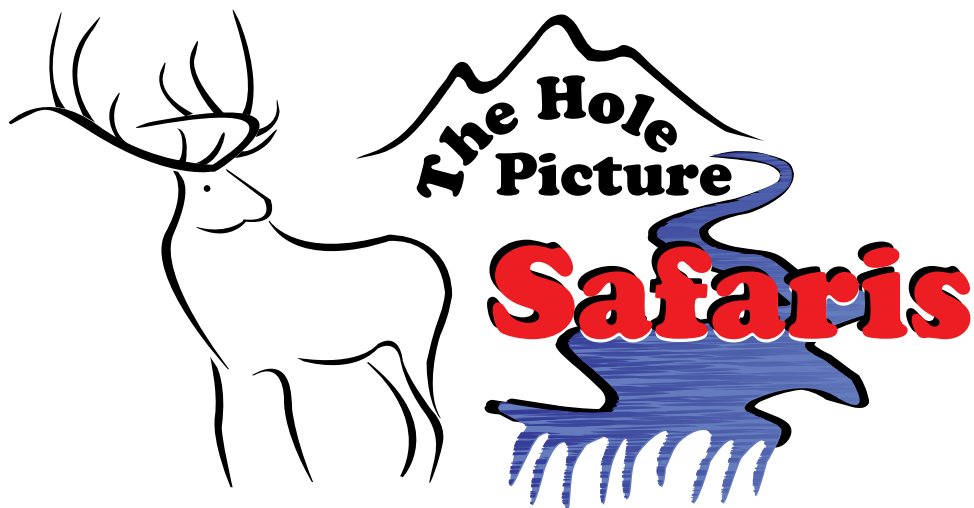


Exposure Basics

Compliments of



Photography Tours

Landscape • Wildlife • Travel

PHOTOGRAPHY IS CAPTURING LIGHT WHICH IS EXPOSURE

When we forfeit our choice to shoot on manual we are outsourcing our thinking to a computer. Camera computers are great but they factor input to achieve an average – we don't want average.

In photography, exposure is the total amount of light allowed to fall on the camera sensor during the process of taking a photo. This requires that a finite quantity of light reaches it so the photo is sufficiently exposed.

There are several ways to achieve the same amount of light to achieve good exposure.

Quantity of light = X

X = time value + aperture value

Time value and aperture value are your variables and each has a cost and benefit. Your subject will dictate your priority of selection

Aperture value is how big the lens opening is on your camera F 5/6 – F8 – F11 etc., the higher the number the smaller the hole that lets in the light.

