. Why do this?

Remember the discussion earlier about calibrating your monitor? I touched on the "matching the monitor to the print" myth only to say it's not physically possible to match. Now coming real close is possible but then this brings up the discussion does the print have to be totally faithful, if it can be, to real life or only faithful to you visual storytelling? And this is why I leave prints out, to decide is the print is faithful to my visual storytelling.This is my OWN personal preference when printing from Photoshop, I do it automatically with each image I'm going to print. I do these two steps AFTER I have used Nik Sharpener Pro 3. The two steps are simple, I run Curves Adjustment Layer

and brighten the image by ½ then go to Hue/Saturation Adjustment Layer and set Saturation to +10. That's it, and I have found that with prints coming out of Photoshop, this makes all difference in the world to my images. If you're wondering got those small boxes in the dialog, hold down Alt / Opt click in any open, empty This will give you the 10% instead of the default 25% And that's it to my Windows printing.



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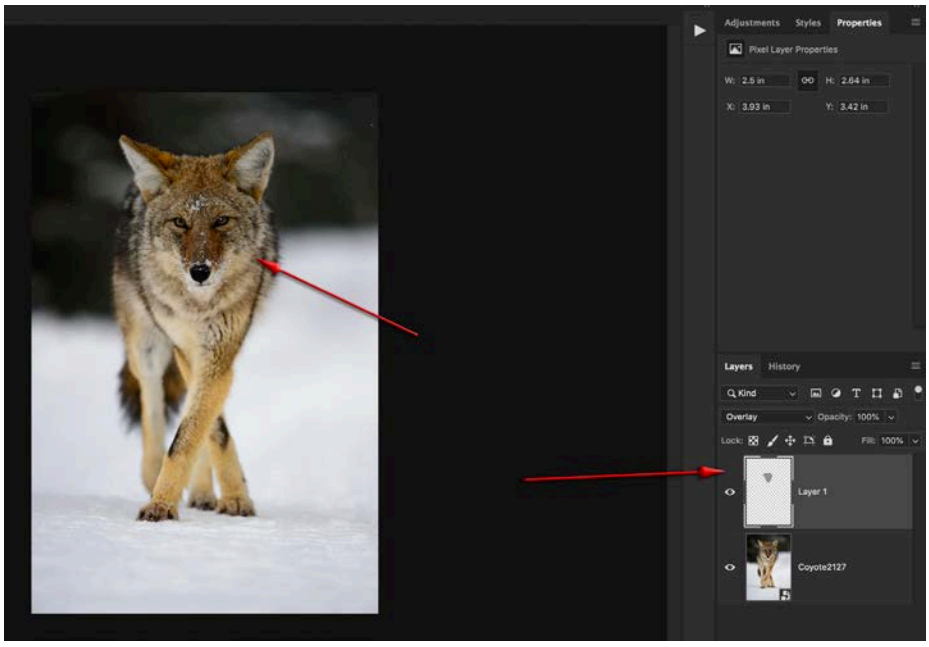
The Printing Process – Cmd P

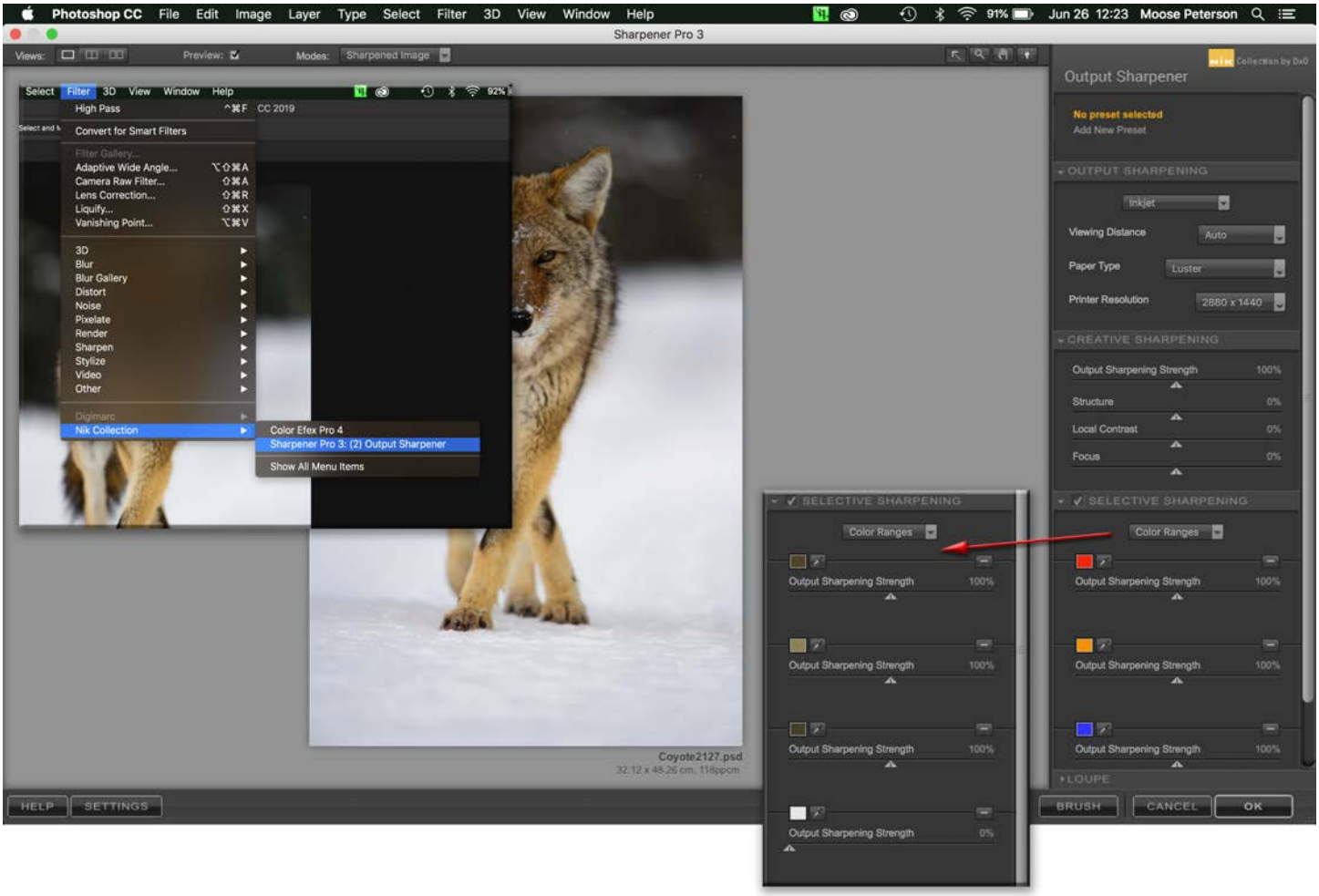
First, go back and read through the Ctrl P process EVEN if you don't work on a Window machine. That's because much is similar, and I won't be going through the similar options on the Mac as thoroughly as I did on the Windows explanation. When it comes to printing on the Mac, I rarely use Photoshop for printing. This is as I mentioned, because many of the Mac Printer options are either not sticky so I have to reenter them, or they are hidden which or me at least, makes them a challenge. Printing with a Mac all starts with Cmd P.

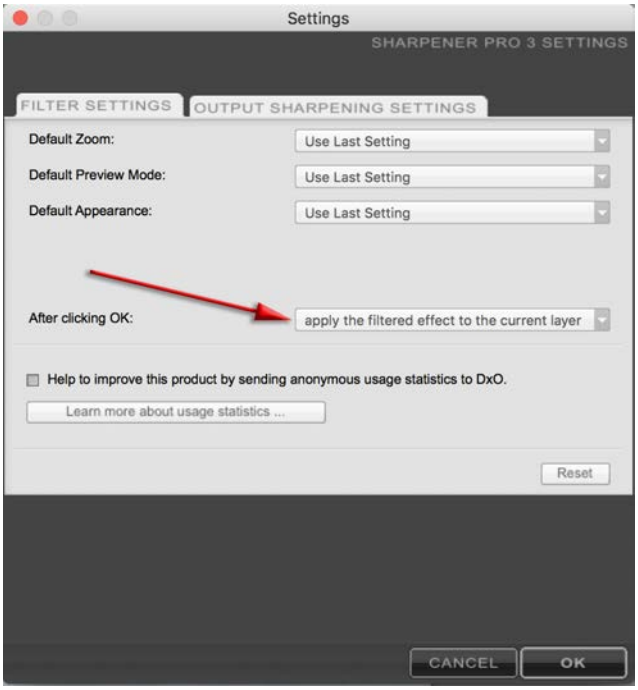


#1 Is open the file and then I will Sharpen for Content (as described above). With the coyote the subject is pretty clear cut or is it. If you look at what I sharpened it's not the entire animal but just its head. What if you have a landscape photo do you sharpen the whole landscape, or just one aspect of it? If you have problems deciding what to sharpen when Sharpening for Content, then it brings up a larger issue for you and that's what's really the subject? This is truly the hardest part of photography and if it is not resolved when you arrangement the elements in the viewfinder, it won't be when you make the print.

#2 – With Sharpening for Content done, the file is then flattened. This is to make the file as small as possible. Another consideration for doing this step is if you are working wirelessly. The smaller the file, the easier it is to move it across the airwaves to your printer. To Flatten the file, simply select the bottom layer and right click and then click on Flatten Image.

