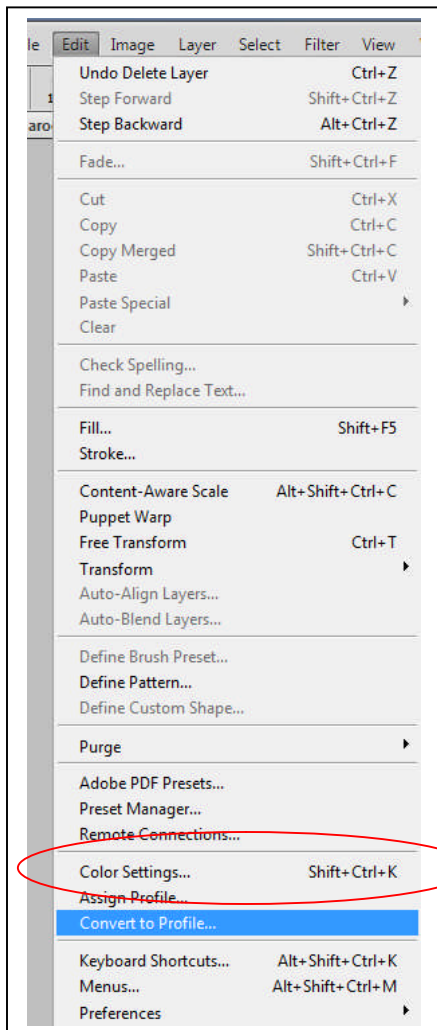


# Setting the Correct Color Space for a Projected Image

By Rick Cloran

## Photoshop



This can provide a significant expansion of the tonal range available in an image. However, it means that you must remember that virtually all output media cannot handle these broader color spaces and therefore you must change the color space for an

Managing the color space in which the image resides is critical to the proper presentation of any “projected” image. This is true whether the projection (display) is on someone else’s monitor (e.g., posted on the web, shown on a TV, etc.) or through an actual digital projector. You can even see the results of an incorrect color space when viewing an image through something like the default Windows Picture Viewer on your own system. **To be shown correctly in any of these media the image must currently be set in the sRGB color space.**

There are some of the newer generation projectors that can display most of the Adobe RGB color space, but don’t bet your results on that unless you own the projector and it is the only one your image is ever displayed through. Virtually 99% of all computer monitors, both Windows and Mac, still use sRGB as the native display color space. All TV’s use this space.

When you were originally setting up your Photoshop or Elements work space you may have been advised to set the space to one of the broader spectrums that is either Adobe RGB or ProPhoto RGB.

You found this by going under Edit > Color Settings and changing the working space from the default sRGB to one of the other spaces.

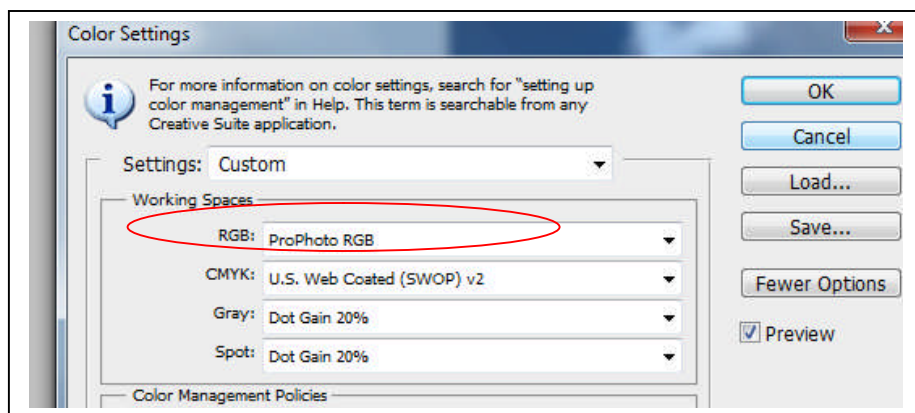
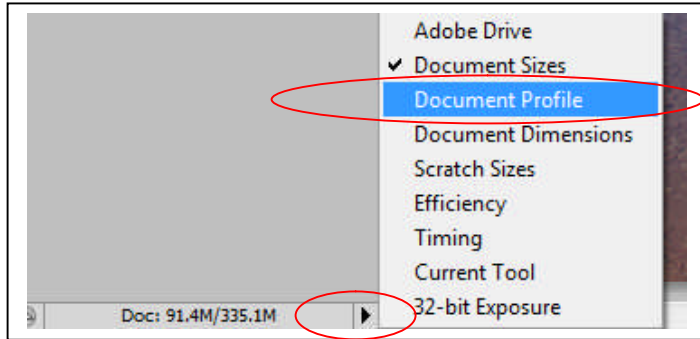


