



Achieving a Color Managed Workflow

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Goals of this session

The intent of this presentation is to help you understand

- ▶ the definition, goals and benefits of **color management**
- ▶ the role of **color spaces** and **profiles** in color management
- ▶ the **basic steps** in the color management process

This will allow you to decide the degree of color management that is appropriate for your image workflow

The color management problem

Tired of prints that don't match your monitor?



Devices reproduce color differently

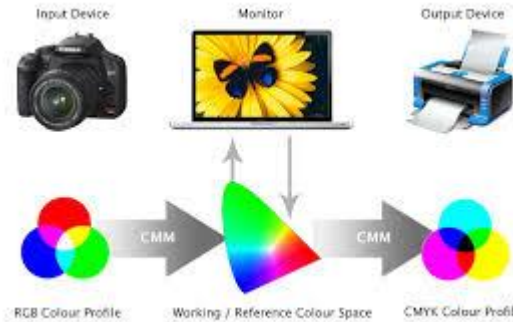
Color management can help get all your gear speaking the same language for accurate and predictable results.

Its Time to Take Control!

So, what is color management?

Color Management Defined

- ▶ The controlled conversion between color representations of different devices



Goals of Color Management

- ▶ Achieve color consistency, accuracy and predictability

Reaping the Benefits

- ▶ Gain better color, reduce waste, save money & time, repurpose images

The universe where colors live

A **color space** relates numbers to actual colors, aka gamut or working space.
For RGB, these are the “mappings” that applications use.
Its kind of like the size of your crayon box.



sRGB
default, smallest
web
interchange



Adobe RGB
saturated, brighter
cameras
many printers



ProPhoto RGB
biggest
Lightroom
professional printers

Compatibility ← - - - - - → Flexibility

Tip: Understand Photoshop's **Color Settings** dialog and policies
Understand converting versus assigning color spaces

How colors move from device to device

- ▶ An ICC color profile characterizes a device according to standards
- ▶ For printers a profile represents the combination of the printer, ink and paper
- ▶ Printer profiles are often supplied by the manufacturer

- ▶ Tip: right click an ICC profile icon to install



3 Steps to color management

1. Establish a working color environment
2. Calibrate and Profile equipment
3. Convert to output profile

Tip: Color managed printing is usually managed by the application NOT the printer

The color management continuum

Decide which parts of your workflow to employ color management

No color management	LESS
Pay someone else to do it	.
Calibrate your monitor	.
Use custom color profiles	.
Create custom profiles	MORE



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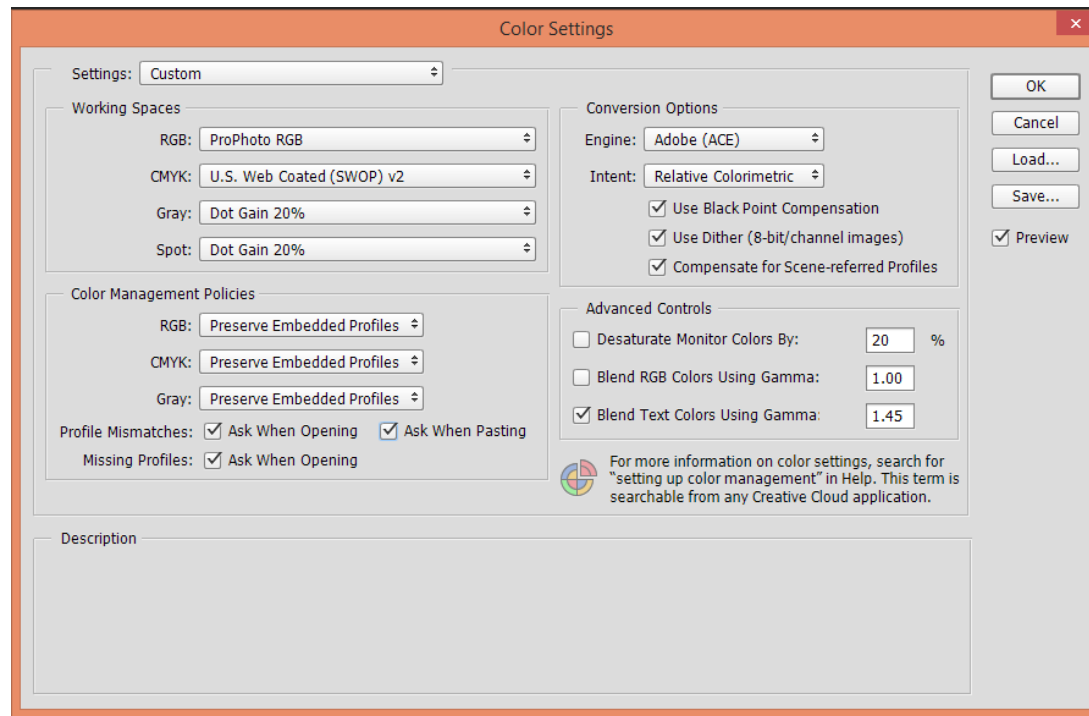
Thank you

Supplemental Information

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side of the page, creating a modern, layered effect. The text 'Supplemental Information' is positioned on the left side of the page in a clean, sans-serif font.

Photoshop Color Settings

- ▶ Tells Photoshop which box of crayons to play with (on the Edit menu)
- ▶ What to do when someone has been using a different box (color info)
- ▶ What to do when there is missing info



Convert profile vs assign profile

A language analogy...

- ▶ **Convert profile** is like translating a book to another language

This makes convert to profile the correct choice for most color management transforms, like converting to a printer profile for printing or moving from one color space to another

- ▶ **Assign profile** is like guessing the language the book is written in

There are some situations in which assigning a profile is the correct approach. Probably the most common is with an input profile, like those used with scanners and digital cameras. Since the input profile's purpose is to characterize the color behavior of the input device, you have to assign it to a file from the device in order to use it.