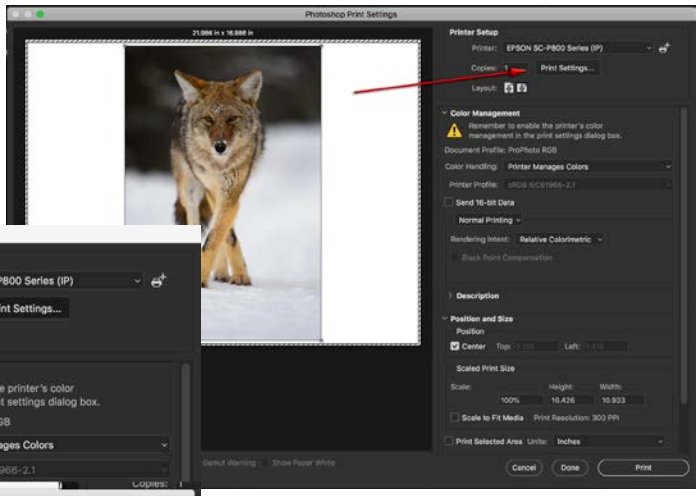
#3 – With the file flattened, I launch my favorite and essential program, Nik Sharpener Pro 3. This program does not sharpen pixels. Putting it in the simplest of terms, it tells the printer how to lay down the ink on the paper for the sharpest possible print.

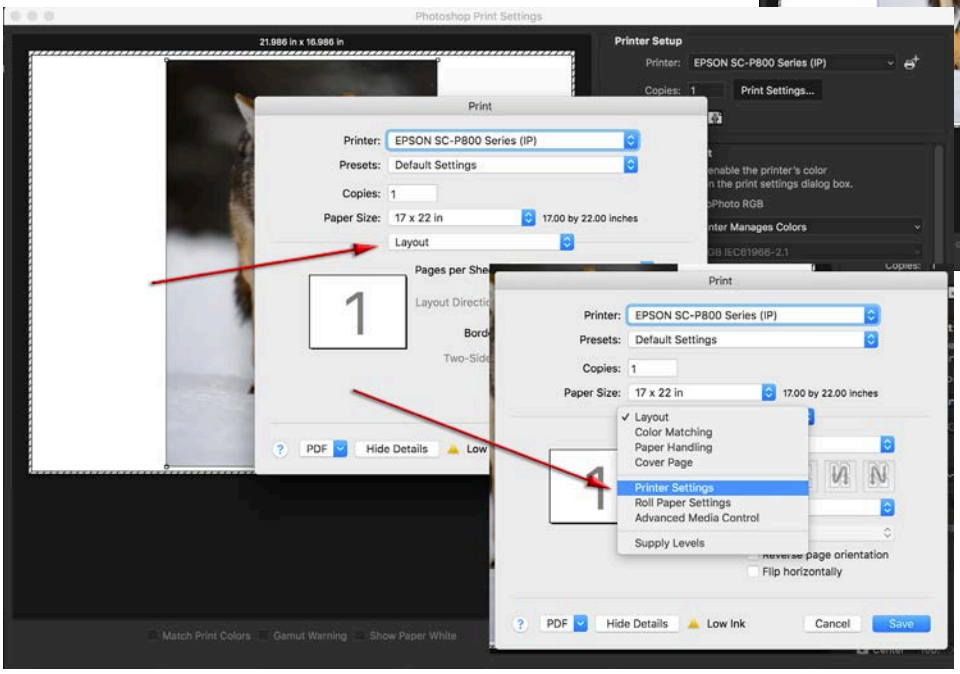




From Photoshop's Filter I drop down to Nik Collection and from the drop-down menu, select Sharpener Pro 3 Output Sharpener (Output is a fancy way to just say Print). That bring up the dialog box you see above as previously discussed. Once launched, go down the options on the right and select those appropriate for your printing mechanics. Be sure to take advantage of the Color Range for Sharpening for Content. In the Settings box for Sharperner Pro 3, there is an option to save all the changes done with Sharperner Pro 3 to the same layer. This is not the default option. Since I like to have the smallest possible file when printing, I select this option because I'm working with a copy of the original file, would redo it if I needed to reprint the file and it keeps the file size from doubling or adding the extra step of flattening.

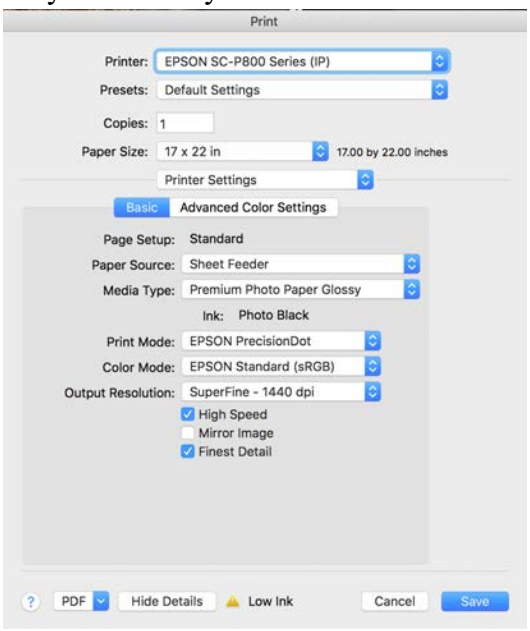
#4 – It's now time to hit Cmd P and launch the Photoshop print dialog box. At this point, it looks exactly like what you see if using a Windows platform when you type Cntl P. It's when you click on Print Settings that everything dramatically changes IMHO.

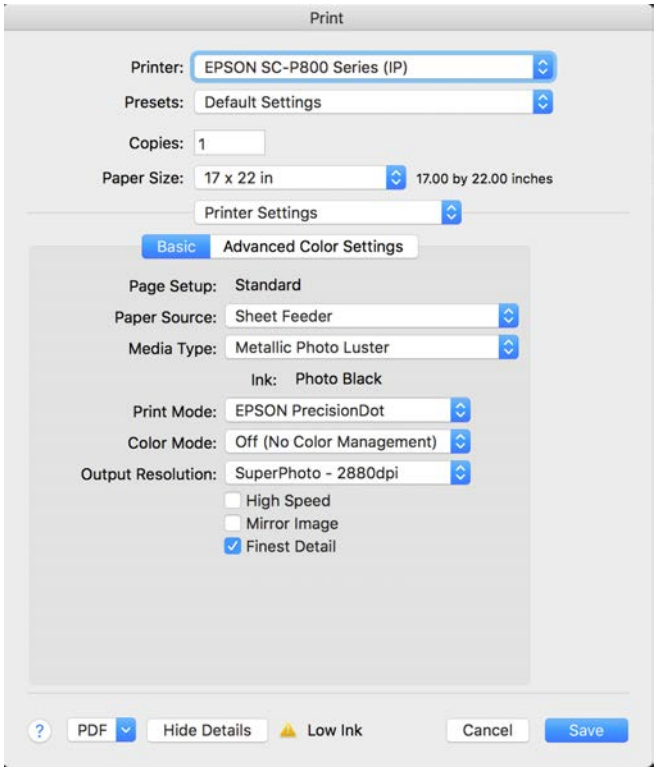




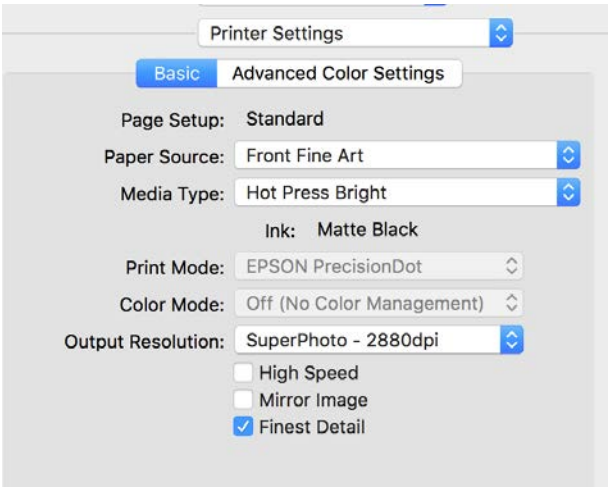
When launched for the first time, you will need to select the Printer (Epson SC-P800 in this example). Then under Presets you'll see Default. If returning to this Dialog, a saved Presets will appear where it now says Default. This is an obvious signal that you need to create Presets to make your Mac printing life easier. DON'T save a Preset until you have jumped through all the hoops (FWIW, I've created Presets only to delete them after I've found I missed a step in creating them). You next want to input the Paper Size you want to use. If you didn't know better, you might think you're ready to print. You'd think wrong!