When you have a big hole (aperture) you can use a

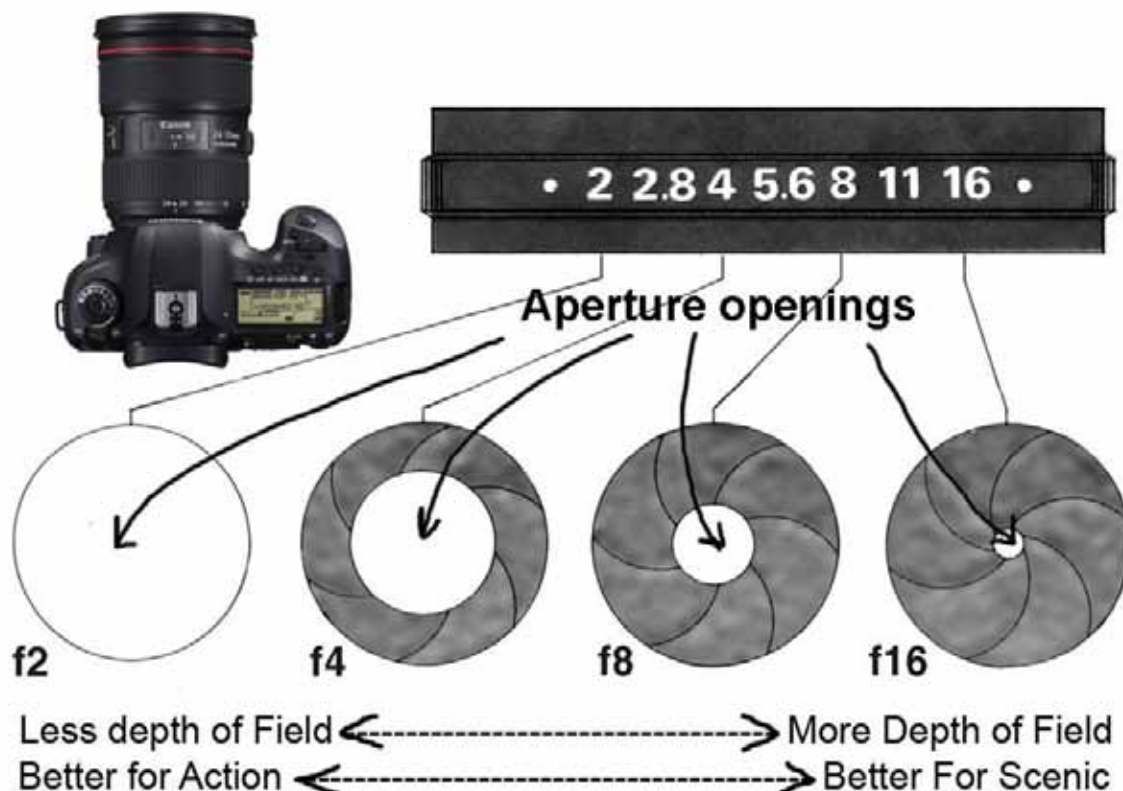
higher shutter speed to stop action, the price is less depth of field. Depth of Field – depth of field (DOF) is the portion of a scene that appears sharp in the image.

A smaller aperture requires a slower speed and often a tripod to keep the camera steady; the risk is a blurred photo. Conversely a large aperture facilitates shorter shutter speeds to stop action, the price is less depth of field.

Time Value = Shutter speed, the higher the number the faster the shutter. When shooting with a telephoto as we do for wildlife you will want a high shutter speed. A rule of thumb is to match your shutter speed to the length of your lens. A 300mm telephoto would need a minimum of 1/300 of a second. I try to double that when possible.

For sports and wildlife you need to stop action so you would want a fast shutter speed which normally requires a large aperture hole, which dictates a small number like F5/6.

For shooting scenics maximum depth of field is desirable dictating the smallest possible aperture and a



slow shutter speed. When the shutter speed gets below 1/60 it becomes necessary to use a tripod to prevent camera shake.

NOW THE CURVE BALL - ISO

ISO stands for the International Standards Organization and the numbers are the camera's sensitivity setting for light. The lower the ISO the better saturation your photos will receive but when the light diminishes increase the ISO setting only as much as you need to achieve the minimum shutter speed mandated by the shooting situation. I hate to exceed 1200 ISO as it introduces noise (missing pixels) to your photo. Use high ISO's with caution and with lower expectations.

For those of you that used to shoot film high ISO/ASA settings don't penalize your photos as much as they did back in the film days. Use them as needed.

THE CASE FOR SHOOTING RAW

Like a photographic negative, a raw digital file has a wider dynamic range or than your JPG choice and it preserves most of the information of the captured im-

