

Cropping and Scaling for High Resolution Prints

Step 1

Often when we capture an image, we don't have the luxury of time, angle, lens etc., to frame the scene just the way we would like to. So generally, you will find that most images will benefit from some sort of re-composition in the form of a crop.

The other key reason to crop an image is to match the shape of our camera's recording media to that of the printer's output.

As most D-SLR cameras produce an image aspect ratio of 3:2 and most compact digital cameras produce a ratio of 4:3, the image may not always properly fit the standard lab print sizes.

As the image on the right measures 3000 x 2000 pixels in area (as shown in the title bar), it has the same aspect ratio as a 6" x 4" or 12" x 8" print.

But if you wanted a 7" x 5" print or some other size that is not a 3:2 aspect, you should crop and scale the image to the required size before sending it out for printing.

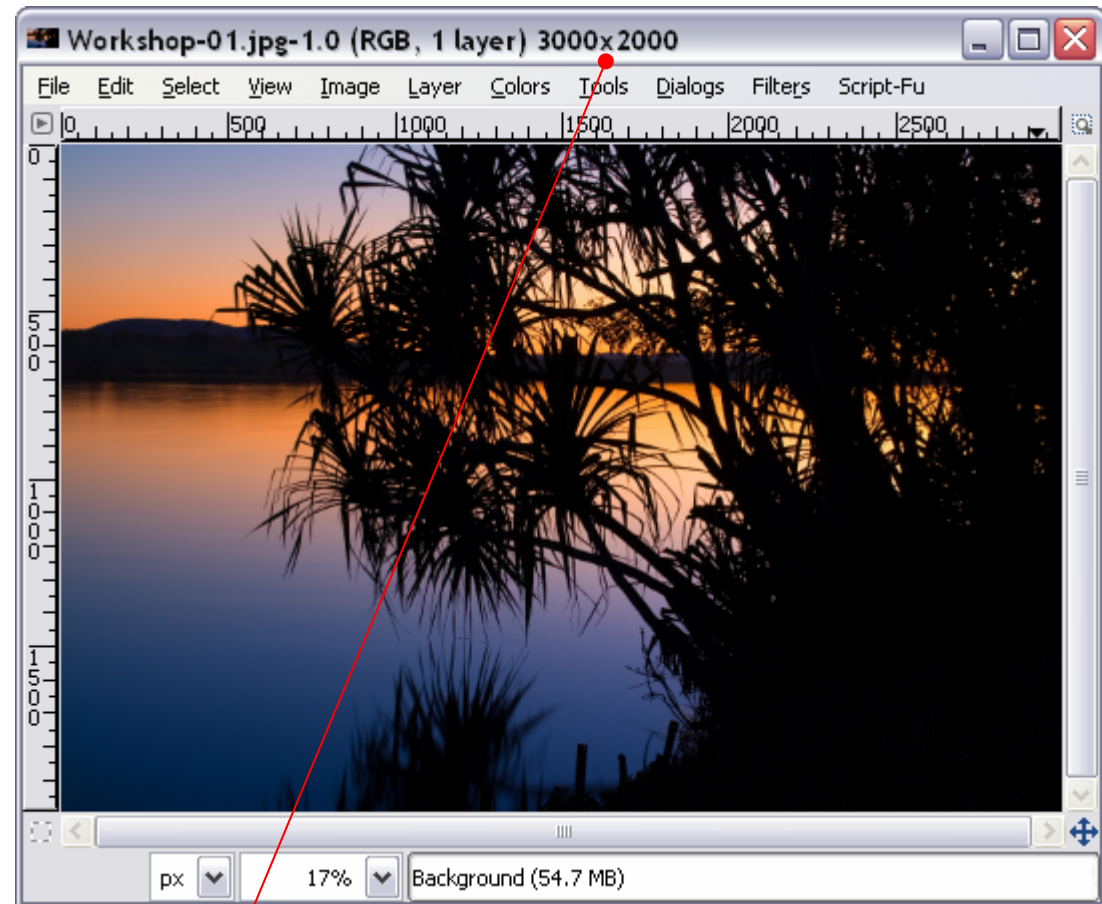
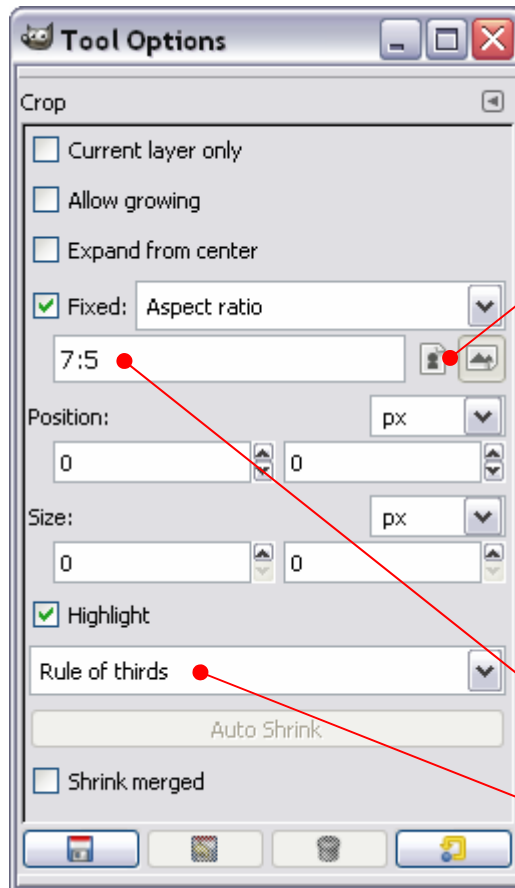


