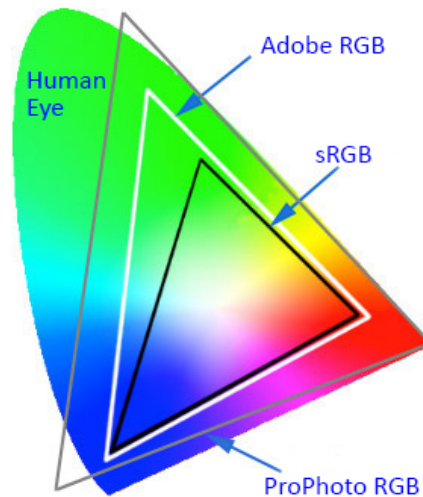# Colour Space in Photography and Image Making

As photographers and image makers, it is important to have some knowledge of colour space in our photography and image making.

Each colour space that is available in our cameras and photo editing software contains a subset of the total range of visible colours.

On our cameras if shooting images in JPEG format – set the largest colour space available, usually Adobe RGB.
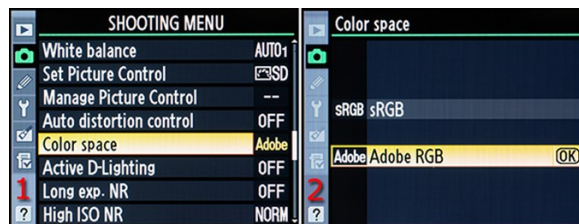
Colour Settings In Camera When Shooting JPEGs

Shooting Raw – colour settings are not important in this instant as Raw files have no knowledge of colour space.

A specific colour space will be added when the Raw file is passed through Camera Raw or is imported into Lightroom, depending of the settings in these programmes.

The reason that Lightroom uses a version of the ProPhoto RGB colour space, is that it is does not compress the colours captured by the camera's sensor. When images are exported from Lightroom, if either the Adobe RGB (1998) or sRGB colour space are chosen, Lightroom will compress the image's colours to match the chosen profile.

Many photographers/image makers may select Adobe RGB (1998) as the working Colour space to process their image files. However, Adobe RGB (1998) cannot handle all the colour data that a digital camera sensor can record.

Therefore Adobe RGB (1998) does in a sense 'throw away' a percentage of the colour data. (depending on the colours in the captured image).
Selecting ProPhoto RGB as the working Colour Space does not throw away any of the

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colour data that the camera sensor records, providing the image is kept in 16-bit mode, all the way through to the printing stage.

- ProPhoto RGB's colour range is so large that some of the colours that it supports, cannot be seen by the human eye
- Virtually every colour a digital camera can capture and every colour a printer can print is available to us in ProPhoto RGB colour space
- So if ProPhoto RGB lets us work with this wide range of colours, use it all the time
- ProPhoto RGB's biggest strength, is its very large colour range
- Working efficiently in ProPhoto RGB involves capturing the images in the camera's raw format and outputting the images from Adobe Camera Raw, tagged with the ProPhoto RGB Colour space and in 16-bit mode.
- ProPhoto RGB is the native Colour space of Adobe Camera Raw and Adobe Lightroom
- Once a ProPhoto RGB 16-bit image has been output from Adobe Camera Raw, it must be edited in Adobe Photoshop entirely in 16-bit mode and stay in 16-bit mode
- The colour range is so large that reducing the image to 8-bit mode will throw away a massive amount of colour information and can often cause ugly colour banding
- In the past editing in 16-Bit was a problem, that was due to the fact that in Adobe Photoshop and other software, the plug-in filters from Topaz and Nik were only available in 8-Bit mode, this is not true today as they are available in 16 bit mode, however some of the Photoshop built in filters are still only available in 8 bit mode
- There is the choice of using 16 bit or 8 bit mode when editing in Photoshop, in general choose 16 bit for prints and 8 bit for output as JPEGs. Bear in mind that there is a significant difference in file size when comparing 16 bit and 8 bit images. 8 bit images are usually half the size of 16 bit images
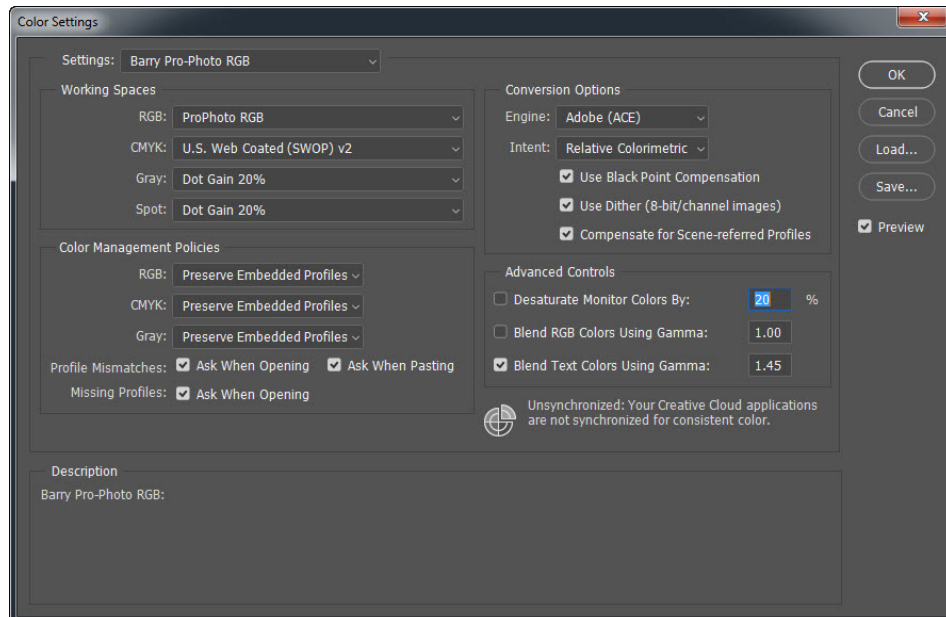