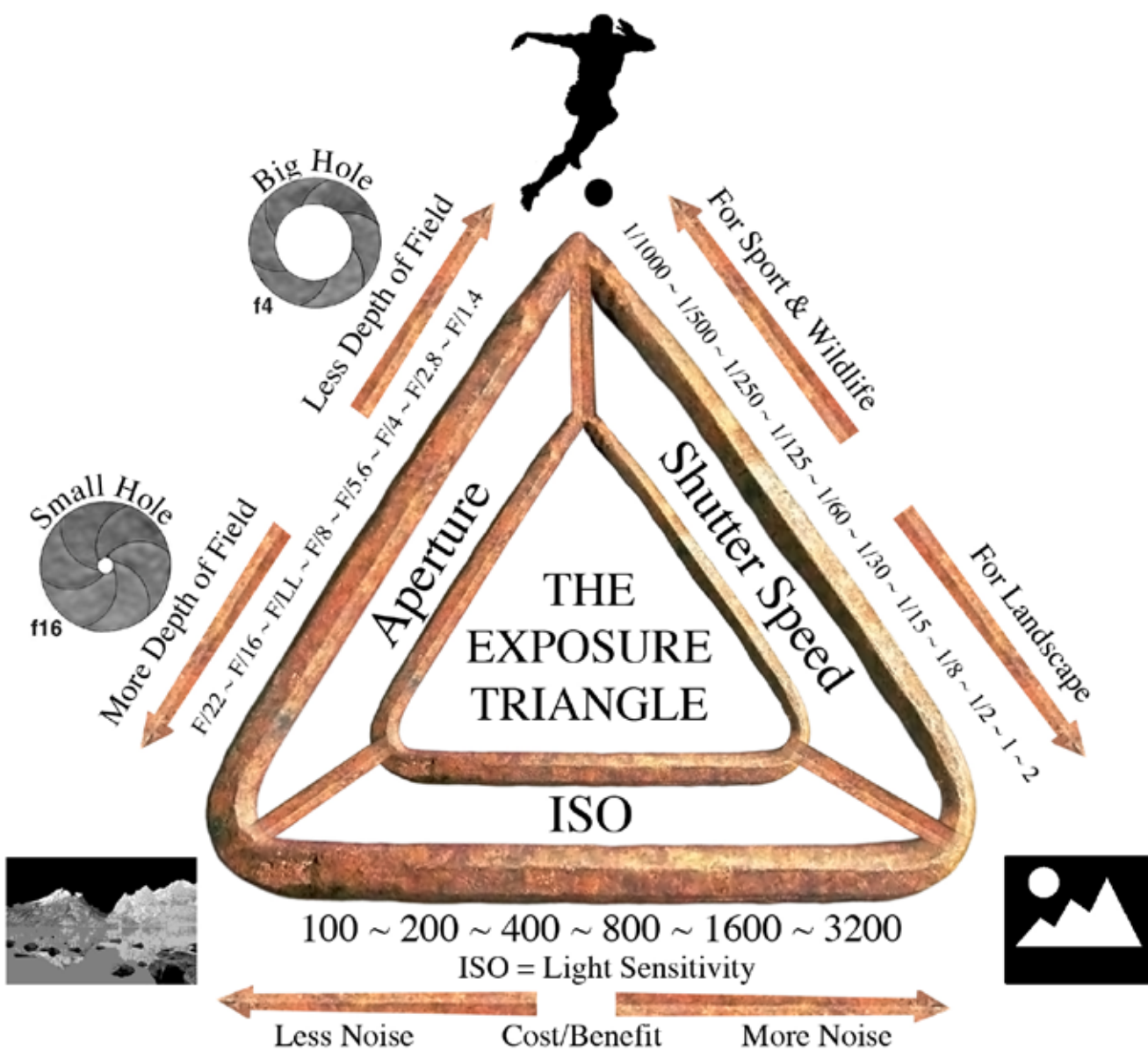
age. The purpose of raw image formats is to save, with minimum loss of information, data obtained from the sensor.

Raw files retain all original data therefore in the future you can go back to the RAW file when you are more proficient in post processing and readjust the file. Conversely JPG files are processed in your camera and as soon as your camera's computer computes your averaged image, the computer throws all information the computer deems unnecessary away never to be available again.

The photo of the grizzly bears below was taken in spring of 2008. At the time, either me, or my post processing software wasn't good enough to get the detail out of the highlights of the snow and the darks of the bear fur. I chose the bear fur detail and let the snow detail blowout. A JPG selection in the camera wouldn't have captured both either. The following year I updated to the newest software, reprocessed the RAW file and got detail out of both the snow and bear fur.

Shoot RAW so you can reprocess images as you and software improve.