Image size (width x height)

Step 2

The easiest way to crop an image is to select the **Crop** tool and define a bounding rectangle of the correct shape.



In this example, I have set a **Fixed Aspect Ratio** of 7:5 in the **Tool Options** dialog (on the left) to match a 7" x 5" format print.

The **Portrait / Landscape** buttons allow you to change the selection from a vertical to horizontal aspect.

Portrait / Landscape format

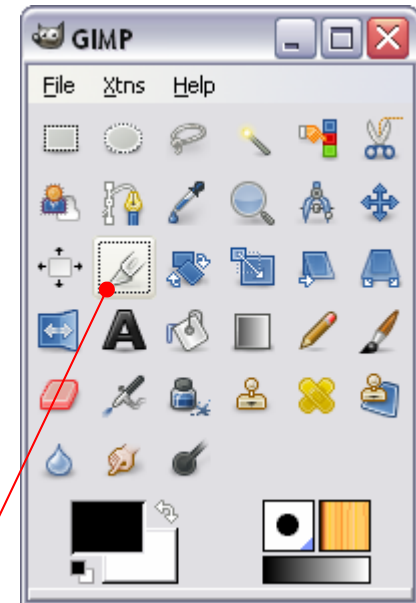
I have also ticked the **Highlight** check box, which darkens the area outside the crop selection to help visualise the final image before applying the crop.

Applying the **Rule of thirds** option will show an overlay guide as an aid to composition. This guide can help you visualise the positioning of elements within your image according to the well known "principle of thirds".