#5 You need to create the Printer Settings. To do that you need to click on the word Layout and from the drop down menu that appears and click on Printer Settings. If you did not see that before, you are not alone. Many don't know there is a drop down menu that appears by clicking on Layout. When you click on Printer Settings the Print dialog box appears (that is on the left). On the right you can see all that you need to select under the Basic Tab (no need to use the Advanced Color Settings). This is really the heart of successful printing on a Mac through Photoshop



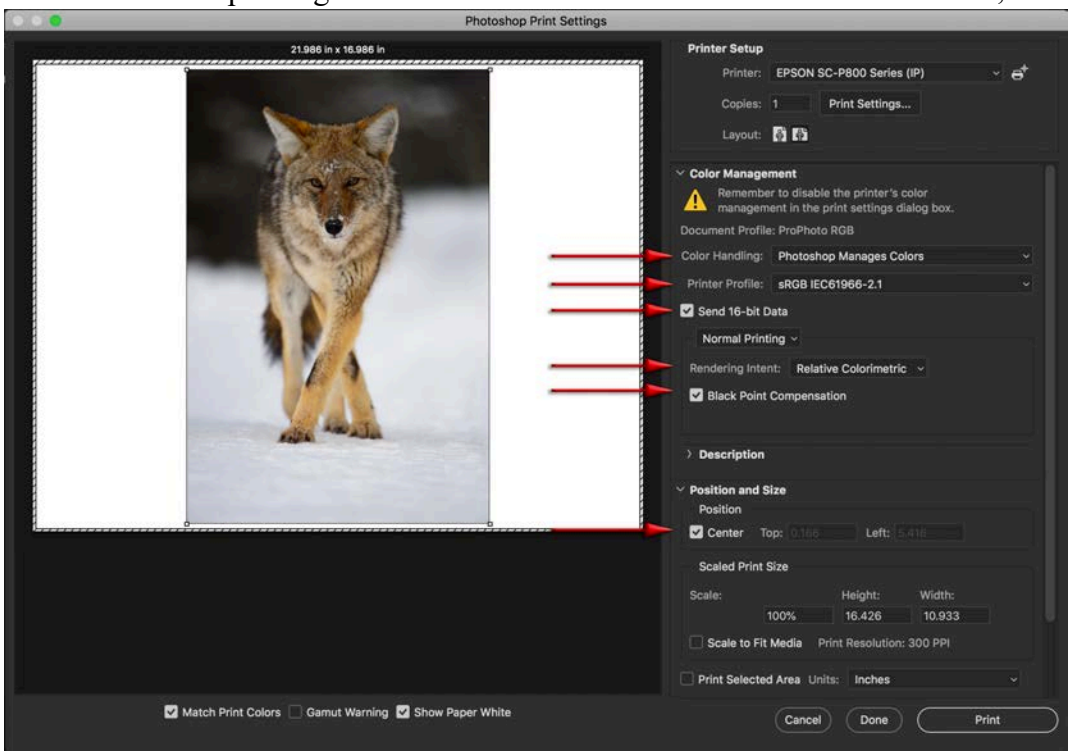


#5 cont – You can see the options required to print here, first is Paper Source. Your options that are available to you (click on dbl arrow to see them) vary according to the printer you are printing with. In this case with the Epson P800 you have just two, Sheet and Front. If you are printing on a roll and don't see roll as an option in the drop down menu you have to go back up to Paper Size and select in this example, 17x22 Roll to see it in the Paper Source option. Next is Media Type, a fancy way of saying paper choice. I'll be upfront with you on this, I've had issues in selecting certain papers even though the paper profile is loaded on the Mac. For example, printing with the P800, the normal way you print with a sheet of paper like Hot Press Bright is to select Sheet Feeder for Paper Source. But if you do that under Media Type the Fine Art Paper menu is grayed out and you can't select Hot Press Bright. You have to select Front under Paper Source to get the Fine Art Paper menu active. Argh.



You will see the word Ink and then either Photo Black (luster paper) or Matte Black (matte paper). That should change based on the paper you selected in the Media Type. If you have selected a luster paper, then Print Mode and Color Mode will be as you see above, active and their drop-down menus accessible. If you have Matte Black next to the word Ink, as you can see to the right, Print Mode and Color Mode are grayed out and you cannot access their drop-down menu to change them. As you can see though with Matte Ink, the right choices are made for you. With Photo Black, you need to make sure that for Print Mode, you have Epson PrecisionDot and Color Mode Off (No Color Management) is selected.

You then need to make sure the Output Resolution (translated: Printer Resolution) is set to the recommendation of your printer and in the case, set to SuperPhoto – 2880dpi for the Epson P800. Then as you can see, I uncheck High Speed and leave checked Finest Detail. This is all I do for normal printing and brings me to the same place in the mechanics of printing as I would be with Windows. If this is the first time, I've done all of these settings for a paper, I go back up to Presets and create a preset based on the printer/paper names like P800ML or P800HPB (P800 - Metallic Luster / Hot Press Bright). You then need to click Save to get back to the Cmd P Print dialog box.



#6 Back to Cmd P dialog box where we need to finish up telling Photoshop and our printer how to create our gorgeous print. As you can see from the arrows, there are quite a few more selections to make. The first if Color Handling, it needs to be Photoshop Manages

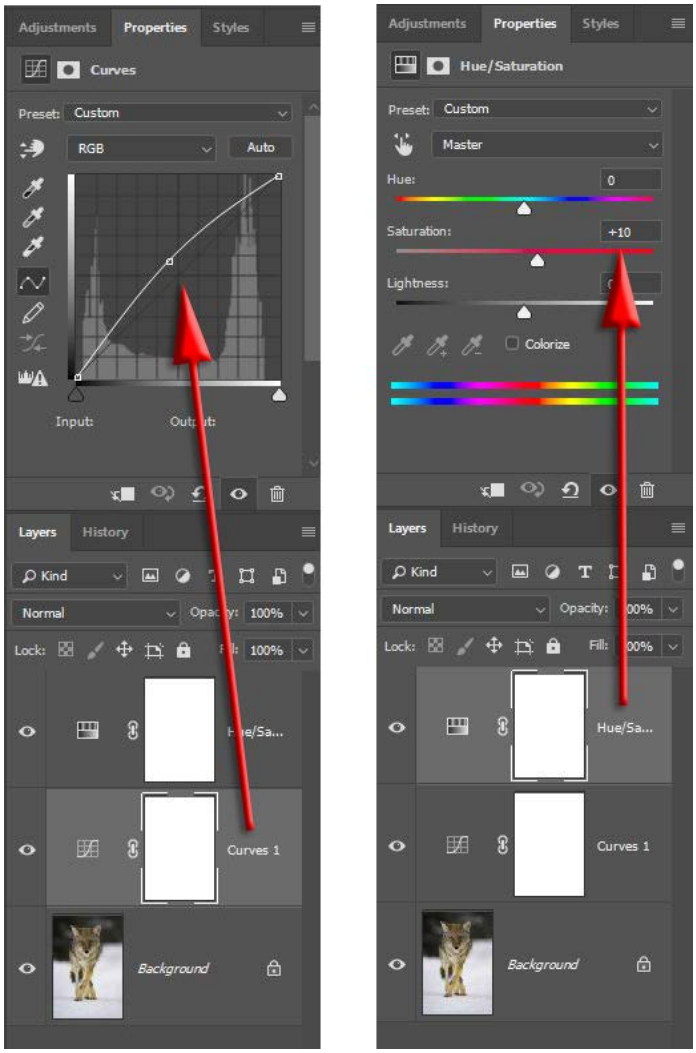
Colors. If you have anything else selected, you will end up with a print with an overall green color wash. This is a classic sign of the image being what is called double profiled, a mismatch of profiles. So be sure to select Photoshop Manages Colors. Next is the Printer Profile. You must select here the paper you are printing on. What you see to the (pg.16) are the paper profiles loaded when you install the Epson P800. As you can see, the P800 comes with a bunch of profiles but if you don't see the one you need, head to the manufacturer and download and install it).

You might notice that some profiles are the same except end with either PK v2 or MK v2. PK represents Photo Black ink and MK represents Matte Black ink. Be sure that you select the right profile for your paper! Photo Black (PK) is for luster paper and Matte Black is for matter paper. Why is there two options for one paper surface? When you dive more into the creative possibilities of digital printing, you will find that this expands your world of Fine Art printing. What I simply label as Artsy Fartsy, what others might call alternative or non-reality printing.

The next two options, I'll be upfront with you, I've never really understood why we select these two but was told long ago just to do it and I always have and since it works, why change? For Rendering Intent select Relative Chromatic and check Black Point Compensation. The bases for both of these is simply better color.

Last thing to click on is Center and you're ready, finally, you've jumped through all the hops and you're ready to print! You probably not you'd get to this far, but you have. Congrats!

The Printing Process – After It's Out



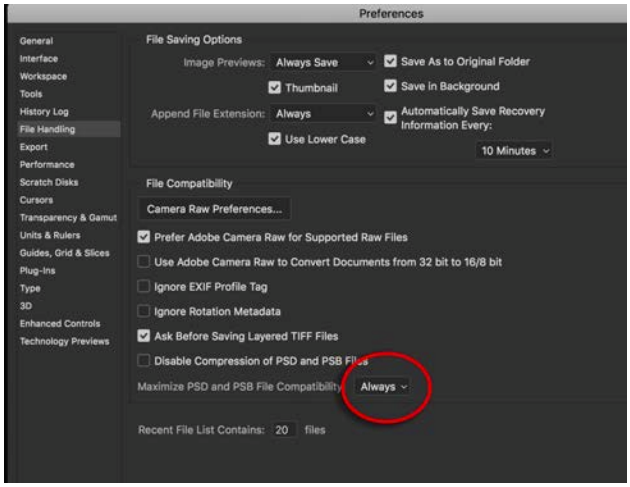
#7 - There is a ton, a ton of "discussion" about how to "dry" and view a print after it comes out of the printer. Personally, after being in many of these discussions and seeing the final results (which is what really matters), it's YOUR final results that truly are the guide. Personally, I let my prints sit and "dry" for a minimum of 24 hours sending them out to clients. And when it comes to viewing the prints before making my final decisions on the finishing, they will be in the office and I will look at them with many different types of light. Why do this?

