What Do I Really Need To Know About Printing?

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Good News & Bad News

- **Good News**
  - **Anyone can make a great print!**

- **Bad News**
  - **It is NOT as easy and making a nice image on screen and just hitting the PRINT button!**

Three types of photographers

1. I Don’t make prints at all
2. I send my images to photo labs to make prints for me.
3. I make my own prints at home.

I Don't Make Prints

- **Snacks are available in the back of the room**
- **Please don't snore too loudly as we continue our presentation**

Photo lab printing

- **Why use a photo lab?**
  - **pro - high durability prints compared to inkjet prints**
  - **con - limited in paper choices**

- **How to prepare images for lab printing**
  - **profile, sharpening, color correction, scale file size for lab**

- **ROES – What is it and why use it?**

- **Lab printing for the DIY printer - why?**
  - **- greater variety of media (metal, canvas, matte, gloss, specialty(mugs, buttons))**
  - **- Larger size prints than can be done at home**
  - **- High volume - cut costs, speed**
  - **- Fulfillment for your website (smugmug-mpix, zenfolio-bay)**

How to prepare images for photo lab

- Profiles – sRGB, Adobe RGB, ProPhoto
  - For in-camera jpeg files – profile set to sRGB or Adobe RGB
  - For post processing software – Use your color workspace setting
  - Check with photo lab for recommended profile
- Sharpening
  - We recommend you sharpen your photos
- color correction
  - Options :
    - Lab does color correction
    - you do color correction
- scale file size for lab
    - Use “image size” in Photoshop
    - Roes takes care of this

Sharpening settings to get started

- Unsharp Mask settings that work well for images where the subject is of a softer nature (e.g., flowers, puppies, people, rainbows, etc.).
- *Amount: 150%, Radius: 1, Threshold: 10*

- Settings for Portraits:
- *Amount: 75%, Radius: 2, Threshold: 3*

- Moderate sharpening that works nicely on everything from product shots, to photos of home interiors and exteriors, to landscapes
- *Amount: 120%, Radius: 1, Threshold: 3*

- Heavy Sharpening for well-defined edges (e.g., rocks, buildings, coins, cars, machinery, etc.).
- *Amount: 65%, Radius: 4, Threshold: 3*

A few recommended photo labs

- Bay photo lab (http://www.bayphoto.com/)
- WHCC
- Mpix
- Mpix Pro
- Natural Color Labs (local folks)
- Shutterfly
- Nations

- You can use these labs for prints, cards, books, etc.

Making Your Own Prints (1)

- Why make your own prints?
- Printer/ink choices
- Cost of home printing vs lab printing
- Print options available to the home printer
  - borderless prints
  - roll paper printing
- Print longevity
- Is it worth the extra money to mount prints with archival materials?
- Image preparation workflow

Making Your Own Prints (2)

- Special precautions for paper handling
- Color vs B&W prints
- Image editing environment - room decor, color, lighting
- Under what conditions should you evaluate prints?
- Getting prints to matching what you see on screen
- Paper choices
- Options for print presentation

Why Make Prints?

- Instant gratification
- Personalize or experiment
- Enjoyment of perfecting your art
- Great variety of paper choices

More About Ink Choices

- Which Ink is best for me?
  - Pigment based ink
    - Greatest longevity
    - Newest inks provide very vibrant colors
    - Greater variety of paper choices (particularly matte paper)
    - Best choice for B&W
  - Dye based ink
    - Extremely vibrant colors
    - Longevity is poor in all but a select few ink/paper combinations
    - Best results on Resin-based paper (glossy surface)
  - Dye Sublimation
    - Fastest printers but limited to small sizes
    - Great for printing at events

Choosing a photo inkjet printer

Canon, Epson, and Hewlett Packard are the main players in the photo inkjet market in the U.S. Each company markets many different models. When shopping for a new inkjet printer, think about your needs before buying.

Functional criteria - here are some things to consider before buying:

- **Will the printer only be used for printing photos? Will it also be used for printing general text and graphics?**
- **Do you want to print photos that are larger than 8x10? How large do you want to print?**
- **Do you want to print on special or heavyweight papers such as canvas or watercolor paper or will you print mainly on glossy or semi-glossy papers?**
- **How important is print speed?**
- **What is your price point for the printer?**

Printer and Ink Choices

- A few printer choices:
  - Canon
    - Pro 9000, Pro 9500, IPF Series
  - Epson
    - Stylus Photo Series R2000, R3000, 3880
  - HP
    - Design Jet Series
- Ink Choices
  - Pigment based ink
  - Dye based ink
  - Dye Sublimation

Cost of home printing vs lab printing

- A few examples of lab print prices:
- 4 x 6 - $.29
- 5 x 7 - $.99
- 8 x 10 - $1.99, $1.49
- 11 x 14 - $6.99, $3.99
- 16 x 20 - $22.00, $15.00

- A few examples of inkjet print prices:
- 4 x 6 - $.55
- 5 x 7 - $.70
- 8 x 10 - $1.33
- 11 x 14 - $3.00
- 16 x 20 - $5.00

Above prices are for standard luster or semiglossy prints.

