In Search of...

The PERFECT COLOR PRINT

Printing in Photoshop CS3

By Jeff Schewe

PhotoPlus Expo 2007

Additional Notes:

schewephoto.com/workshop
Printing in Photoshop

It’s All About The Print...
Image Optimization

Tone & Color Correction using...

Soft Proofing

To optimize tone and color for the final output.
Image Optimization

How Many People Use Soft Proofing EVERY TIME THEY PRINT?
Image Optimization

Soft Proof in Photoshop
If color & the relationship of color is prime

**Perceptual Rendering**

If the tone values are prime

**Relative Colorimetric Rendering**
Image Optimization

The “Make My Image Look Like Crap” Button.
With Simulate **on** it’s an **Absolute Colorimetric Screen Rendering**

With Simulate **off** it’s a **Relative Colorimetric Screen Rendering**

You need it **ON** to see the effect of the reduced dynamic range of the print.
Image Optimization

Duplicate the image and apply Soft Proofing to the Original
Apply Adjustment Layers for corrections to match.
Image Optimization

Usually a Contrast adjustment and a Saturation bump will do it.
Okay, Now You’re Ready To Print, Right?

Uh, NO!
Image Optimization

IMAGE PROCESSING

Now You’re Ready to...

Get It Sharp!
Image Optimization

IMAGE PROCESSING

Unsharpened

Sharpened
Image Optimization

IMAGE PROCESSING

Unsharpened  Sharpened
Each film format or digital capture device has their own signature of resolution and noise. The ideal is to sharpen the detail without exaggerating the noise.

Incorrect sharpening can lose detail and increase noise!
Different subjects require different treatments.

High-frequency texture needs different sharpening than low-frequency texture.
Image Optimization

IMAGE PROCESSING

Low-frequency

High-frequency
Localized Sharpening and Smoothing helps emphasize details...

Sharpen the “Eyes”
not the “Skin”.
Image Optimization

IMAGE PROCESSING

Original

Local Sharpen/Smooth
No single sharpening will be right for all purposes.
Image Optimization

IMAGE PROCESSING

The Sharpening Workflow Solution
Capture Sharpening:
is applied early in the image-editing process.
But **ONLY** restore the loss.

Creative Sharpening:
is applied locally to accentuate features in an image.
The image dictates this stage.

Output Sharpening:
is applied only to final output size & resolution, and is tailored to a specific type of output process.
(Printer, Paper & Ink)
Image Optimization

IMAGE PROCESSING

Sharpening Workflow

Ease of use

Optimal Sharpening Repurposability
A Lot of Ways to Skin that Cat...
USM in Photoshop
Smart Sharpen in Photoshop
3rd party plug-ins,
BUT...
Image Optimization

IMAGE PROCESSING

Sharpening Workflow

The Problem is,
You can’t use a Display
To Judge the AMOUNT
To Sharpen
An LCD might be able to display about 100PPI which is 1/3 the resolution of an image at 300PPI and less than 1/4 of an image at 480PPI. So, an image at 100% zoom will be 3-4 TIMES the size of the final print size. And that’s a REAL PROBLEM...
Image Optimization

IMAGE PROCESSING

Sharpening Workflow

A Photoshop Screen Zoom of 100%

Is only useful to see what’s happening to the pixels
Not to Judge
the Amount to Sharpen.
A Photoshop Screen Zoom of 50%
Allows you to **SEE** the Results Of Dithering Four Images Pixels into a Single Display Pixel
Very Similar to the Practice of Supplying 2X the Line Screen Ruling 300PPI for a 150LPI Screen
Image Optimization

IMAGE PROCESSING

Sharpening Workflow

A Photoshop Screen Zoom of 25% Will Help You Judge The Amount of Sharpening For High Rez Ink Jet
Image Optimization

IMAGE PROCESSING

Sharpening Workflow

It “Ain’t Perfect”
But it’s Better than
Spitting Into the Wind...
Photoshop’s Color Settings

Color Management

EEEEEK!
Yep, sorry...
But it’s really easy..!
Photoshop’s Color Settings

The “Default” is NOT for you...
Photoshop’s Color Settings

- **Working Spaces**
  - RGB: ProPhoto RGB
  - CMYK: U.S. Web Coated (SWOP) v2
  - Gray: Gray Gamma 1.8
  - Spot: Dot Gain 20%

- **Color Management Policies**
  - RGB: Preserve Embedded Profiles
  - CMYK: Preserve Embedded Profiles
  - Gray: Preserve Embedded Profiles
  - Profile Mismatches: Ask When Opening, Ask When Pasting
  - Missing Profiles: Ask When Opening