Fixed aspect ratio

Overlay guide

Crop tool



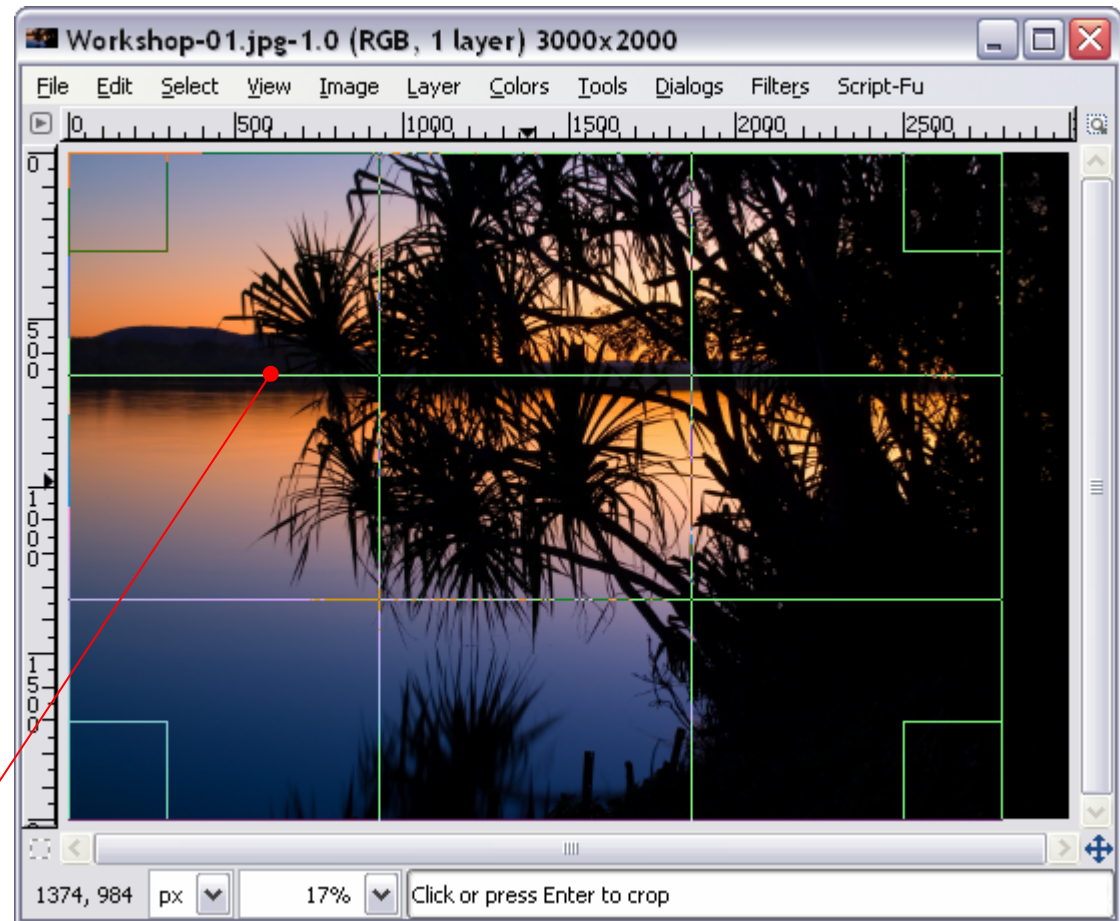
Step 3

By clicking and dragging a diagonal across the image, the Crop tool will maintain the correct aspect ratio for selection.
(Note the horizon on the upper 'third' line.)

To perform the crop, simply left-click within the crop selection or press the **Enter** key on your keyboard.

Don't overlook the opportunity for a vertical crop. Many images offer opportunities for both horizontal and vertical format compositions. Though obviously, it is far better to actually compose for both formats when capturing the images than waste pixels in radical crops from a single capture. Digital captures are practically cost-free, so shoot a number of images from different angles and composed in different format orientations.

The "rule-of-thirds" overlay grid helps to aid composition



Step 4

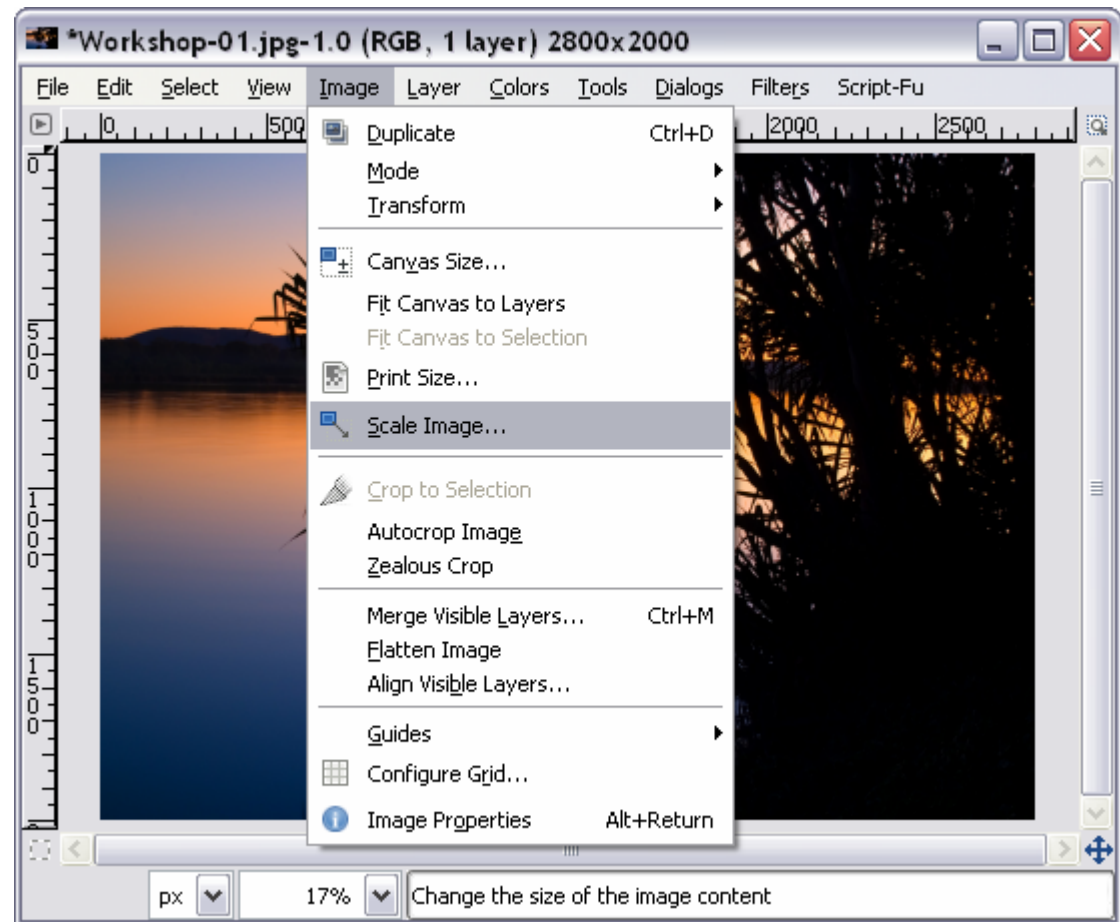
Following the crop, our next task is to scale the image for a high resolution print. Typically, this would mean re-sampling the image either up or down to achieve the desired resolution.