Remember the discussion earlier about calibrating your monitor? I touched on the "matching the monitor to the print" myth only to say it's not physically possible to match. Now coming real close is possible but then this brings up the discussion does the print have to be totally faithful, if it can be, to real life or only faithful to you visual storytelling. And this is why I leave prints out, to decide is the print is faithful to my visual storytelling.

This is my OWN personal preference when printing from Photoshop, I do it automatically with each image I'm going to print. I do these two steps AFTER I have used Nik Sharpener Pro 3. The two steps are simple, I run Curves Adjustment Layer and brighten the image by ½ stop. It then go to Hue/Saturation Adjustment Layer and set the Saturation to +10. That's it, simply and I have found that with all my prints coming out of Photoshop, this makes all the difference in the world to my images. If you're wondering how I got those small boxes in the Curves dialog, hold down Alt / Opt and click in any open, empty space. This will give you the 10% grid instead of the default 25% grid. And that's it to my Mac printing.

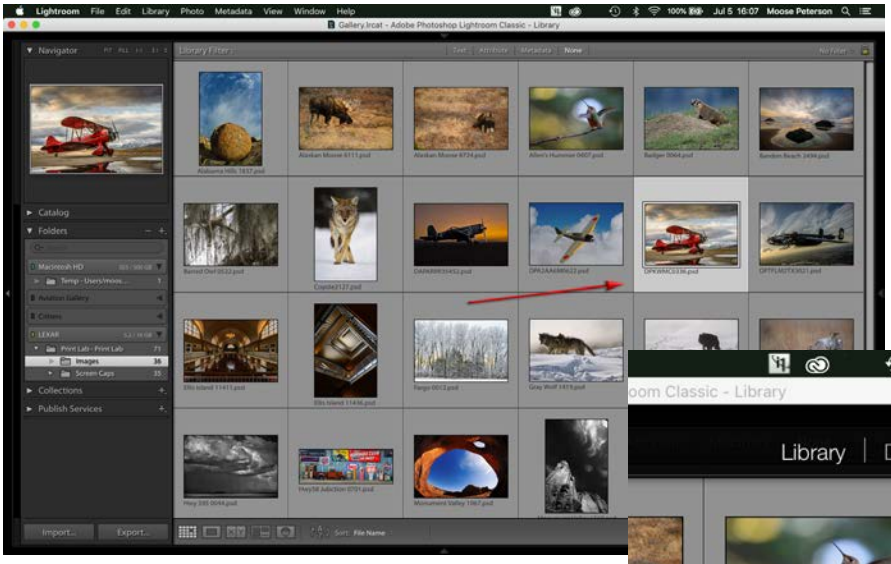
Printing with Lightroom

Printing with Lightroom (LR) can in some ways be easier than Photoshop and in other ways, must more difficult. The one thing about LR is the engineers are constantly updating aspects of it like the Print Module. This gives me hope that someday it might make printing as easy as a single click. Until that day, here's the process. There is one thing you should be aware of when it comes to working with PSD files in LR. You must save your PSDs (no matter if you did it through LR or PS separately) as Maximum or you will not see them in LR. At the same time, if you are like most and have your files on an external drive, that drive must be connected to access the actual file to print.



File Handling dialog in Photoshop Preferences

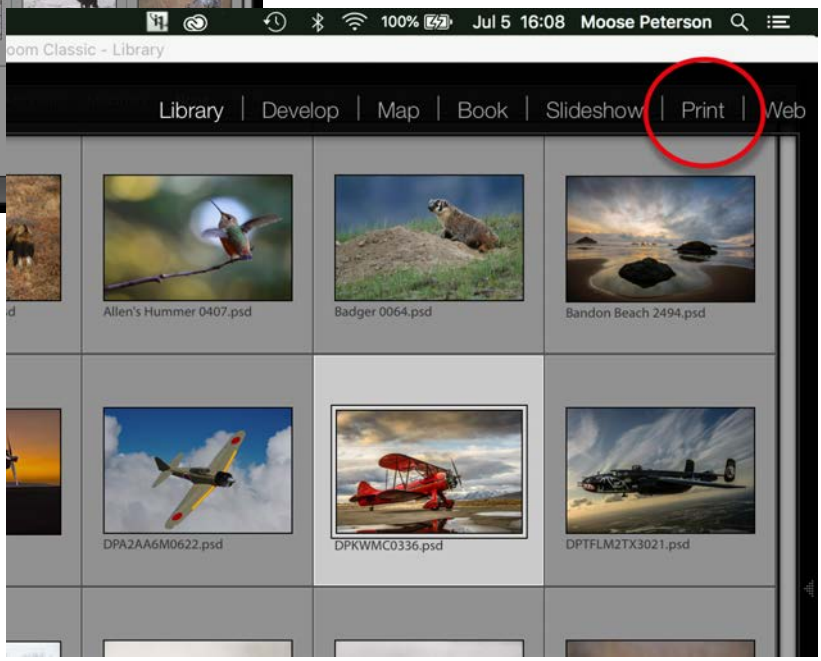
What if you don't have your files being saved at Maximum (because that is the BIGGEST file size possible, doubling your file size) or have your drive connected when you launch LR? You can resave your file with Maximum turned to Always (just do a Save As) and it will be just fine for LR. And if your drive is not connected, LR will kindly tell you to plug it in. So, neither is a printing stopper.

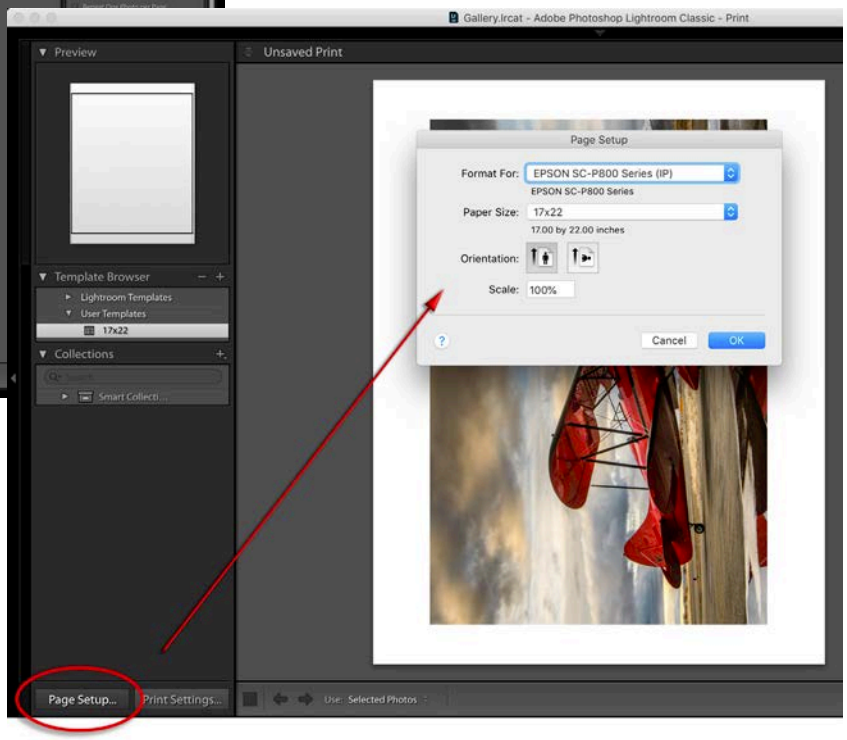


You launch LR, you need to navigate to the image you want to print. You need to take care that for what we are doing here that only ONE image is selected. If you have more, you run the risk in the Print Module to have options and loose options you need.

With that one image selected, you then need to make sure you don't misclick, deselecting it and go up to the top Module Bar and click on Print.

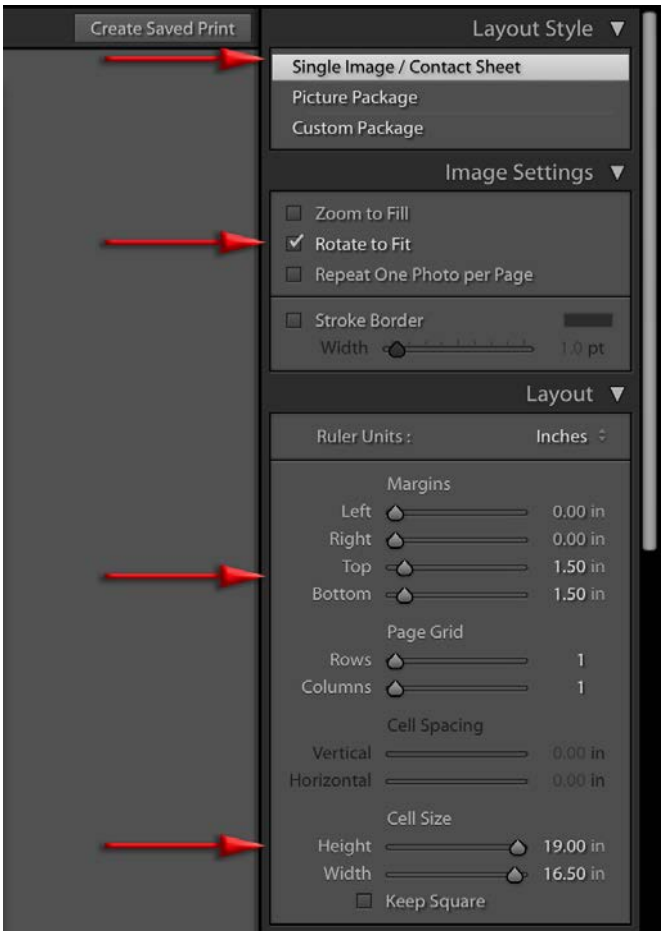
When the Print Module launches depending your first time or not, it will default to the last opened set of options. You might have it launch and go into a panic cause your gorgeous image looks totally gibbered. No worries as all is right in your world and there just a couple of things you need to do to make it all right again.





