

Discussion on White Balance Real World

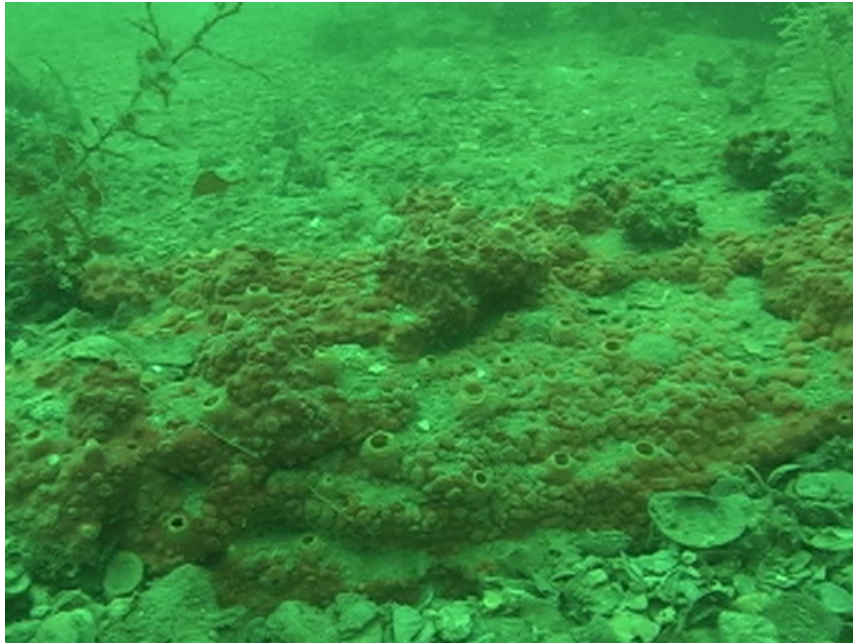
Since digital cameras came on the scene, there has been a lot said about the importance of White Balance. I recently purchased a Panasonic GS-400 digital video camera and an Ocean Images underwater housing that allows access to the manual White Balance adjustment during a dive. This short write up is to show the results of using it in an actual environment.

What is White Balance? There are a number of websites that will give you an in-depth explanation of white balance but, in simple terms, it allows you to adjust the color temperature by using a known white surface for the camera and its internal software to adjust to. An example of semi-manual settings would be the use of “indoor”/”outdoor” settings. Indoor changes the color temperature to what an incandescent light uses, where as outdoor uses daylight color temperature (ideal). This is done using known settings.

As we go underwater many different things affect what colors come into the camera. Everything from visibility to depth makes a difference to the balance. A filter, such as the UWPro, does a good job of adjusting the color at a depth of about 20-40 feet in salt water and a different filter is used in fresh water. Now what would happen if we could have the camera adjust to any given light situation to get our colors to be what we expect? White Balance.

The following two pictures are stills from a video taken in the Gulf of Mexico about 12 Miles off of the coast of Sanibel Island, Florida. This area is affected by two different rivers that flow into the Gulf, one is the Caloosahatchee which gets a lot of runoff from Lake Okeechobee water releases, and the other is the Peace River which empties into Charlotte Harbor before getting out to the Gulf. Both significantly affect the visibility and water “color” which ranges between very blue and sometimes very green. The visibility on this day was only about 10 feet, the depth was about 55-60 feet and the area was an artificial reef called “The Culverts”. I have a 5” x 7” white writing slate (sans pencil) attached to my housing and when I get to the depth I am going to shoot video or stills I put the slate on the bottom, fill the lens with the slate, select manual white balance and set it. The subject is an encrusting sponge, selected because of the color.

This first picture was on automatic white balance, no filter, no lights.



The second picture is after white balance adjustment, no filter, no lights.



As you go deeper or shallower by any significant amount just readjust the white balance. An advantage of white balance over the filter is that a filter is either on or off, and there are no in between adjustments that can be made..