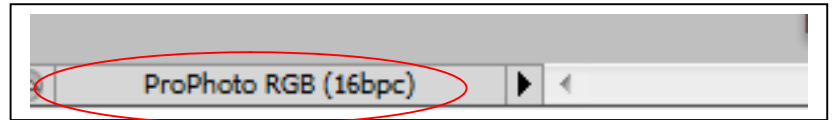
image when necessary so that the image will appear correctly when displayed outside of your editing program. I should note here that Lightroom users may also have set their color space to one of the expanded versions and may also have to deal with proper conversion for anything they export out of Lightroom.



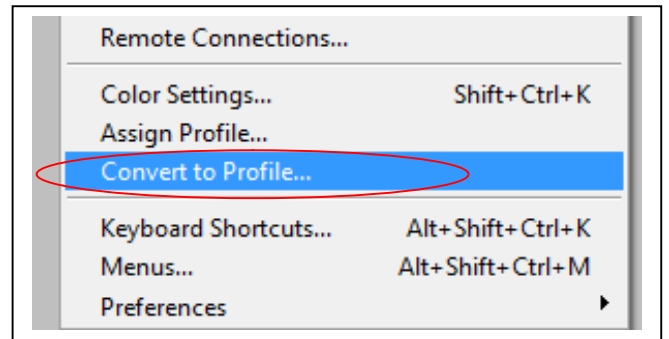
So how do you know which color space you are in? While there are a variety of ways, the simplest is to use the small drop down menu at the bottom of the frame (small circle) change the default document information shown at the bottom of the Photoshop frame to “Document Profile”. This will change the displayed information to show the color space and bit depth of the image that is

active.

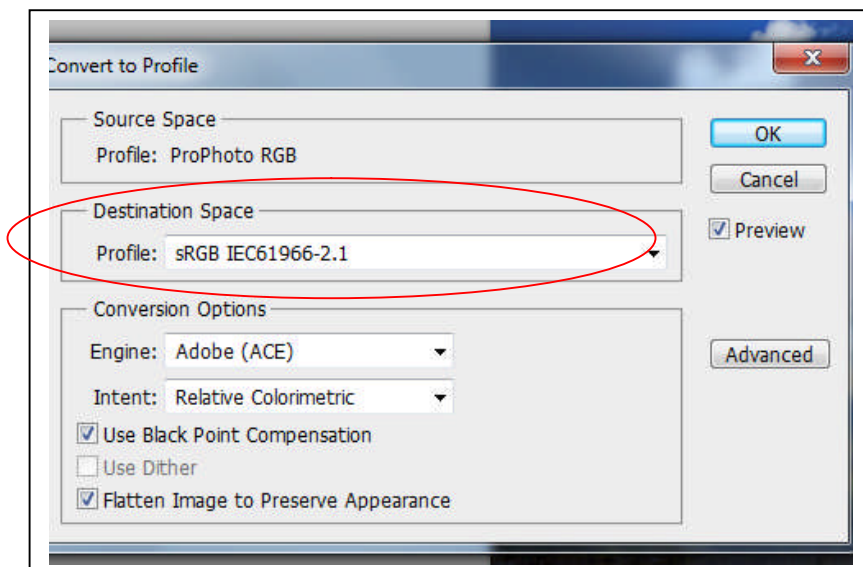
This provides a simple visual reminder of where you are at that is very easy to check on as you prepare to finalize an image.



If you are in either Adobe RGB or ProPhoto RGB (or any space other than sRGB for that matter) and you intend to save the image as a JPEG for projection / display (on the web), you must remember to convert the image to sRGB as your final step before saving. To do this go to Edit > Convert To Profile.