* cut-off where printing at home is more economical

Print Longevity

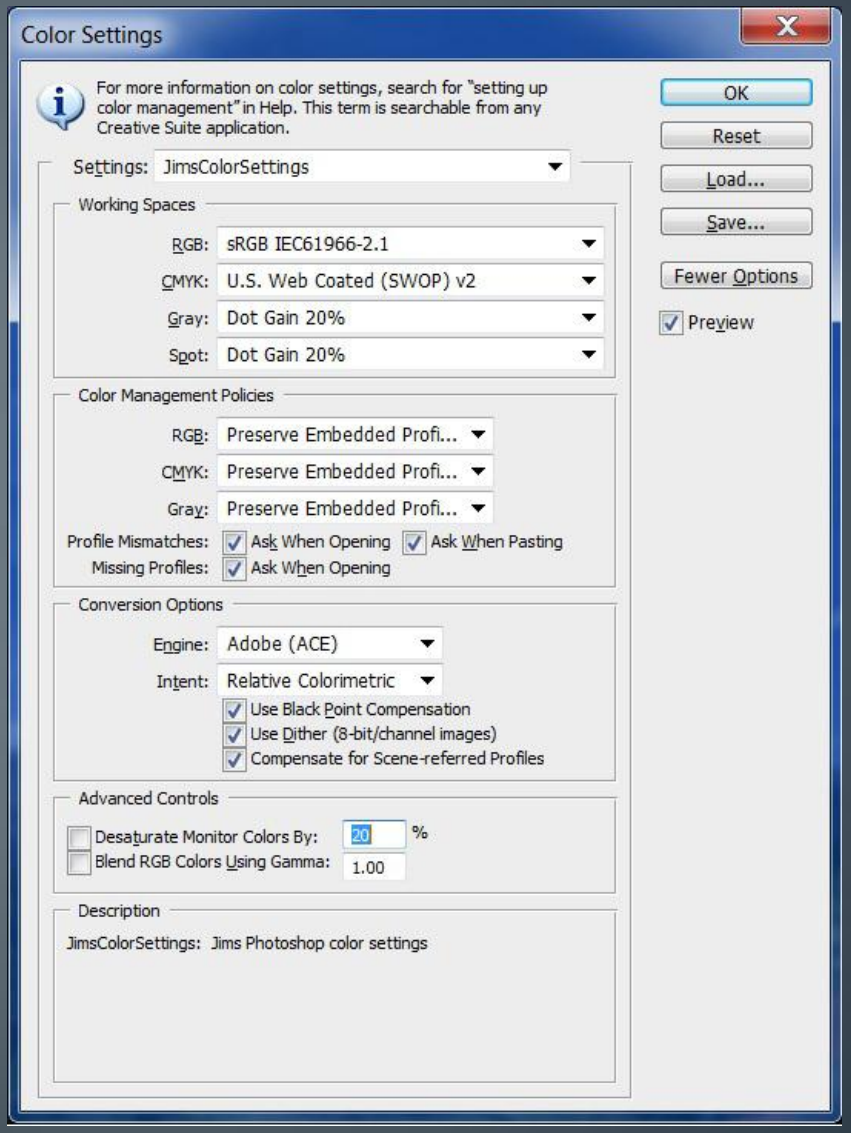
- Longevity depends on ink and paper combination
- We strongly recommend using only manufacturers inks
- Greatest longevity attained with pigment based inks
- Archival mounting materials increase print longevity

- Resources for Longevity Studies
  - Wilhelm Research
  - Aardenburg imaging
- increasing longevity in home prints
  - B&W last longer especially on paper with high cotton content
  - finish spray improves scuff resistance and longevity (UV and environment/gas fade)