The first thing you want to do is create your own User Templates which is real simple if you follow these steps.

#1 – Click on Page Set Up which brings up the Page Setup dialog box. Simply select the printer you are printing with and plug it into the Format For box. In this case it's the Epson SC-P800. Then in the Paper Size select the size of the paper you're printing on, in this case it's 17x22. Click OK but don't jump ahead, there is more to go to create your own User Template.



#2 We head to the right side of the Print Module and start to make some additional selections in making our User Template. I should add that these selections are not carved in stone and your only options. These are just the ones I use all the time with total success in my making a User Template and printing from LR.

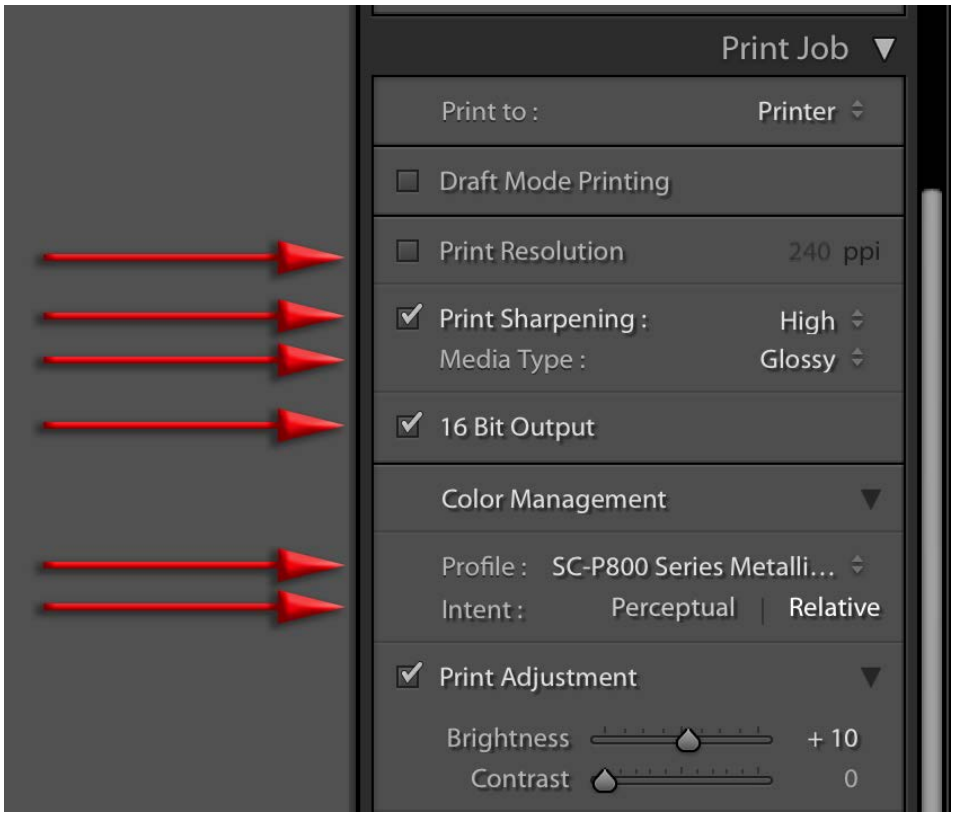
Make sure that Single Image / Contact Sheet is selected in Layout Style. The beauty of LR is that you will see the good and bad choices instantly reflected in the preview to the left of this dialog box.

I uncheck Zoom to Fill and leave Rotate to Fit checked in the Image Settings box. That's so I can take advantage of features in Layout.

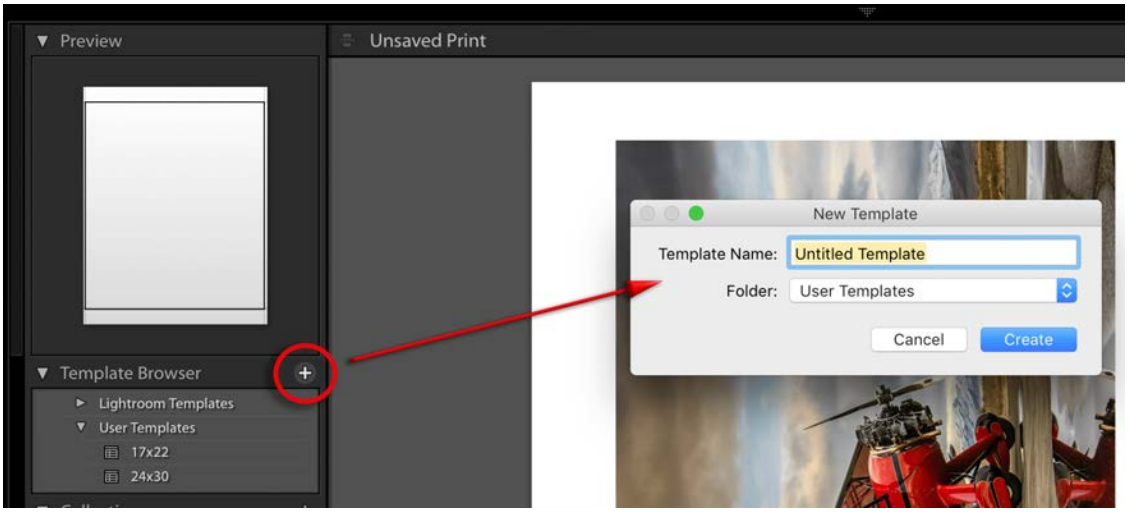
In Layout I kinda do it the old fashion way. If you refer back to the discussion of Image Size in Photoshop, I figure out the image size I'm going to print on and plug in the number on the longest side (see above). In LR you don't have to do all of that really. I simply think of the white margin I want to leave around my image on the paper, plug that number in at the Top & Bottom under Margins and if I did my math right, the Height should be the right number. In this case, the Top & Bottom Margin was set to 1.5" (centering the image, brilliant!) and the Height is set to 19". So with really little effort, LR has figured out the image size to print.

Now if you didn't start this process by telling LR the paper size and printer in the first step, it couldn't have done all of this for you so easily. With this, we just have the bottom half of options to set and we good to make our User Template.

Skip down the right side until you get to the Print Job boxes. The first thing you want to do is UNCHECK Print Resolution. With it checked you force LR to use that number. Unchecked and LR works its magic to set it at the optimal ppi. Next is Print Sharpening. This takes the place in a way of Nik Sharpener Pro 3. You want to set it to High. Be sure to also set the Media Type for the paper you're using. Glossy is the setting for Luster and Matte is for Matte. If you use a User Template that is set to Glossy but want to print Matter, not an issue, just remember to change it here when you print.



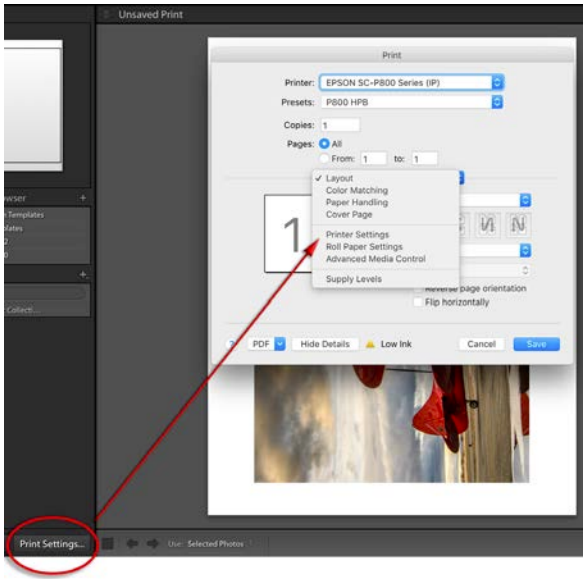
The 16 Bit Output by default is not checked so be sure to CHECK it! Under Color Management, the Profile is the paper profile for the printer/paper you're using. This can be modified as you print so I just selected the most commonly used to create my User Template. Be sure you select the Intent to Relative which you need to look at carefully to be sure it is "white" and not grayed out. I'll touch on Print Adjustment shortly, but I have it set to +50 when I print but for your User Template I recommend starting at +10. With all of this you are ready to save your User Template.