This will bring up the dialog box shown below.

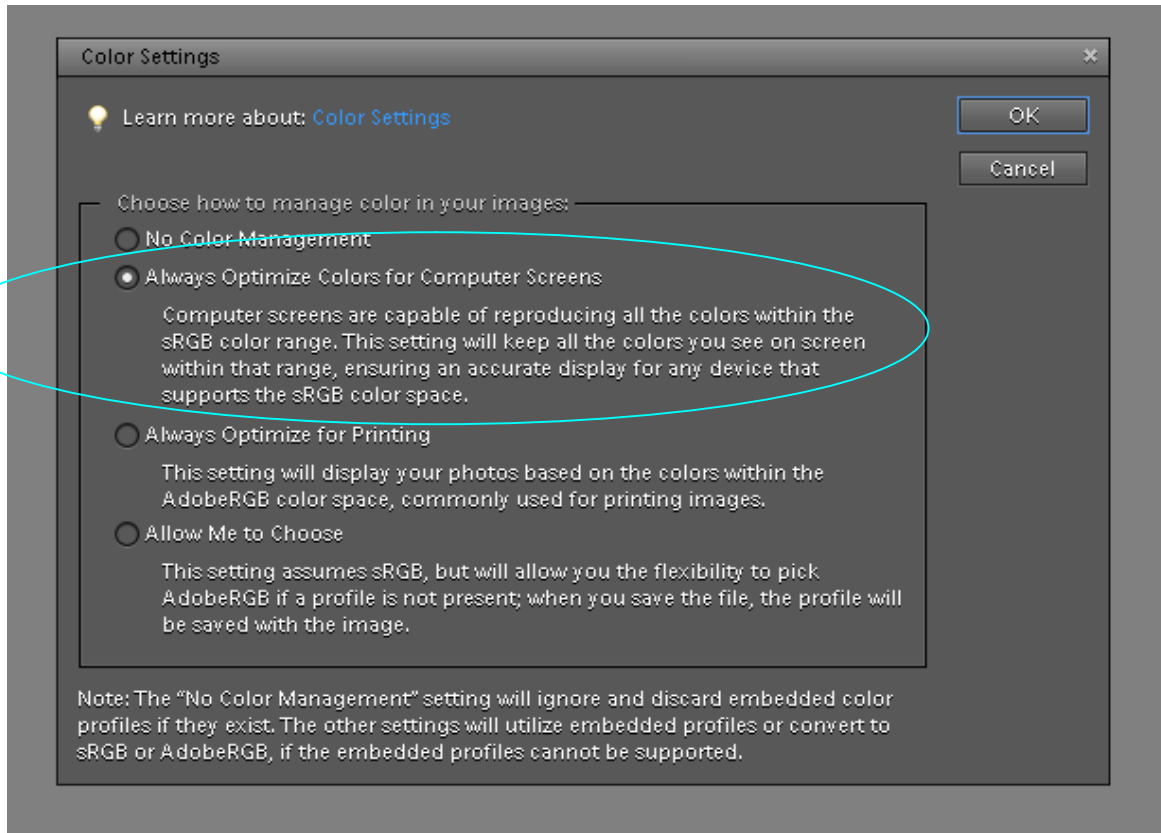


Using the drop down menu for “Destination Space”, change the space to sRGB and click OK. Now it is safe to save your image as a JPEG.

Note that even if you are printing your image, you need to watch the “out of gamut” warnings that will signal a problem. While many newer printers can handle most of the Adobe RGB space, ProPhoto and even Adobe RGB may warrant downward

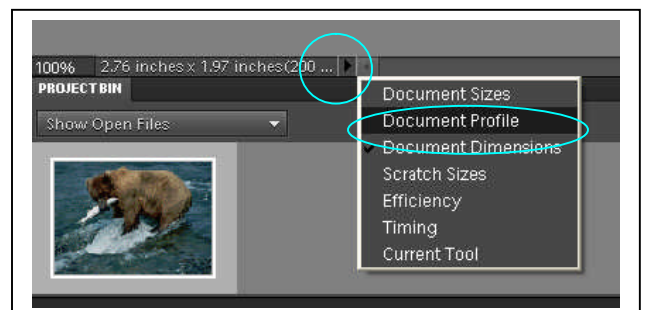
conversion to resolve a gamut issue.

