

Aquatic Photography For the Aquascaper

Contributed by Jason Baliban

We spend a lot of time and effort to get our layouts to look just the way we want them. When that time finally comes, we want to capture them in that moment of time with a photograph that conveys our hard work, creativity, and skills. With a couple key points, we can easily improve our skills, no matter the quality of our camera.

Photography in itself is an art. Many people devote their lives to it. This obsession is something that can be combined with aquascaping to create stunning results. As with any hobby or devotion, our layouts cost great amounts of time and money. Unfortunately, many of us do not have much money left over to buy professional-level photography gear or time to devote to learn the art.

Many of us are left to capture our layouts with amateur cameras, such as Point-and-Shoot cameras, and minimal know-how. Below I will cover two settings that are available on almost all Point-and-Shoot cameras. These settings, once understood, will allow you to create pictures that tell truer stories of your layouts.

White Balance (WB)

White balance is simply the adjustment of Red, Green, and Blue to create the “correct” depiction of white. Our human eye will adjust this automatically. For example, when you are home at night and have regular lights on, white appears white. However, when we take a photo inside with regular light (no flash), we end up with that familiar yellow image...we all know the ones. Film cameras used filters on the lenses to handle these color cast problems. With the invent of the digital camera, we can do this with a touch of a button.

Most digital cameras have an Auto White Balance setting (AWB). This is the most common WB when we use our cameras in the most common setting, AUTO. AWB simply means that our cameras will choose the correct WB for us. Our cameras have little computers in them that evaluate points in the scene and make a “guess” about the white balance. Most of our cameras do a very good job in most situations. Your camera may take pictures that look natural to you when your subject is in sunlight or on a cloudy day. However, your camera may have weak areas. For example, most cameras still get incandescent (indoor) light wrong, leaving you with the “yellow inside shot.” Another weak area might be fluorescent. This weakness leaves shots taken in fluorescent light looking too green. Unfortunately, this exact weakness affects us aquarists, as our lighting is often fluorescent.

Our cameras know they won't get it right all the time, so they allow us to choose from preset WB settings. These help when our camera doesn't figure it out correctly. Some of these presets include Cloudy, Day Light, and Fluorescent. We often have to resort to these settings to get our tanks to look the same in pictures as they do when we look at them with our eyes.

White balance is a matter of taste. Back to our “yellow inside picture” example, while a camera can be set to make a picture taken with normal indoor light look very accurate with whites, to many of us it may look too “cold” because we are used to the subtle warm yellow that we have seen in inside pictures throughout our lives. As with bulb choice in our aquarium lighting, WB is very much a matter of taste.

Exposure

Exposure is a simple concept to understand. Our cameras create pictures by allowing light to shine on a sensor for a moment of time. The sensor then converts that light into digital information that is stored. The longer the light shines on the sensor, the brighter the picture. If the source is bright, the moment of time can be shorter, still giving the sensor enough light to make the picture. If the source is dimmer, the moment will have to be longer to give the sensor enough light.

The ability to control the moment of light is accomplished by the camera shutter. The shutter can open and close as fast as 1/8000 of a second in some cameras to handle very bright situations. The shutter can also stay open for 30 seconds or more in very dim (almost dark) situations.

Our cameras will automatically pick a shutter speed for us. Similar to AWB, our camera takes samples of our scene and “guesses” the best shutter speed to create a picture that is exposed correctly. The camera’s computer has many templates in its memory to determine the subject of a picture and how best to expose it. Unfortunately, aquariums are not in these templates, so it will often “guess” wrong and overexpose our pictures (making them too bright).

Our cameras provide us with a way to adjust the exposure in an easy way. This process is called exposure compensation. It is usually measured in +/- . Some cameras use 1/3 to express this variance, or +2/3 for example. While other cameras simply use whole numbers, -3 for example.

Application - WB

We will use my “Without Boundaries” layout for our subject. I will show you how changing the WB and exposure will affect the look of our photograph. We will start with WB, picking our preference, then move on to exposure.