Choose **Image>Scale Image...** from the image menu to open the Scale Image dialog.

NOTE: The general rule for print resolution is **300 pixels per inch (PPI)** for images up to 12" x 8" in size. Beyond 12 inches in size, you may reduce the resolution as the distance the print will be viewed from will generally be greater.

300PPI is the limit of human visual acuity at normal reading distances, so images formed at greater resolutions will not look noticeably better in the final print.

The image on the right now measures 2800 x 2000 pixels (as shown on the image window title bar), which would be suitable for a 9.3" x 6.7" print at 300ppi.



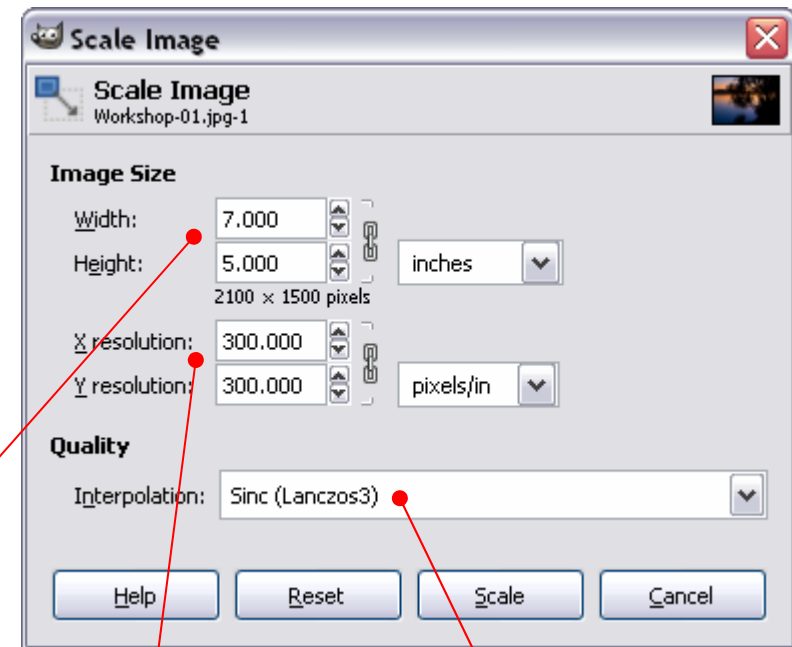
Step 5

It is important when making prints to re-sample images at the highest quality. Selecting **Sinc** (Sine Cardinal) or **Cubic** interpolation to calculate the new pixel values will offer the most accurate result.

Note that the **Sinc (Lanczos3)** interpolation is a computationally intensive re-sampling algorithm, and will take noticeably longer on slow computers to re-compute all the new pixel values.

By setting the **X** and **Y** resolution to **300** pixels per inch and changing the **Image Size** to **7.000 x 5.000** inches, the new size of the image will be re-sampled to 2100 x 1500 pixels (just a little over 3 mega pixels) in size.

Click the **Scale** button on the Scale Image dialog to apply the image scaling.



Final print size

Photo quality
resolution

High quality
interpolation

Step 6

Now that the image has been cropped and scaled to its target print size, any further processing (such as tonal and colour adjustments, sharpening, etc) should be performed before saving.

As a general rule, I crop and scale every image to the target print size before sending it out to a lab for printing.

It is far better that you determine the final composition and resolution of your pictures, rather than relying on a machine to automatically crop and scale them to fit the paper.

