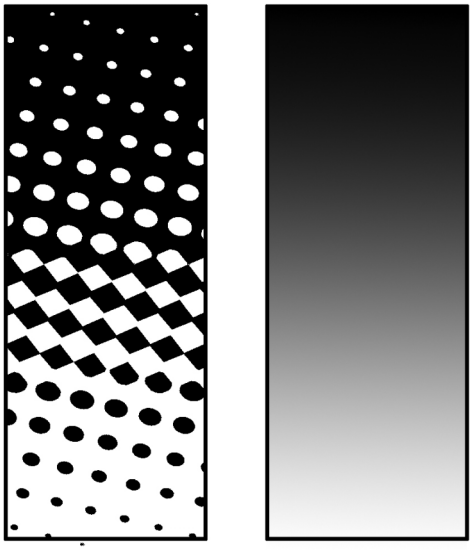
The SILKSCREEN PHOTOGRAPHIC PROCESS

Halftone

Continuous tone



Halftones will mimic continuous tones when viewed at a sufficient distance.

Making Photographic Screens

Screens are incapable of producing a **continuous tone** image, they function on a binary system: either the **mesh** is open and ink can pass through, or it is closed and ink cannot proceed through the screen. However with a little bit of math we can create an image that approximates a continuous tone through the use of a **halftone**. Not unlike **stippling** with a pen, a halftone approximates tonal transitions through the density and variation of a pattern. When properly formatted and printed in register these halftone stencils can produce a sensible tonal image in grayscale or full color.

*It may be ostensibly a photographic process, but it can be used to reproduce drawings, especially images with many colors that would make typical stenciling time consuming.