## Elements



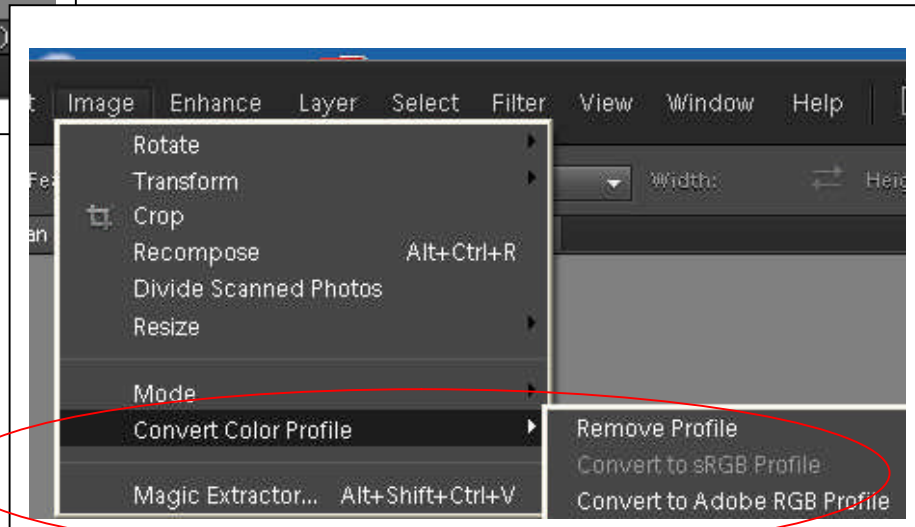
In Elements the color settings are also found by going to Edit > Color Settings. Your options here are much more restricted than in the full Photoshop. If your primary means of sharing images is through the web or projection, make sure the “Always Optimize Colors for Computer Screen” is selected. This puts you in the sRGB color space and you will not have any issues when saving images for the web or competition. If you primarily share your work through prints, the “Always Optimize for Printing” is likely the better choice. However, it places you in the Adobe RGB color space and so you have to remember to convert back to sRGB for any image that will be placed on the web or projected. **DO NOT** select “No Color Management” under any circumstances. If you do there will be no consistency in either your display or print output. This has nothing to do with printing an image and the process of electing to have Elements manage the colors and then instructing your printer not to manage colors. It deals only with whether Elements actually tags your image as having a color space associated with it.

It is still a good idea to set the bottom frame bar to display the color space information for the active image. While the space color scheme may be different, the options and settings are the same as for Photoshop.





If you do elect to “Optimize for Prints” and thereby work in the Adobe RGB color space, you will need to convert back to sRGB when saving images for projection. In Elements the process is to go to Image > Convert Color Profile. Here you would select “Convert to sRGB Profile” and then save your image as a JPEG normally.



Saving an image destined for display or projection in the wrong color space leaves the interpretation of the color numbers up to the display device. While not always disastrous, particularly if the image has a narrow range of relatively muted colors to begin with, this often leaves images looking flat or muddy. The typical reaction is to blame the projector or computer because, “my images didn’t look anything like that on my screen”. The fault is neither the computer’s nor the projector’s, but rather the maker’s for failing to remove random interpretation of color numbers from the display equation. If you work in a super wide space such as the now in vogue ProPhoto RGB, the need for conversion becomes even more critical.

A good safety check is to open your images in one of the default picture viewers for your operating system (e.g., Windows Picture Viewer) and check on how they display there. It isn’t a fool proof check, but will catch the worst cases when the profile is wrong. Use the document profile feature in Photoshop and Elements routinely to check that your color space is appropriate before saving an image into a final format. Better yet, automate your finishing steps with an action and have that conversion built into it so that you don’t have to remember to check.

Hopefully this has taken some of the mystery out of using a color space and converting your images to the proper space for the intended use.