Settings in Camera Raw – Single Click On The Middle Information To Reveal The Following
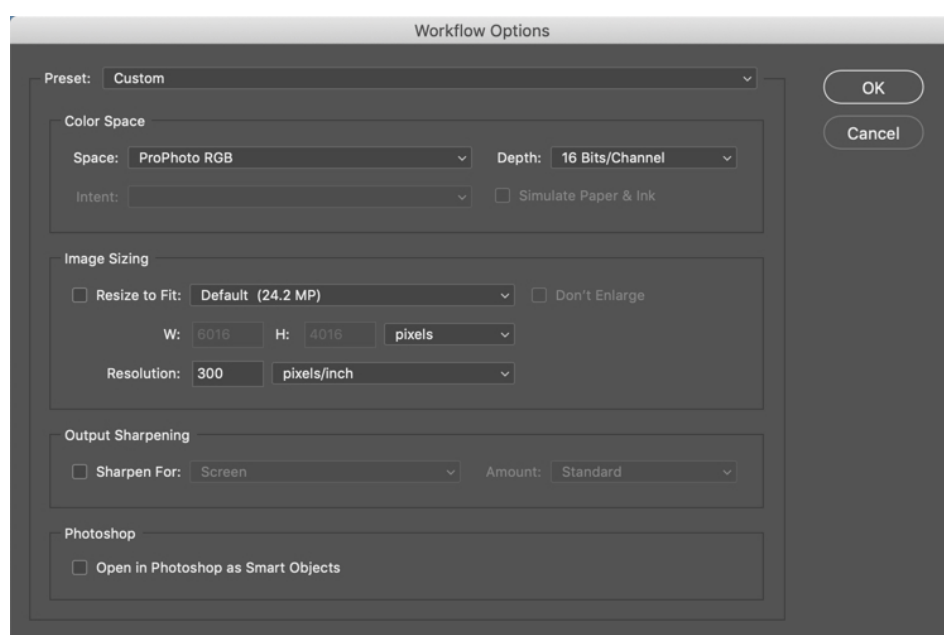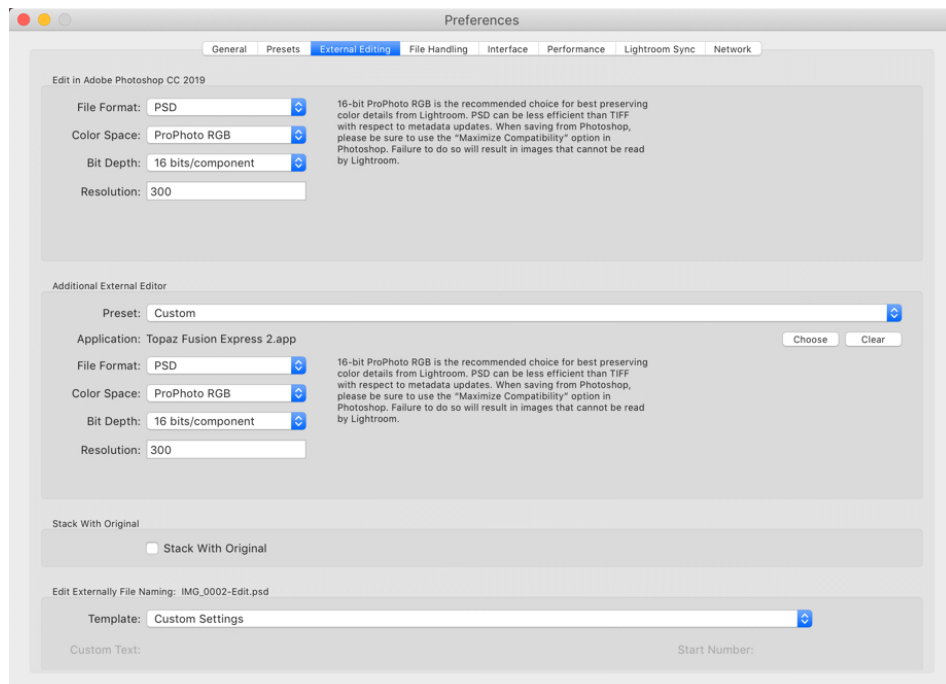

Colour And Bit Depth Settings in Camera Raw to Edit In ProPhoto RGB

Colour Space in Photography and Image Making

Colour Settings In Photoshop To Edit In ProPhoto RGB

Colour And Bit Depth Settings In Lightroom For External Editing In Photoshop