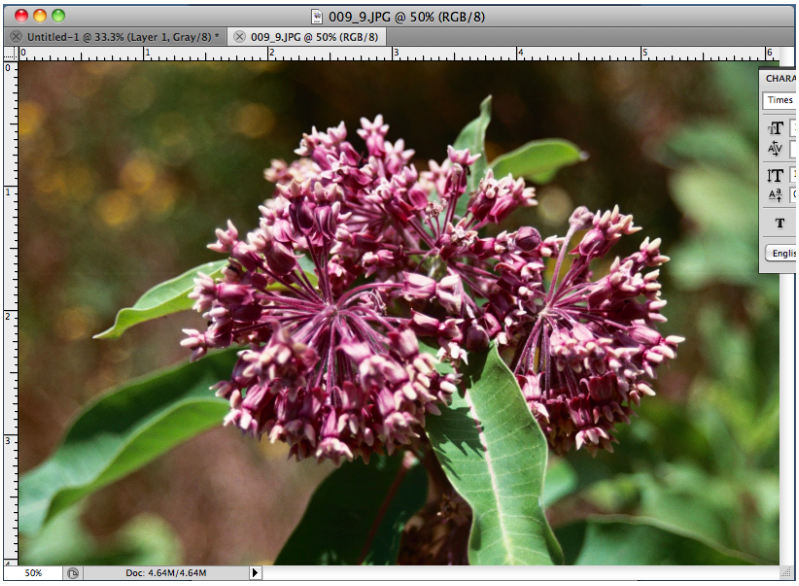
HOW TO MAKE A HALFTONE IN PHOTOSHOP

1. OPEN/ SCAN

File

Import

Select Scanner



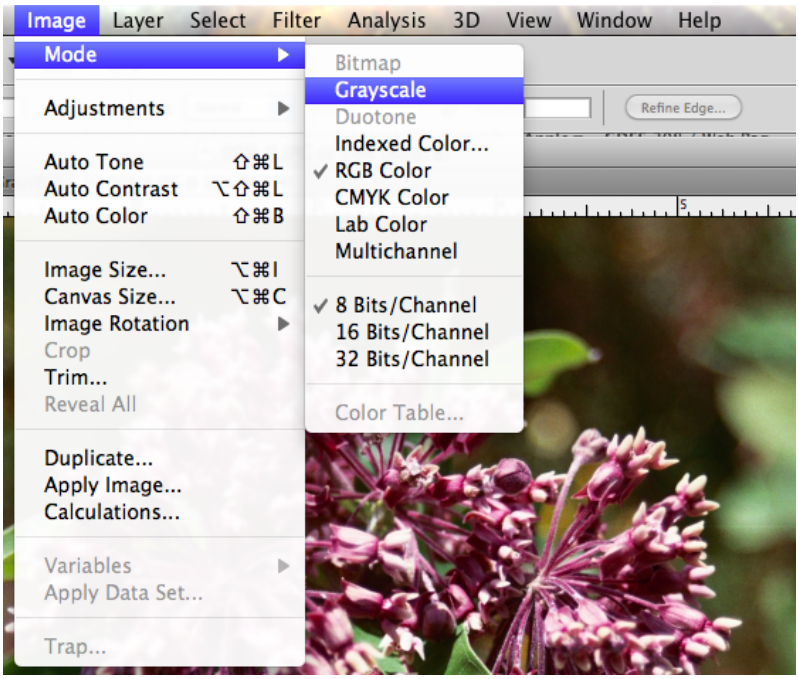
2. MAKE BLACK & WHITE

Image

Mode

Grayscale

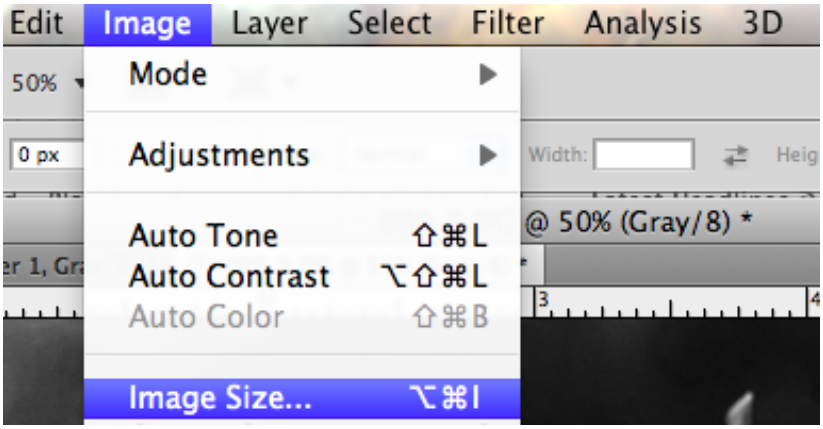
Discard Color



3. Size Image

Image

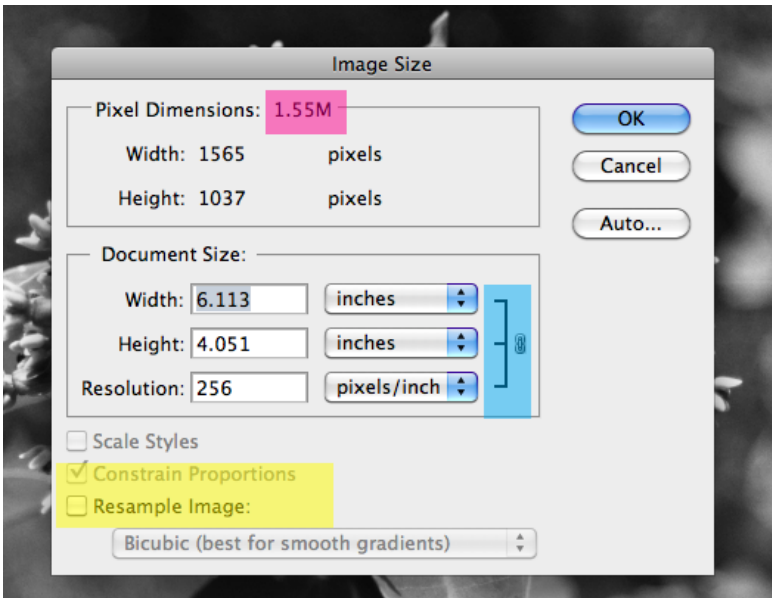
Image size



The **resolution** of your image will impact **image quality**. In general: 72 dpi (dots per inch) is good for the **web**, 150 dpi is acceptable for an OK print from your **inkjet printer**, 300 dpi is **standard quality** for inkjet printing. Some laser printers can print up to 600 dpi or higher.