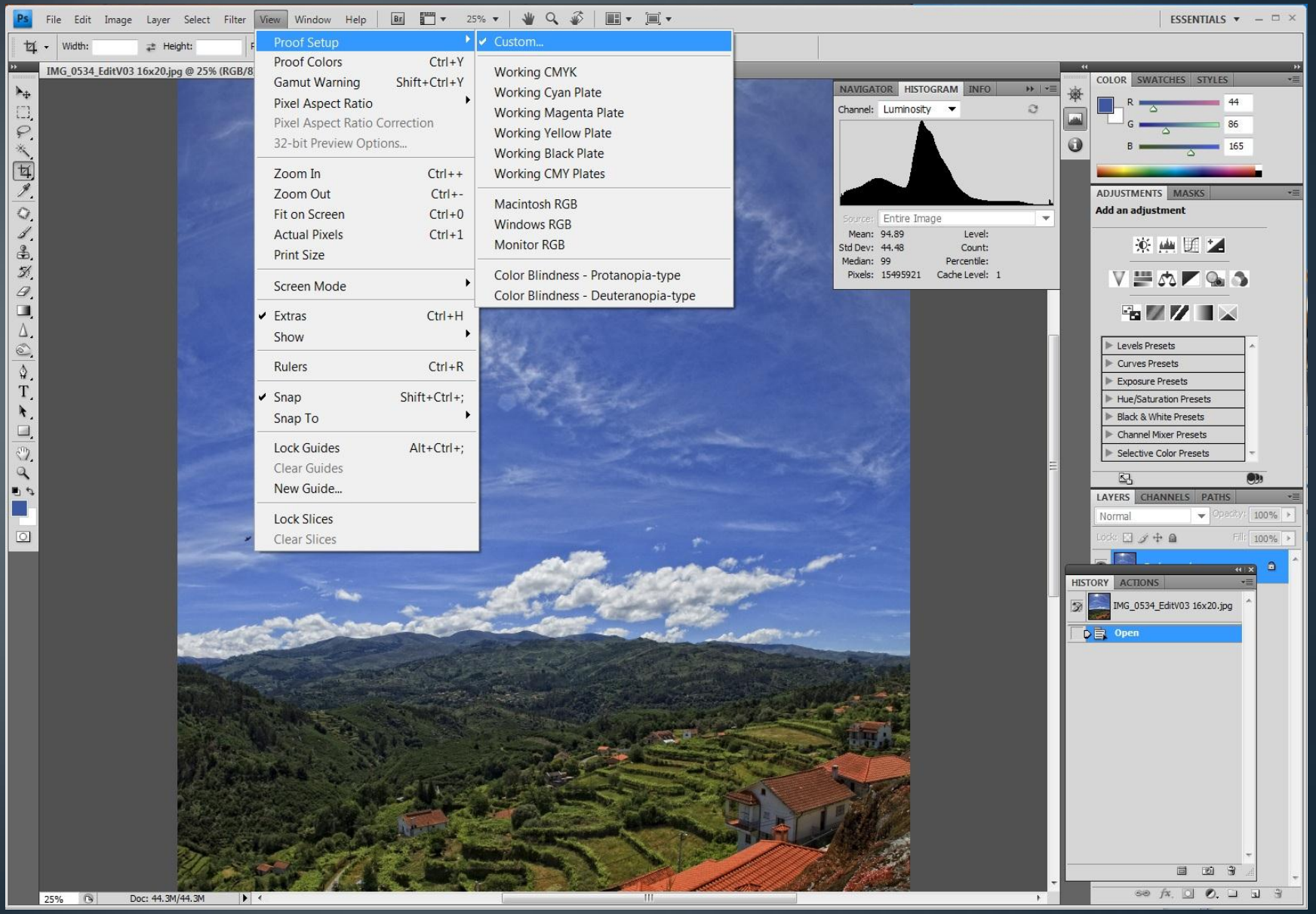
Image Preparation Workflow

- Profile Monitor
  - Use a hardware calibrator – don't set it by eye!!!
  - Recommended Settings
    - 6500K, Gamma=2.2, Luminance=80-120cdm2
  - Recommended Calibrators
    - Phil's Favorite: X-Rite ColorMunki Display
    - Spyder IV is not bad either
- Soft Proof images on screen prior to printing
  - PSCS, LR 4, Qimage, <Aperture???>
  - Experiment with Rendering Intents (Relative Colorimetric, Perceptual)
- Paper Profiles
  - Use profiles provided by paper manufacturers