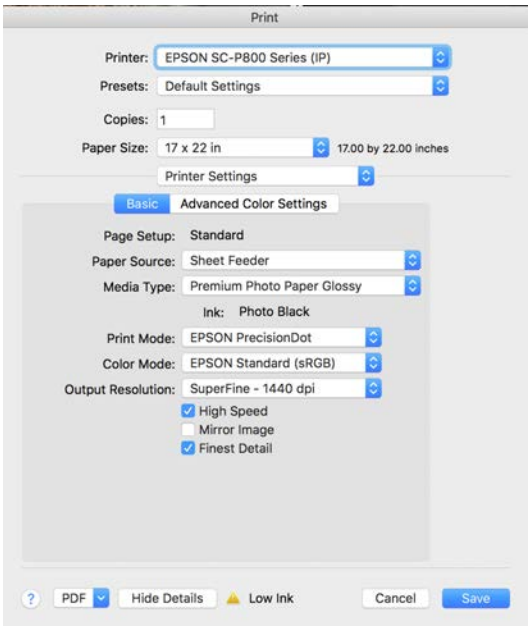


#3 You head back to the left side of the Print Module and click on the + sign next to Template Browser. This brings up the New Template dialog where you simply type the name you want for your Template and click on Create. You can see I have two made, 17x22 and 24x30. The 17x22 size comes from LR native options. The 24x30 was a User Define paper size I created using the LR Page Setup options.

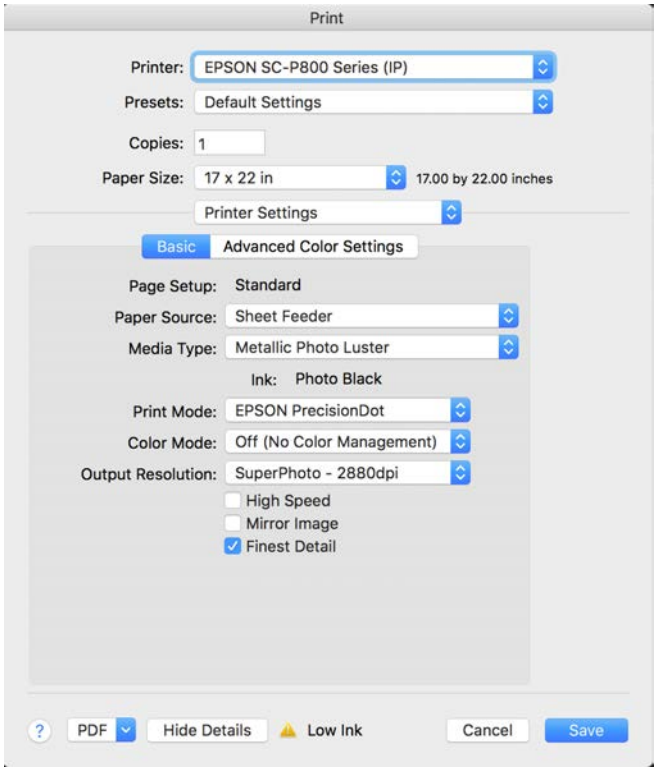
What if you do all of this and then you find you want to modify the options you've used to make the User Template? No problem, simply Right Click on the template you want to make changes to AFTER you have made the setting changes and click on Update Template and you're good to go. So once you know all to check and uncheck, LR makes printing pretty simple. Well ….

#4 We need to take care of Printer Settings. You can either click Print Settings or Printer and either one brings up the Mac print dialog. That's where things simply get mucked up again! Once the Print dialog box is selected, select the printer you're printing with. The first time you call it up it will say Default. In this example, it's using the last used with is a Preset I create called P800 HPB.

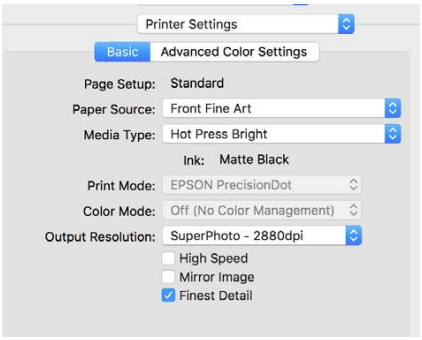




#5 You need to create the Printer Settings. To do that you need to click on the word Layout and from the drop-down menu that appears, click on Printer Settings. If you did see that before, you are not alone. Many don't know there is a drop-down menu that appears by clicking on Layout. When you click on Printer Settings the Print dialog box appears (that is on the left). On the right you can see all that you need to select under the Basic Tab (no need to use the Advanced Color Settings). This is really the heart of successful printing on a Mac through Lightroom.



#6 – You can see the options required to print here, first is Paper Source. The options that are available to you (click on dbl arrow to see them) vary according to the printer you are printing to. In this case with the Epson P800 you have just two, Sheet and Front. If you are printing on a roll and don't see roll as an option in the drop-down menu you have to go back up to Paper Size and select in this example, 17x22" Roll here to see it in the Paper Source option. Next is Media Type, a fancy way of saying paper choice. I'll be upfront with you on this, I've had issues in selecting certain papers even though the paper profile is loaded on the Mac. For example, printing with the P800, the normal way you print with a sheet of paper like Hot Press Bright is to select Sheet Feeder for Paper Source. But if you do that under Media Type the Fine Art Paper menu is grayed out and you can't select Hot Press Bright. You have to select Front under Paper Source to get the Fine Art Paper menu active. Argh.



You will see the word Ink and then either Photo Black (luster paper) or Matte Black (matte paper). That should change based on the paper you

selected in the Media Type. If you have selected a luster paper, then Print Mode and Color Mode will be as you see above, active and their drop down menus accessible. If you have Matte Black next to the word Ink, as you can see to the right, Print Mode and Color Mode are grayed out and you cannot access their drop-down menu to change them. As you can see though with Matte Ink, the right choices are made for you. With Photo Black, you need to make sure that for Print Mode, you have Epson PrecisionDot and Color Mode Off (No Color Management) is selected.

You then need to make sure the Output Resolution (translated: Printer Resolution) is set to the recommendation of your printer and in the case, set to SuperPhoto – 2880dpi for the Epson P800. Then as you can see I uncheck High Speed and leave checked Finest Detail. This is all I do for normal printing and brings me to the same place in the mechanics of printing as I would be with Windows. If this is the first time I've done all of these settings for a paper, I go back up to Presets and create a preset based on the printer/paper names like P800ML or P800HPB (P800 - Metallic Luster / Hot Press Bright). You then need to click Save. Then you just click on Print and bam, you've got a print!

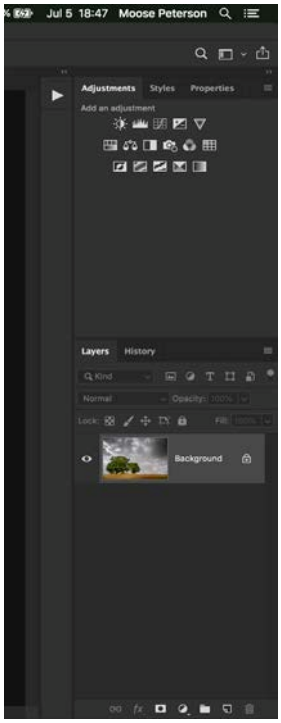
One feature that might have been "overlooked" in this process compared to using Photoshop is Sizing the image for the print. Lightroom does this real cool magic. It sizes your file so the image is sized correctly for the paper you're printing on. You don't have to do a thing! When I first tried this, I thought it was too good to be true but after thorough testing, I'm a confirmed believer. It works!

Printing with Epson Print Layout (v1.3.5)

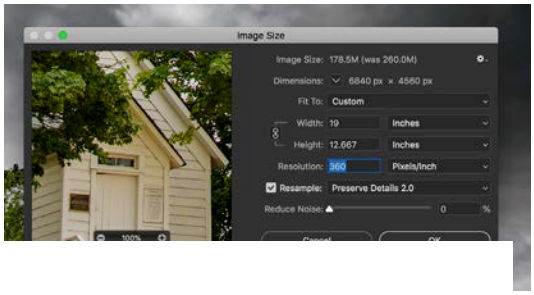
I saved what I think is the best for last. That's because it really takes so much of the guess work out of the process and makes printing nearly one click simple! That ease and consistency you won't come to appreciate until you've worked through the other options a few times. The Epson Print Layout (EPL) actually starts though in either Photoshop or Lightroom, I personally use Photoshop.

You need to prep the photograph the EXACT same way you do in Photoshop to print. To review:

#1 Open a copy of your file, don't use original!