The resolution you choose before we turn it into a bitmap is not terribly important. The level of image legibility is up to you at this point. Just know that you will undoubtedly lose some information in the transition from **continuous tone** to **halftone.** So in effect, the more dpi, the merrier.

FYI: our laser printers can print 8.5x11 (letter) and 11x17 (tabloid) sheets. A good rule of thumb is that a letter size sheet has a working area of **8x10** and tabloid an area of **10x16**. This is important for later when we go to print the images out, as we need a little extra room for registration marks.



Click off Resample Image

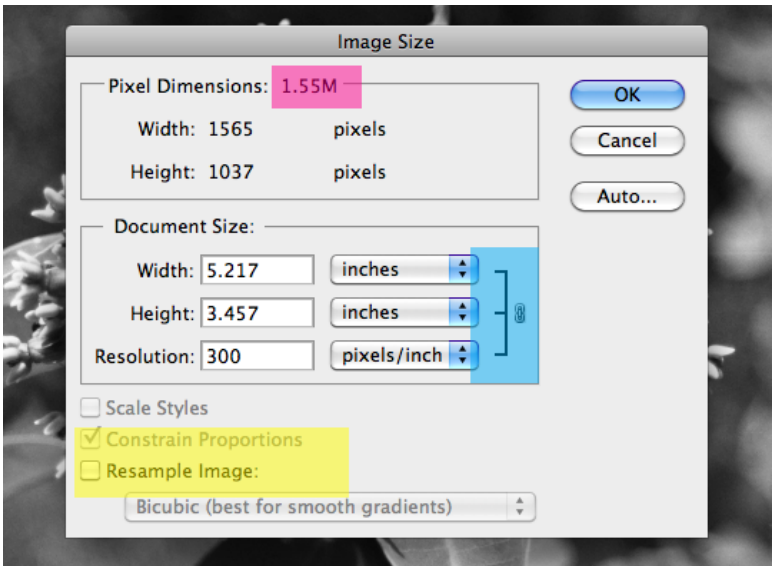
To change the image size, while maintaining all the original information is paramount, once we start changing the dimensions without controlling other variables we begin to distort the image while loosing pixel information.

Click off **Resample Image** effectively turning of the **interpolation** effect of creating/deleting pixels.

Click on Constrain Proportions

Now when I change any of the three measurements the others will grow or shrink in proportion without adding or deleting any information.

For this image I will go ahead and change the resolution to 300 dpi, which will make the image about 3.5” by 5.2” making it smaller. Note that images garnered from the web tend to be 75 dpi, making it difficult to maintain a clear and large image once altered. The more dpi, the merrier.



