week::five
Troubleshooting Raster Artwork

Hints & Tips for Creating Perfect Raster Artwork

File Formats

- o If you know that your service provider's print workflow supports native Photoshop documents and transparency, it is **OK to use .psd files** in an InDesign layout.
    - InDesign supports layers and transparency from Photoshop files as well as other features.
    - Note that many effects and blending modes in Photoshop **do not** work well in InDesign—**flatten these layers before placing in InDesign.**
    - Vector objects also do not always translate correctly. To preserve them, save your Photoshop file as a **Photoshop PDF** and place that file into InDesign.
    - Since most modern print workflows require exporting to PDF, PSDs should work in most cases.

- o **JPEGs** can be used if your print service provides uses a PDF-based workflow and if images are NOT required to be converted to CMYK.
    - JPEG support for CMYK is very poor.
    - Always save your JPEGs at the maximum quality allowed (12 in Photoshop).

- o If the print workflow is unknown, use **TIFF** files for raster artwork.
    - TIFF files used to be the standard file format for raster images in print.
    - It uses loss-less compression, so image quality is always maintained.
    - TIFFs are still a great way to save and place raster-based imagery for print.

Hi, THIS IS .TIFF

— I'M LOSSLESS

- o Avoid the use of **GIF, PNG, BMP, HEIF, WEBP, or low-quality JPEGs** files in print production.
    - While they might work in local printing situations (aka: inkjet or laser printer), they can be unreliable in commercial print production.

Transparency

- o If you need transparency, save your images as **native Photoshop files**.
    - Try not to use transparent TIFF images—they have worked in the past and might be OK, but I have seen more consistent results with native .psd files.

- o When using *Bitmapped* TIFF images, the **white is transparent** when placed in InDesign.

- o In InDesign, **use any path as a clipping path** (even from TIFF images) by selecting an embedded path using Object > Clipping Paths > Options...

- o Use **Window > Output > Flattener Preview** to diagnose transparency issues in InDesign
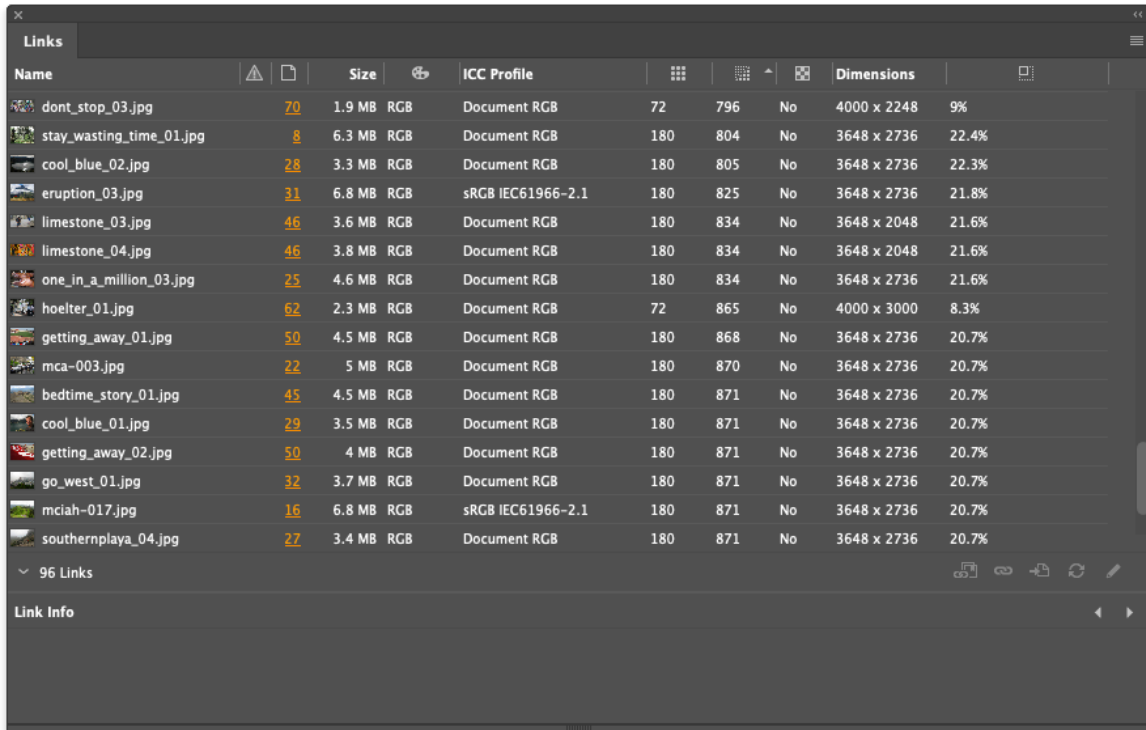
Image Scaling

- o **Use care when scaling or rotating your images** in InDesign or Illustrator.
    - Adjust your image's PPI in Photoshop prior to placing them in InDesign.
    - As a good starting point, set the PPI to 300 with Resampling *unchecked* using Image > Image Size....
    - Always maintain the image's original proportions.

- o If you do scale, double-check your image's **effective resolution**, ensuring that it is always approximately **2X the printer's line screen ruling**.
    - Effective resolution is the resolution of your image after scaling in preparation for printing.
    - You can use Window > Links to view an image's effective resolution. To view it, select Panel Options... under the panel submenu, then check Effective Resolution in the Show Column column.
    - This works best if you set the PPI of your images to 300, even without re-sampling them.