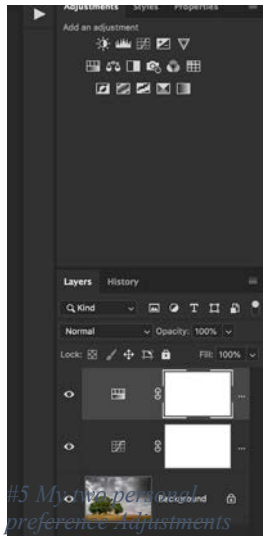


#2 Flatten the file

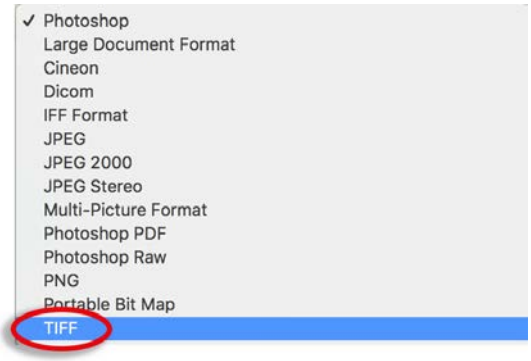


#3 Size the file

#4 Run Nik Sharpener Pro 3



#5 My Epson print preferences/adjustments



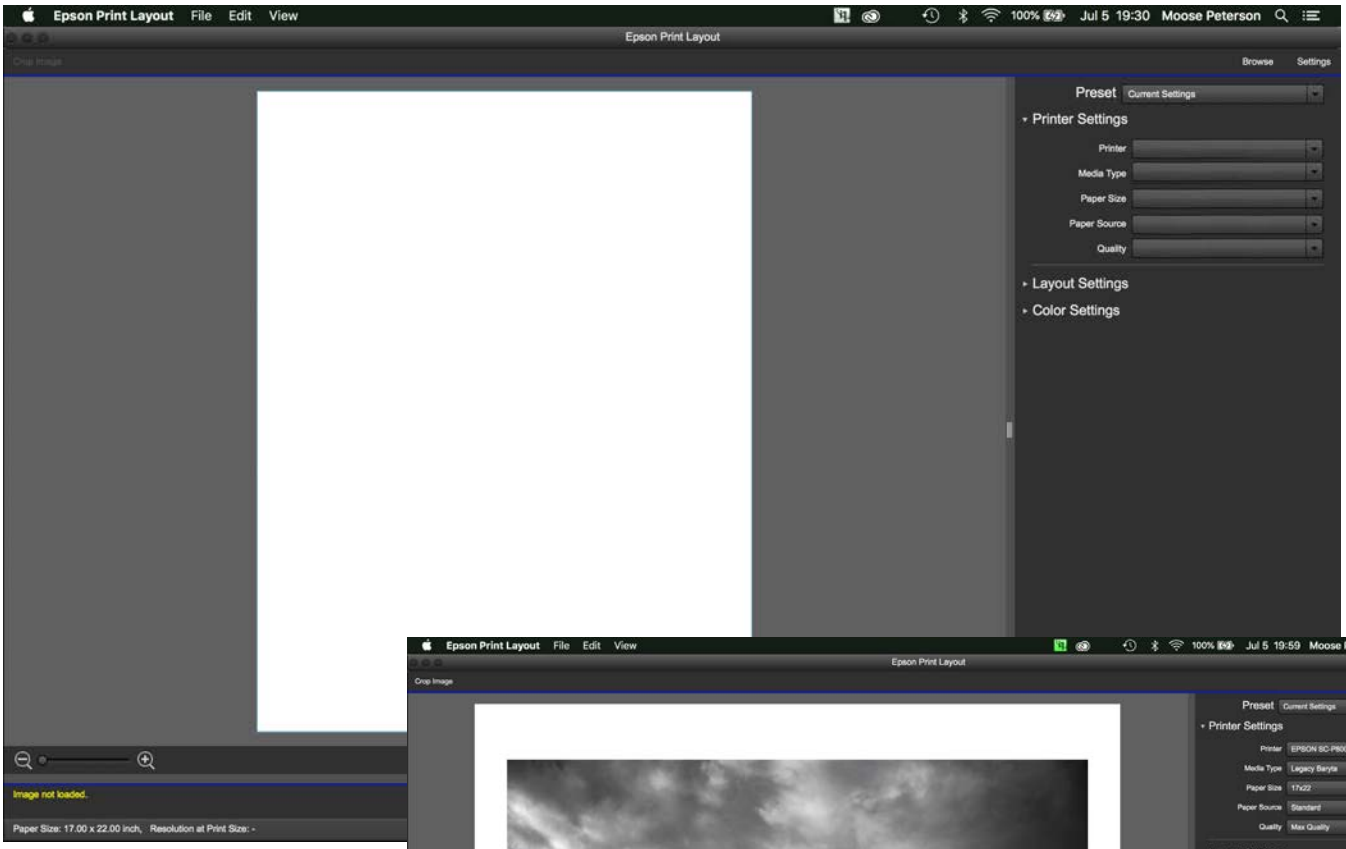
And the final step is to do a Save As saving the file as a TIFF. I personally save the file in my Temp Folder (a folder I've created) so I can easily find it once I launch Epson Print Layout.

If this quick review of the steps I do to make an image ready to print, refer to The Printing Process – Where I Begin above.

What EPL does is replace all the Printer, Print, Page and the rest of that "stuff" in getting the image outputted. In fact, once you have set up EPL, it can be literally a ONE click printing process once your file is good to go!

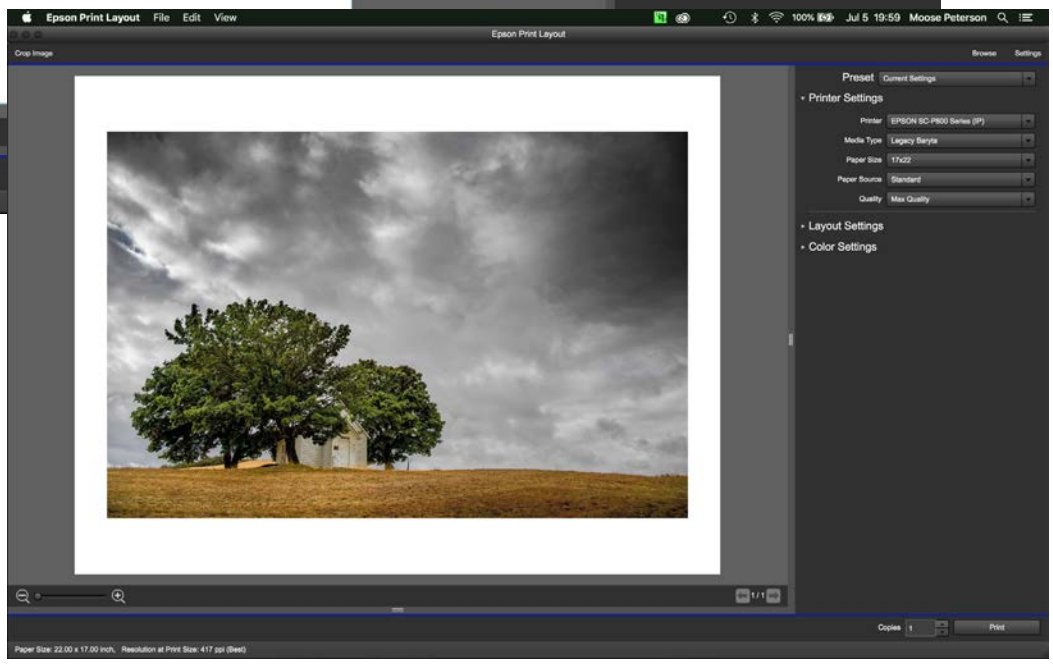
#1 Epson Print Layout is available for free at their website. It works on both Windows and Mac. Once installed, launch EPL. You will see this

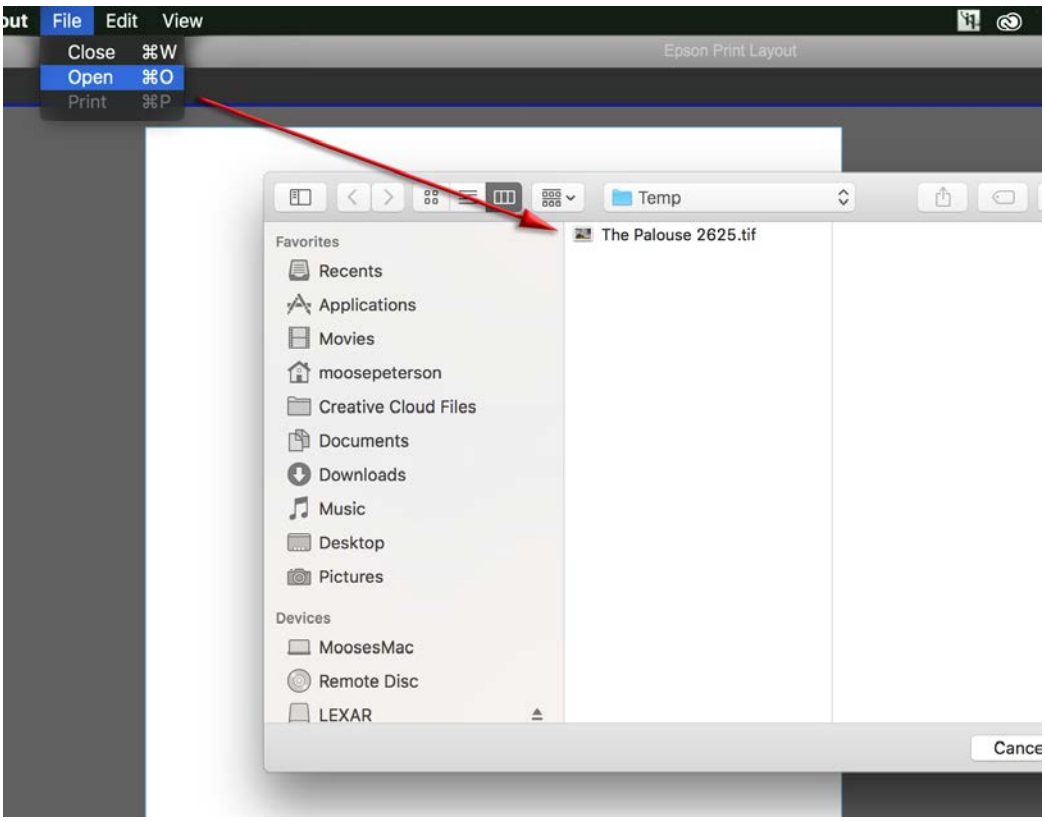
It is literally a blank canvas for you to work with!