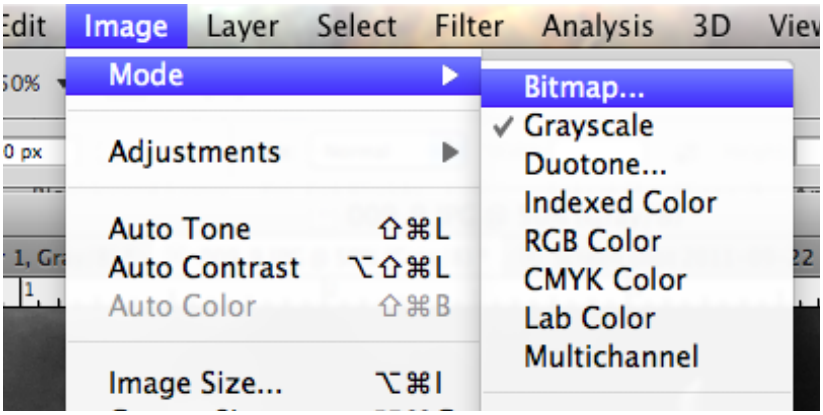
4.Bitmap

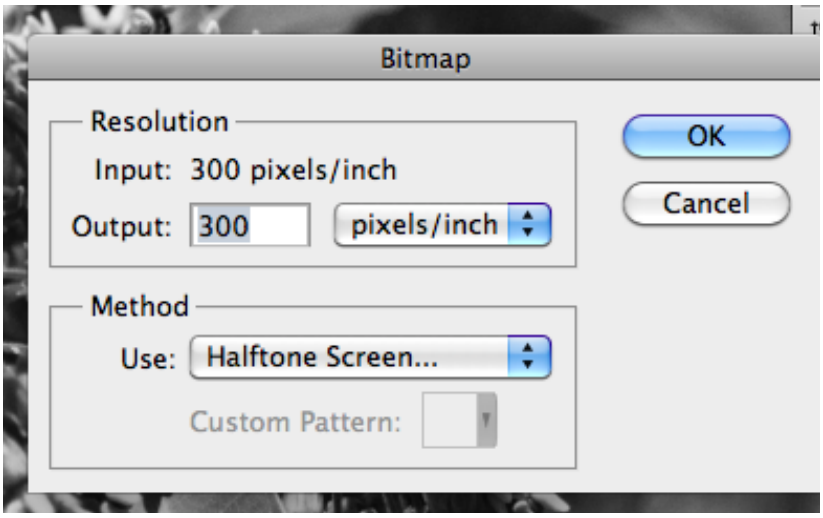
Image

Mode

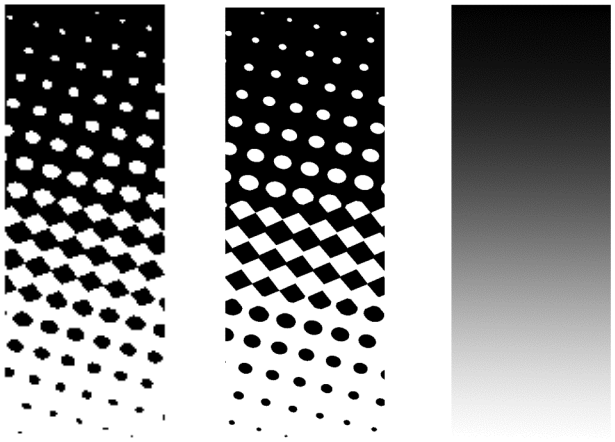
Bitmap…

Halftone Screen…
OK

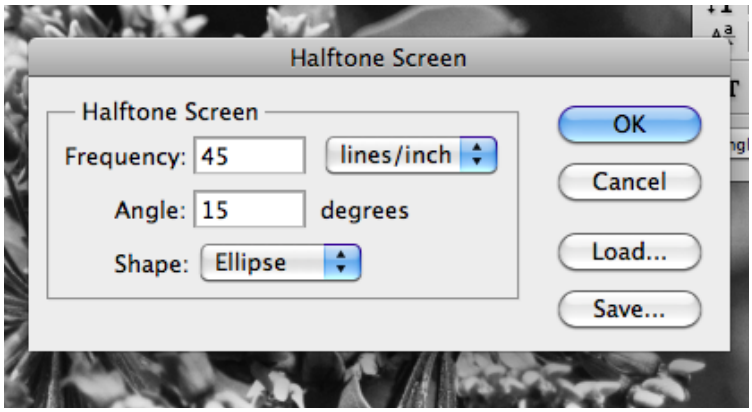




The **input resolution** is original resolution of your image and the **output resolution** will determine the new resolution. However, the new output resolution is more directly related to the roundness of the halftone dot than the fidelity of the original image.