When colors don't fit

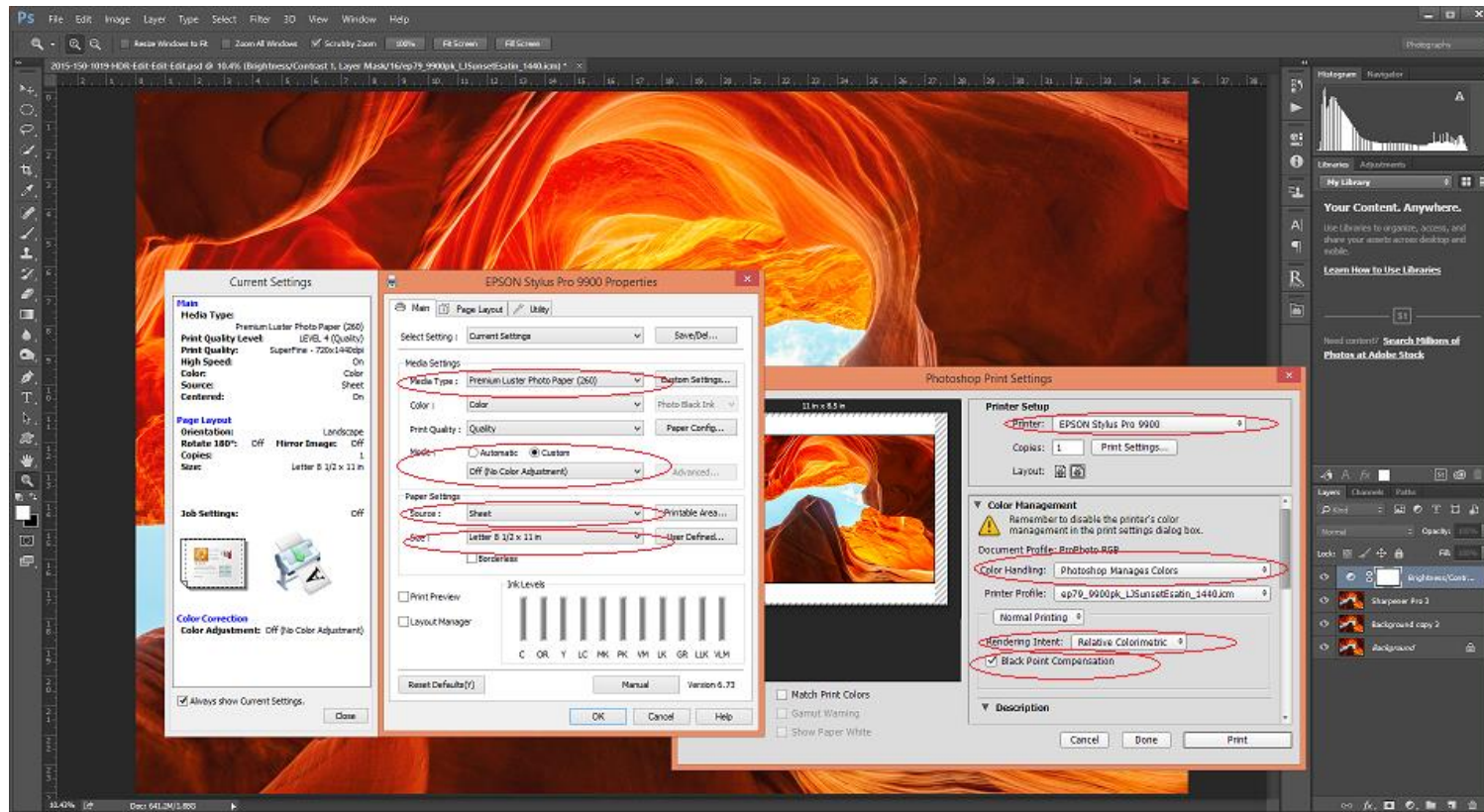
- ▶ When moving from a larger to a smaller color space, outlying colors must be mapped from the source space to fit in the destination space.
- ▶ A **rendering intent** specifies the mapping process.
- ▶ In photography, **perceptual** and **relative** are most frequently used
- ▶ Use **soft proofing** to see the effects of your chosen rendering intent prior to printing

Color managed printing using Photoshop

1. Download profile. Right Click **Install**
2. Open Image and click **File>Print**
3. Select printer from dropdown
4. Set **Color Handling** to 'Photoshop Manages Colors'
5. Set **Printer Profile** to correct profile
6. Set **Rendering Intent** to 'Perceptual' or 'Relative'
7. Check the **Black Point Compensation** Box
8. Click **Print Settings**
9. Select **Media Type**
10. Set **Mode** to "Custom". Select 'Off (No Color Adjustment)'
11. Set **Paper Source** and **Size**
12. Close the print dialog and click **Print**

Tip: The Lightroom Print module works exactly the same way.

Photoshop and printer dialogs



Common pitfalls

- ▶ Selecting the wrong profile or no profile (color info is bad or missing)
- ▶ Double color management (color conversion applied twice)
- ▶ Using a color space unsupported the application (color not displayed accurately)
- ▶ Using an old uncalibrated monitor (color not displayed accurately)

References

1. The Complete Guide to Color Management, X-Rite

https://www.xrite.com/documents/literature/en/L11-176_Guide_to_CM_en.pdf

2. A Color Managed RAW Workflow - From Camera to Final Print, Jeff Schewe and Bruce Frazier

https://www.adobe.com/digitalimag/pdfs/color_managed_raw_workflow.pdf