- **Conversion Options**
  - Engine: Adobe (ACE)
  - Intent: Relative Colorimetric
  - Use Black Point Compensation
  - Use Dither (8-bit/channel images)

- **Advanced Controls**
  - Desaturate Monitor Colors By: 20%
  - Blend RGB Colors Using Gamma: 1.00

- **Description**
Photoshop’s Color Settings

Settings: ProPhoto RGB

Working Spaces
- RGB: ProPhoto RGB
- CMYK: U.S. Web Coated (SWOP) v2
- Gray: Gray Gamma 1.8
- Spot: Dot Gain 20%

Color Management Policies
- RGB: Preserve Embedded Profiles
- CMYK: Preserve Embedded Profiles
- Gray: Preserve Embedded Profiles

Profile Mismatches: □ Ask When Opening □ Ask When Pasting
Missing Profiles: □ Ask When Opening
Photoshop’s Color Settings

Settings: ProPhoto RGB

Working Spaces
- RGB: ProPhoto RGB
- CMYK: U.S. Web Coated (SWOP) v2
- Gray: Gray Gamma 1.8
- Spot: Dot Gain 20%

Color Management Policies
- RGB: Preserve Embedded Profiles
- CMYK: Preserve Embedded Profiles
- Gray: Preserve Embedded Profiles

Profile Mismatches: [ ] Ask When Opening  [ ] Ask When Pasting
Missing Profiles: [ ] Ask When Opening

Why Pro Photo RGB?
Photoshop’s Color Settings

So you don’t clip printable color.
Photoshop’s Color Settings

11880 with Vivid Magenta Profile Plotted Against Adobe RGB

Blues, Greens, Reds and Oranges clip in Adobe RGB

So, does color matter to you?
Printing in Photoshop

Simply Fixing the White & Black Points
Printing in Photoshop

Mac

OS X
Photoshop CS3 Print—Let Photoshop Determine Colors
Photoshop CS3 Print—Use the Correct Profile
Photoshop CS3 Print—Use the Best Rendering Intent
Page Setup - Choose your print & paper size.
Page Setup Centering

Page Setup - Create a Custom Paper Size
Create equal margins to print in exact center.
Print Settings-Selecting correct media.
Print Settings Advanced-Selecting Print Quality.
Printer Driver

Printer Color Printer Color Management?
Color Management OFF

Printer Color Printer Color Management?
Color Management OFF
Printing in Photoshop

Win XP
Photoshop CS3 Print—Let Photoshop Determine Colors
Photoshop CS3 Print—Use the Correct Profile
Photoshop CS3 Print—Use the Best Rendering Intent
Printer Driver

Print Settings-Select Properties
Setting Media and Advanced Settings
Printer Color Management-Color Management OFF
If you wish to use your own profiles.
Top Printing Errors

No Color Management
If your printed image is darker than expected and has a strong greenish cast, you probably turned off color management in both Photoshop and the Epson printer driver.

Double Color Management
If your printed image is lighter than expected and has a strong red/magenta cast, you probably turned on color management in both Photoshop and the Epson printer driver.
Wrong Profile Selected

Make sure you select the correct ICC profile for your media.
Wrong Media Settings

Make sure you select both the correct media AND output resolution for your intended output.
Top Printing Errors

Optimum Final Resolution for ink jet:
Based on 720/1440/2880 DPI

180 ppi.
240 ppi.
288 ppi.
360 ppi.
480 ppi.
Optimum Resolution for ink jet:

**8x10 prints or smaller:**
Image resolution: 360-480 ppi.
Printer resolution: 2880 dpi.

**11x14 - 13x19:**
Image resolution: 240-360 ppi.
Printer resolution: 1440-2880 dpi.

**16x20 and bigger:**
Image Resolution: 180-240 ppi.
Printer Resolution: 720-1440 dpi.
Top Printing Errors

But Don’t Resample!
If your image is between 180PPI - 480PPI
Use the “Native Resolution” and “Resize”
Top Printing Errors

27.63” x 18.15
@ 180PPI

10.35” x 6.8
@ 480PPI
Top Printing Errors

If you Need a Specific Size, Set It...

...and let the PPI Resolution fall where it will.
Don’t Resample just to hit some number!
Then sharpen for that resolution.
From Camera To Print
Fine Art Printing Tutorial
with Michael Reichmann & Jeff Schewe

10% Discount Code: JKJavits

www.luminous-landscape.com
In Search of...

The

PERFECT COLOR PRINT

Printing in Photoshop CS3

By Jeff Schewe

PhotoPlus Expo 2007

Additional Notes:

schewephoto.com/workshop