75 dpi 300dpi continuous



Frequency will determine the new resolution of your image. The more frequent the lines, the more detailed you image will be. However, this resolution is most important because it has very strict limitations. Too much wavering on the frequency guidelines could prevent correct exposure or reliable printing.

The general rule for the frequency of lines is:

MESH COUNT / 5 = LINES PER INCH

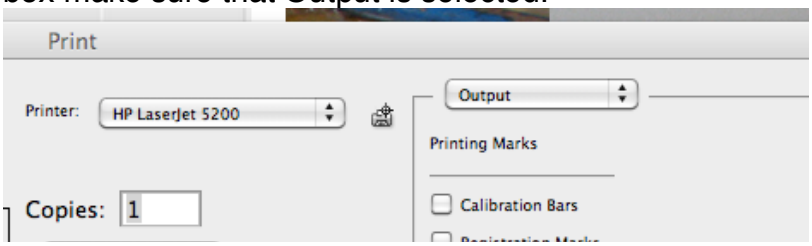
For a screen of 230 **mesh count**, the frequency would be **45 lpi**. You can always go with a smaller lpi which would make bigger halftone dots, but going with a large lpi (smaller dots) is more experimental territory. For a 230 mesh 65 is the upper limit.

Larger frequencies are for **smooth** surfaces and smaller frequencies are for **coarser** surfaces.

Angle and **Shape** are up for experiment as we are only working with one layer.

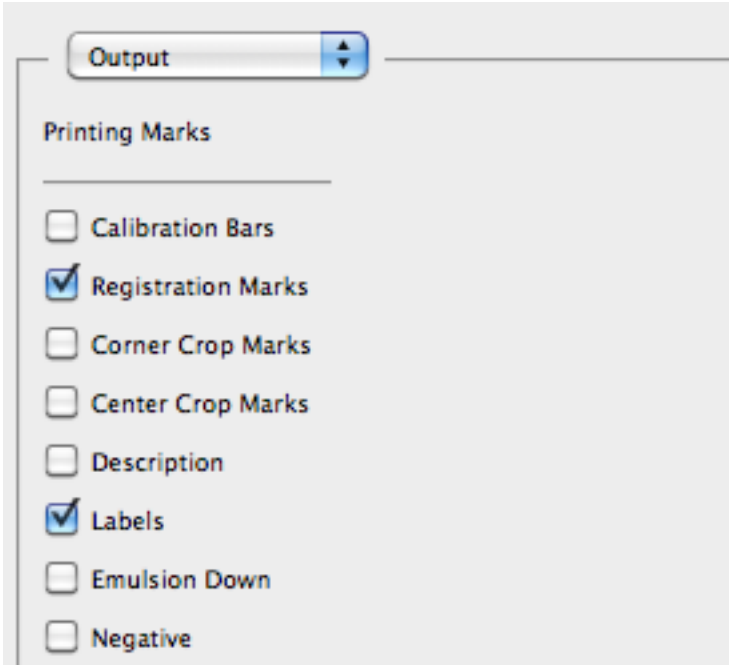
6. PRINT STENCIL

Go to **File** then select **Print.** Once in the Print dialog box make sure that Output is selected.



Select Registration Marks: this will print the little bull's eye targets on your image (you won't be able to get an accurate registration without them). You should see the targets appear around the image in the preview, if you don't it means that your image is too large for the printing size and you need to go back to step 1. Remember letter size sheets have a working area of around 8"x10" and tabloid sheets are good up to 10"x16".

Also **select Labels**: this will print the title of your document onto the film. So if you named it according to color, you will never be lost in your transition from stencil to screen.



Everything look good? Go ahead and click **print.**