The next time you launch EPL after making a print, it opens like this and if using the same printer and paper, no matter the photograph, once you open that image file, all you have to do to make a print is click on the word Print!

How do you do that?





#2 Click on File > Open and then open the file by clicking on it. If the file has a PSD extension, you won't be able to open it. I highly recommend using a TIFF.

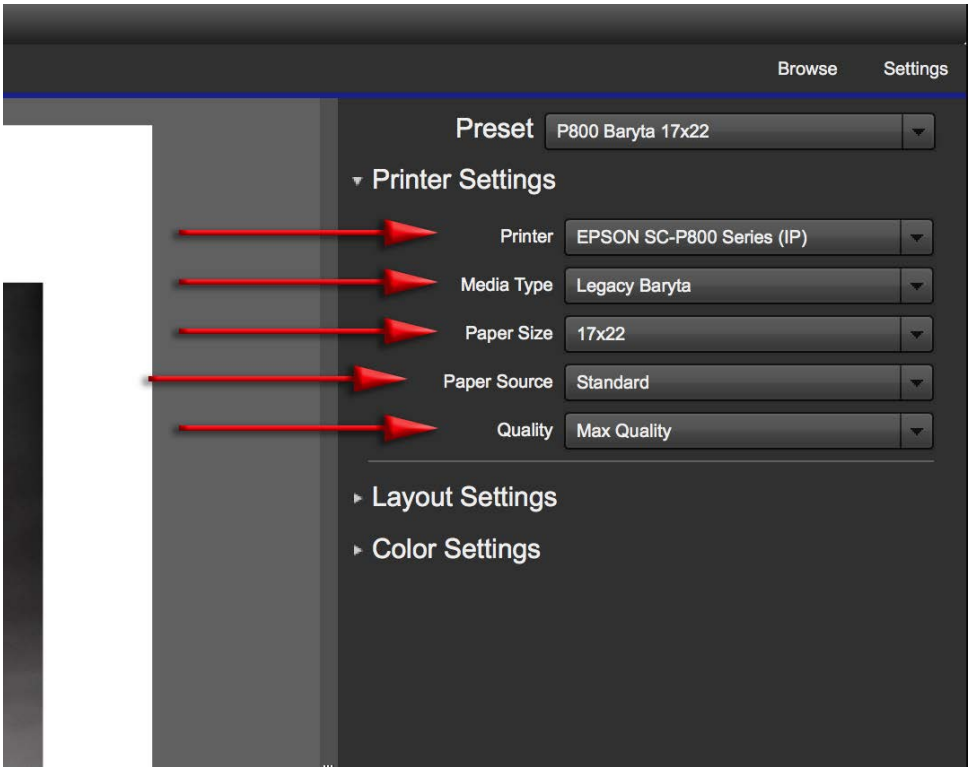
#3 You then start to make your selections in Printer Settings dialog. The Preset you see is one I have made for printing on the P800 with 17x22" Baryta paper. You make a Preset ONLY after you have made all the settings that follow.

Printer, tell EPL what printer you are going to print with. I highly recommend if printing wirelessly, you have the P800 turned on prior to starting this.

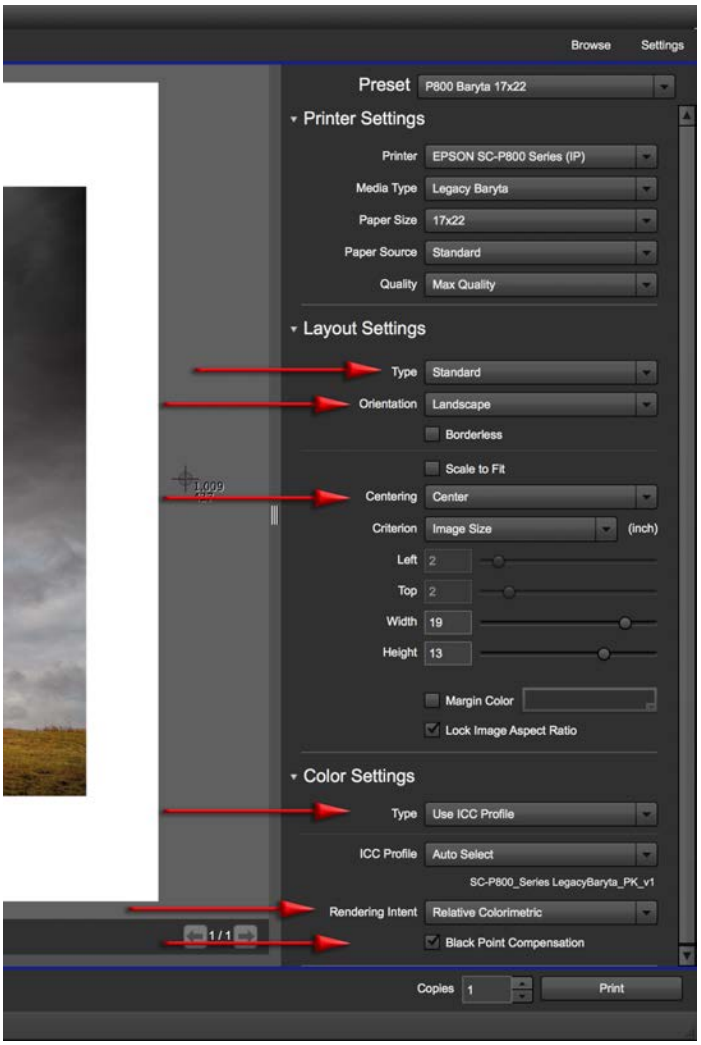
Media Type, the paper you are going to print on. EPL knows all about that paper which is what makes it so brilliant and simple.

Paper Size, self-evident at this point.

Paper Source here you might have to deal with the Mac / P800 quark. If printing on a luster paper, stick with Standard. If printing on Matte Paper, you will need to select Fine Art Front.



Quality, Max Quality of course!

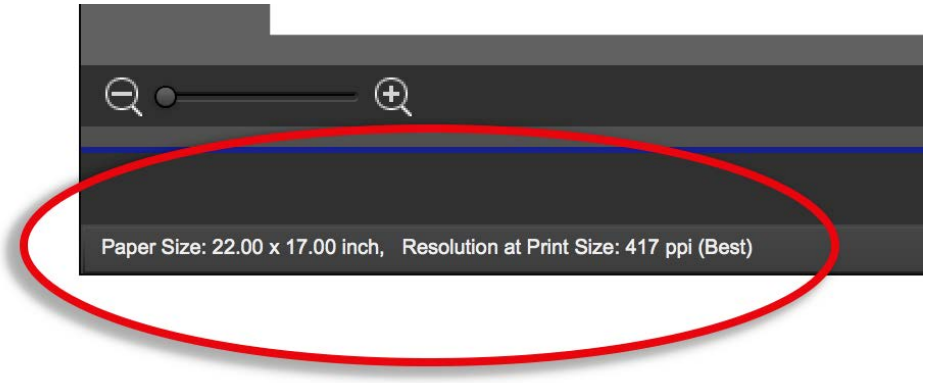


#4 Now we need to take care of Layout Settings and Color Settings. They are really simple and straight forward. You can simply follow what I have here, and you won't go wrong. All of these settings have been described above in case you want to review their meaning and application.

You do need to take care to NOT check boxes that are not checked here. For example, the Scale to Fit. Since we sized the file in Photoshop so we could run Nik Sharpener Pro 3, we don't want EPL to resize it here.

If you look at the ICC Profile, when set up the way I have here, EPL will select the CORRECT paper profile FOR YOU every time, you don't have to do find it! Now is that cool or what?!

Once I have done all of this, I will create a Preset with a name that represents the printer / paper and size since I use EPL so much. The example you see here is P800 Baryta 17x22.



One thing I want to bring to your attention is we didn't set a DPI or PPI in this process. That's because EPL is doing that automatically for us. What I find interesting is the number if comes up with. In this print example above, 417 ppi is what it determines as the best. EPL has produced nothing but gorgeous prints for me so as far as I'm concerned, it works and when I have time, some to explore in my printing. As in, should I use these number in Photoshop in Image Sizing an image?

The Printing Process – Conclusion

Printing is such an amazing art! It is one that is always growing, always fascination, always bringing challenges and rewards! What I have to present here is as thorough as I can make it but there is no doubt I did miss something. My apologies in advance. At the same time, I know that some aspects of it will be obsolete no sooner than a save this document to my hard drive. And some of this process will never change!

As you explore printing more and more, your photography will improve! Most likely you have heard me say more than once that the 24x30 is my benchmark of technical success. Be it at the camera, in post, a new lens or new Photoshop technique, the 24x30 print will inform you instantly if you're doing things right or you need to go back to the black board. Because of all my years at the printer, I have a standardize printing process that I can make these calls. You can do the same thing with time if you follow the steps I've laid out here. It is really important to remember ….

It is also the ONLY place we can truly tell that our craftsmanship at the camera and at the computer are truly at their best! Printing is the final expression of our photographic storytelling.

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