I am using a Canon Point-and-Shoot camera. I am omitting directions on how to actually change the WB and exposure settings. All cameras are a little different and will require you to read your manual to understand how to change the settings.

The following are five shots using the same exposure (shutter speed) but with different WB.

AWB

– In this case my camera did a pretty good job of picking the right WB. If anything, the color tint is a little green.

Cloudy

Preset – You can see that this emphasized the yellow tint. This makes the picture appear warmer. If you can imagine a cloudy day, the color cast is often blue (or cold). The added yellow will warm up the color. This WB would be good for bulbs above 8000k.

Daylight

Preset – This is a nice WB for this tank. I think that many would find this pleasing. It is a little warm for my taste, but I can understand many feeling great about this color.

Tungsten

Preset – Also called incandescent, this WB will add a lot of blue. It is designed to be used inside where the lights are very yellow and warm.

Remember our inside yellow pictures?

Try taking a few shots inside at night with this setting. You will see that the whites are much more balanced. This WB is too blue for my taste.

Fluorescent Preset– This setting cuts the greens

just a bit, as fluorescents have spikes in greens. This is the WB I choose to move forward with.

Application – Exposure

Again, you will need to run through your instruction manual to determine how to change the Exposure Compensation settings.

Now that I have chosen my WB, I will now select the proper exposure compensation. As you can see, my camera's Auto exposure made our photo too bright: the darks are too bright and the brights are overexposed (making them appear white and washed out). In this case I know to add – (negative) exposure compensation, but lets run through both the +/-, going three steps up and six steps down. You will see that the extremes of both are unusable, but they may help those who have cameras that pick more extreme exposures automatically.

+
3 (also +1.0 in 1/3 increments): over-exposed... If your picture looks like this, apply negative exposure compensation.

+
2 (also +0.7 in 1/3 increments): over-exposed... If your picture looks like this, apply negative exposure compensation.

+
1 (also +0.3 in 1/3 increments): over-exposed... If your picture looks like this, apply negative exposure compensation.

Auto:

over-exposed... If your picture looks like this, apply negative exposure compensation.

Now we will do the negative. This is also a matter of taste. I will just cover them all and then we will pick one.

-1
(also -0.3 in 1/3 increments)

-2
(also -0.7 in 1/3 increments)

-3
(also -1.0 in 1/3 increments)

-4
(also -1.3 in 1/3 increments)

-5
(also -1.7 in 1/3 increments)

-6
(also -2.0 in 1/3 increments)

As I said, this is a matter of taste, but I think that -3 (-1 in 1/3 increments) is the best looking.

This picture is great, and it captures the look of my tank as I saw it. Many of you have Photoshop, and there are a few things you can do to enhance the picture.

The picture below shows what the tank looks like with a little "Burning" for the background, and finer sharpening. As you can see, this picture is a great representation of the tank. I think many would be surprised to know that the picture was taken with a \$200 camera.

Shot taken with Canon PowerShot SD850 IS (point and shoot camera) To exemplify this further, this next photo is the same shot taken with a Nikon D80, a camera that costs five times more.

Same Shot taken with Nikon D80 DLSR

As you can see, there really isn't much difference. The most noticeable difference is with the highlighting. You can see that the highlights in the Point-and-Shoot final are more washed out and white, while the D80 maintains the color a bit more. The reason for this is the size and quality of the sensor. This difference allows the D80 camera to handle the dynamics better.

Now You're Ready!

I hope this article has helped you master your camera just a bit more, allowing you to get closer to capturing your layouts in a manner that is consistent with your vision. As with most things, WB and exposure are a matter of taste. The key is to experiment, and follow your vision and tastes.

These are just two small adjustments and bits of knowledge that go into creating beautiful pictures of our layouts. In the future I hope to explore other areas such as supplemental lighting and aperture. For more articles by Jason Baliban, visit www.projectaquarium.com

- Discuss and ask questions about this article on the ASW Forums!