

# **White Balance Basics**

## **Missouri Nature and Environmental Photographers**

**By Jerry and Beverley Miller, July 17, 2007**

### **What is the definition of white balance?**

From Media Services' website, the definition of white balance is "a way of calibrating a camera's color response to take into account different color temperatures of light". For example, fluorescent light is greenish, shaded sunlight is more bluish and incandescent light has a yellow/orange hue. When we refer to white balance, we are talking about how to set the overall color temperature of the image to get the desired result. There are several ways to adjust the white balance of an image, but we will only look at a couple.

### **How do I set the white balance on my camera?**

Most digital SLR cameras have a white balance feature as a part of the user adjustable controls. They usually are an easily accessible feature that will have a number of settings such as Auto, Daylight, Shade, Cloudy, Tungsten light (incandescent), Fluorescent light, Flash and Custom. Each of these, except Auto, is a predefined setting that will compensate to correct the color of your image depending on the type of light in which you are shooting. They will show up on your camera readout as symbols. These symbols vary from one camera manufacturer to another. The Auto setting will let the camera make the decision what type of lighting it believes you have. It is always better to do your own adjusting since you have a lot more tools at your disposal for making decisions than your camera does.

### **How do adjust the white balance after I have taken an image?**

If you forgot to set your white balance in the camera or if the Auto setting did not produce the desired results, you can still adjust an image in Photoshop. If you are shooting in raw, you have another decided advantage in that you can change the white balance setting in the raw converter of Photoshop without ever damaging your image by removing information. If you are working on a TIFF or JPEG file, you can adjust the white balance by using the levels command or the white balance controls under the new adjustment layers pull down menu. Try using the eyedroppers in the levels box or adjusting the tint in the white balance box. Do midtones first then shadows (black) and highlights (white). Select a neutral grey for the midtones, the darkest object on the screen for the black dropper and the whitest object on the screen for the white dropper. Use the same process of mid to light when using the white balance control. Always remember to use a separate layer when adjusting white balance!

In the raw converter, you can simply open your image and go to the "adjust" tab and look for white balance. You will see that it always tags your image out of the camera with the phrase "as shot". This is how the camera saw the image when you took it. Use the cursor to try different settings in the box to adjust the white balance. Also look at the temperature setting slider below the white balance adjust. If the slider is moved to the left your image will get cooler or have a more bluish cast. If you move the slider to the right, your image will take on a more yellowish or warmer cast. The following describes the color temperatures with what you see in the field: Candlelight – 1500 K (degrees Kelvin), Sunrise/sunset – 3200 K, Tungsten light bulb – (3400 K), Overhead sun at Noon – 5500 K, Overcast sky – 6500 – 7500 K, Open shade – 9000, 20,000 K.