— Lecture Outline —

o   Avoid **up-sampling** raster images.
    § Care when up-sampling is required. The general rule is that you can up-sample by about 125% without significant loss of quality.
    § Some high-quality images can support a 200% up-sampling in *Photoshop only*.
    § Remember that any change to an image's pixel dimensions—up or down—can cause a loss of image quality.

Be Informed About Your Linked Images in InDesign

o   Links panel example:

Name	⚠	🗅	Size	⊕	ICC Profile	⊞	▦ ▲	⊠	Dimensions	🖵
dont_stop_03.jpg	70		1.9 MB	RGB	Document RGB	72	796	No	4000 x 2248	9%
stay_wasting_time_01.jpg	8		6.3 MB	RGB	Document RGB	180	804	No	3648 x 2736	22.4%
cool_blue_02.jpg	28		3.3 MB	RGB	Document RGB	180	805	No	3648 x 2736	22.3%
eruption_03.jpg	31		6.8 MB	RGB	sRGB IEC61966-2.1	180	825	No	3648 x 2736	21.8%
limestone_03.jpg	46		3.6 MB	RGB	Document RGB	180	834	No	3648 x 2048	21.6%
limestone_04.jpg	46		3.8 MB	RGB	Document RGB	180	834	No	3648 x 2048	21.6%
one_in_a_million_03.jpg	25		4.6 MB	RGB	Document RGB	180	834	No	3648 x 2736	21.6%
hoelter_01.jpg	62		2.3 MB	RGB	Document RGB	72	865	No	4000 x 3000	8.3%
getting_away_01.jpg	50		4.5 MB	RGB	Document RGB	180	868	No	3648 x 2736	20.7%
mca-003.jpg	22		5 MB	RGB	Document RGB	180	870	No	3648 x 2736	20.7%
bedtime_story_01.jpg	45		4.5 MB	RGB	Document RGB	180	871	No	3648 x 2736	20.7%
cool_blue_01.jpg	29		3.5 MB	RGB	Document RGB	180	871	No	3648 x 2736	20.7%
getting_away_02.jpg	50		4 MB	RGB	Document RGB	180	871	No	3648 x 2736	20.7%
go_west_01.jpg	32		3.7 MB	RGB	Document RGB	180	871	No	3648 x 2736	20.7%
mciah-017.jpg	16		6.8 MB	RGB	sRGB IEC61966-2.1	180	871	No	3648 x 2736	20.7%
southernplaya_04.jpg	27		3.4 MB	RGB	Document RGB	180	871	No	3648 x 2736	20.7%

⌄ 96 Links

Link Info

How Much Spatial Resolution is Required in Raster Images?

LPI – Lines Per Inch

o   A measurement of the *screen ruling* created by an output device.
o   Your print service provider determines this based on your press needs and paper choices.

In Grayscale or Color Raster Images

o   Common wisdom is to set the ppi to **1.5–2.0 times the lpi**
    § If lpi = 150, then dpi should be between 225 and 300ppi.
    § 2X is the most common equation to use, just to be on the safe side.

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Printed_lpi X 2 = ppi
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Sample LPI Equations

Newsprint:	Laser printer:	Imagesetter:
85 lpi X 2 = **170 ppi**	106 lpi X 2 = **212 ppi**	150 lpi X 2 = **300 ppi**

For Line Art Raster Images

o   Try to match printer **dpi** resolution up to 1,200 dpi.
   § If printer dpi = 600, then line art resolution should be 600ppi.

Recommended Resolutions:

o   Recommended ppi based on the final print/display size of an image.

Image Type	Resolution
Line art (black & white bitmaps)	600ppi
Photographs for commercial printing	300ppi
Photographs for consumer printers	150–200ppi

Color, Inks, & Other Hints

Colors & Inks

o   You can **colorize Bitmapped and Grayscale TIFF & PSD** images in InDesign with Spot or process colors.

o   Match **rich black CMYK builds** in InDesign with the builds from a CMYK raster image.

o   **Obey the total ink limits** of your printer.

o   If your print provider's workflow is color managed, **make sure all images have an ICC color profile**. (most print shops use color management)

  ▪ In some cases, make sure they all use the same ICC color profile. sRGB is widely accepted and, in some cases, required to ensure color accuracy.
  ▪ Some print providers provide their own ICC profile.
  ▪ To convert to a profile in Photoshop, select Edit > Convert to Profile…
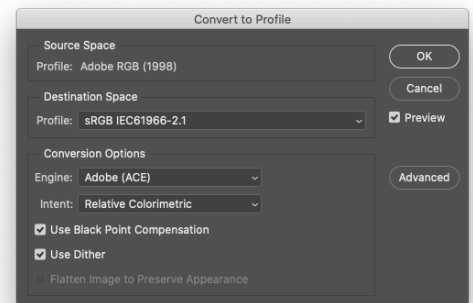
Other Hints

o   **Clean-up your image** before exporting by deleting unused layers, alpha channels, and paths. Essentially, flatten the image except for basic transparency (if needed).

o   **When printing from InDesign**, change this setting the Print dialog box: Images > Graphics Send Data, change to *All*.

  ▪ Optimized Subsampling can sometimes reduce the quality of the image.

— Lecture Outline —