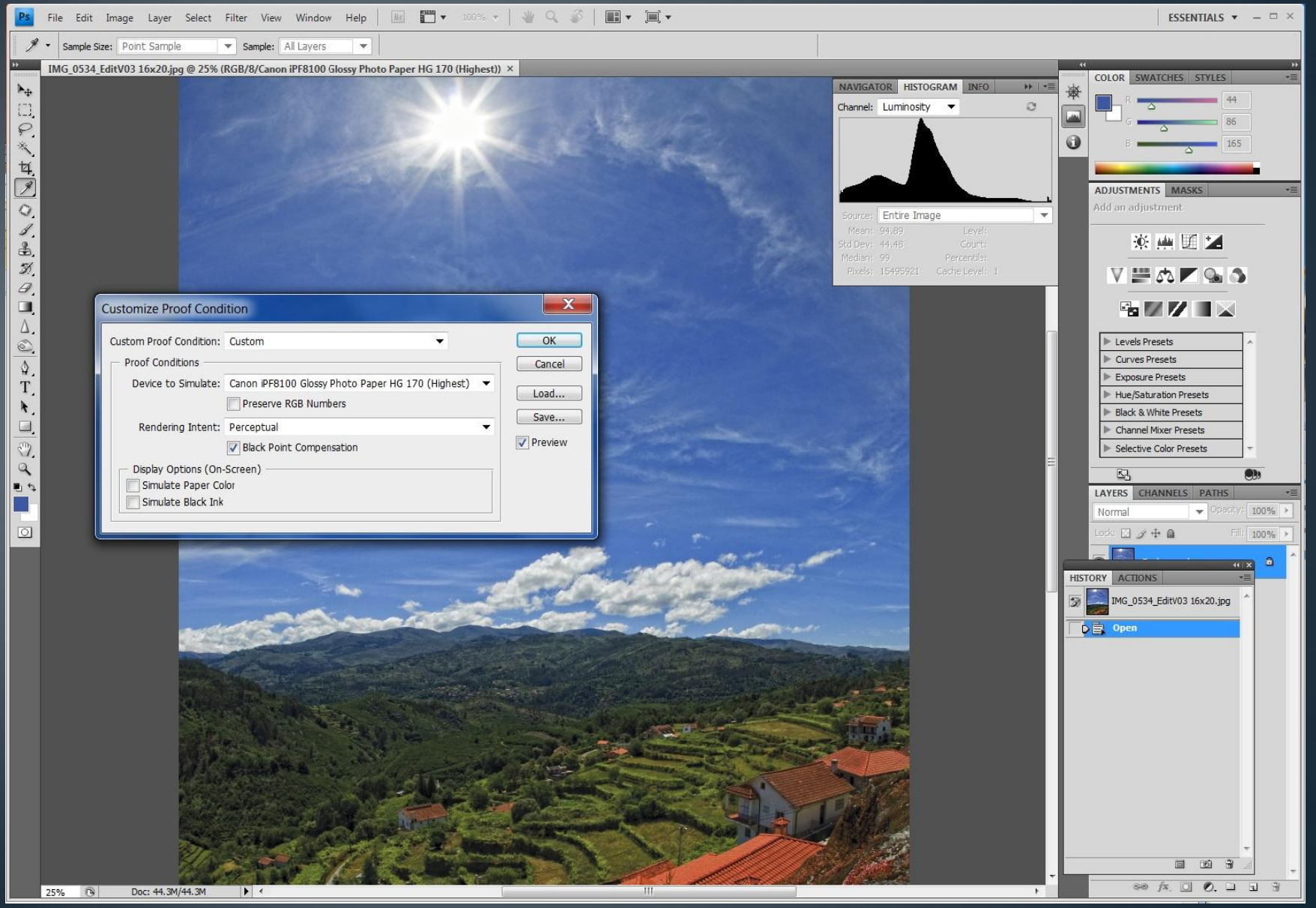
Photoshop color settings panel



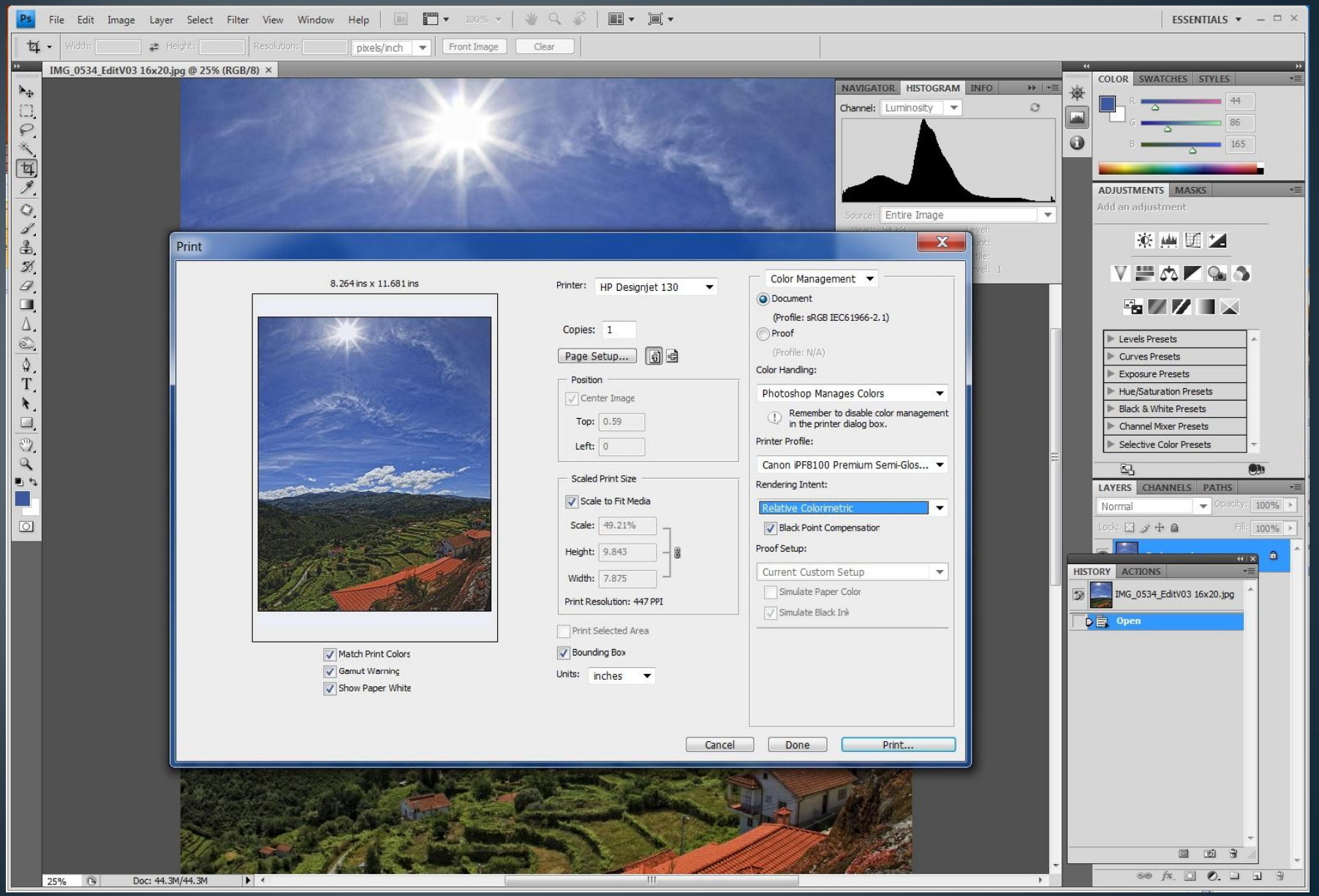
Photoshop soft proofing



Photoshop soft proofing cont.



Photoshop print screen



Paper Profiles

- What is it?
  - Maps image colors to the printer output for any particular paper type
  - Profile depends on combination of printer, ink and paper
  - Profile resides in a file you download from paper manufacturer or install with printer software
- Why Use it?
  - Provides the most accurate color rendition for your images

Making Test Prints

- 8x10 or 8.5x11 is a good size to help judge color, tonality, sharpness and “the wow factor”.
- use cheaper paper to test images targeting more costly fine art papers
- Experiment with different applications of sharpening
- Experiment with different levels of luminosity
- Check for color, level of detail in shadows and highlights
- Create a slice of a full size crop on small test print paper

- Test prints actually save you money

Sharpening for Prints

- You SHOULD sharpen specifically for your print output
  - Sharpening is different for screen than it is for prints
  - WYSIWYG with sharpening for screen
- When Sharpening for prints, images may actually look oversharpened on screen
- Global vs Selective Sharpening
  - Best results come from a combination of these
- Big prints easily reveal image flaws

Color Workspace and Rendering Intents

- Color Workspace
- sRGB, AdobeRGB
  - Camera color space (issue for JPEG only - no color space associated with RAW)
  - post processing color space
  - monitor gamut

- Rendering Intents
- Relative Colorimetric, Perceptual, Saturation
  - Rendering intent controls how out of gamut image colors are mapped to the printer/paper color space.
  - You would typically use printer or paper manufacturer's recommendation.

Inkjet printer paper choices

- There are a number of inkjet paper manufacturers.
- Here are a few recommendations:
  - Epson
  - Hahnemuhle
  - Canson
  - Ilford
  - Moab
  - Red River
  - Museo

Thank You

Presented by Jim West
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