Digital Image Quality Education Series by Aurelian Design

Issue #1: Image Resolution

Low Resolution
(10 DPI)

Why do some pictures look fuzzy, or have jagged edges?

Look closely at the digital photograph to the left. You can see it is very rough looking. This is because the image is shown at a low resolution. But what does that mean?

Digital pictures, whether made with a camera or a scanner, are composed of "pixels," which is short for picture elements. Each pixel is a square of a single, solid color. The picture of the ice to the left has only 15 pixels across by 15 pixels high, for a total of 225 pixels. That is not nearly enough to give a crisp image for the size shown.

So how many pixels are enough?

That depends on the size of the picture. For every inch in either direction, you need 300 pixels if you are going to print it on paper. This is usually referred to as 300 dots per inch, or 300 DPI. A good digital camera will have at least 3000 pixels in each direction, so a picture taken with one can be printed as large as 10 inches by 10 inches, since 3000 = 300 x 10.

High Resolution
(300 DPI)

Images shown on website are at a lower resolution, 72 DPI.

Let's look at another example. This picture is shown at three different resolutions.

30 DPI

72 DPI

300 DPI

Look at the slanted rooftop and you will see the difference between the three pictures. To have your pictures print clearly, be sure to check that they are at least 300 DPI!

If you have questions about image resolution, contact me at info@aureliandesign.com.