COMPOSITION

“To take photographs means to recognize -- simultaneously and within a fraction of a second -- both the fact itself and the rigorous organization of visually perceived forms that give it meaning. It is putting one’s head, one’s eye and one’s heart on the same axis.”

- Henri Cartier-Bresson



picture area in such a way as to complement what you choose to be the center of interest. Good composition keeps things from floating or flying off out of the photo.

Your digital sensor sees the world differently than our human eye, and sometimes those differences can make a photograph

One of the things that differentiate a great photograph from an ordinary one is composition. You don’t take a great photograph you make it. Composition is how objects or subjects are placed in the shot. Good pictures result from careful attention the basic elements of composition, there are always two people in every photograph: the photographer and the viewer. Even in front of the awesome beauty of the Greater Yellowstone Landscape one must compose carefully. The sheer ease today with which we can produce a superficial image often leads to creative disaster even in places of stunning beauty. Point and shoot equals apathy, a recipe for mediocrity. Landscape photography is a tool to express our positive assessment of the world so we want to do it well. Wildlife photography is hunting and our goal is to produce trophies.

The first and possible the most important guideline is simplicity. Look for ways to give the center of interest in your pictures the most scrutiny. Select uncomplicated backgrounds that will not steal attention from your subjects. Look around for a plain and unobtrusive background and compose your shot so that it doesn’t distract or detract from the subject. Prioritize your main subject in the scene for crisp focus and perfect exposure and then play everything off the main subject.

Compose your photograph so that your reason for taking the picture is clear. Arrange other parts of the

more powerful than what you actually observed.

Before photographing your subject, take time to think about from where you will shoot it. You can often change a picture dramatically by moving the perspective of the camera up or down, stepping to one side, moving closer to remove subtractive elements of backing away to include complementary framing elements. One of the best ways to come up with a prize-winning photograph is to find an unusual perspective. Average pictures are taken as most people take them, from about 5+ feet from the ground. Rather than just shooting from eye level, consider photographing from high above, down at ground level, from the side, from the back, from a long way away, from very close up, and so on.

Gallen Rowell said: “The landscape is like being there with a powerful personality and I’m searching for just the right angles to make that portrait come across as meaningfully as possible”.

When we look at a photo our eye is naturally drawn along its lines. By thinking about how you place lines in your composition, you can affect the way the viewer works their way through an image, pulling them into the picture and toward the subject, guiding the eye through a journey through the scene. There are many different types of line, straight, diagonal, curvy, etc. and each can be used to enhance our photo’s composition. Roads, fences, streams, ridgelines, trails etc. can all lead the eye into the landscape.

Composing a “frame” in a photograph is something in the foreground that leads you into the picture or gives you a sense of where the viewer is. How much of your subject should you include, and should it be framed horizontally or vertically? The answer is in your viewfinder.



When a subject is capable of movement, such as a grizzly bear or skier, it is best to leave space in front of the subject so it appears to be moving into, rather than out of the photo. Same goes for people and animals that are static, you want them to be gazing into the photo, not out of it.

THE RULE OF THIRDS

The rule of thirds is a compositional rule of thumb in visual arts such as painting, photography and design. The rule of thirds appears as early as 1797 as a rule for proportioning scenic paintings. The rule states that an image should be as into nine equal parts by two equally-spaced horizontal lines and two equally-spaced vertical lines, and that important compositional elements should be placed along these lines or their intersections. Aligning a subject with these points creates more tension, energy and interest in the photo than simply centering the subject would.

Viewer’s eyes naturally go to certain points of interest in photos and not to the center. It identifies these points of interests and suggests that if you place your subject correctly in these points of interest and play along with the viewer’s natural way of looking at an image, you will have created a well balanced shot which is more appealing to the viewer.

The rule of thirds is applied by aligning a subject with the guide lines and their intersection points, placing the horizon on the top or bottom horizontal line, or allowing linear features in the image to flow from section to section. The main reason for observing the rule of thirds is to discourage placement of the subject at

the center, or prevent a horizon from appearing to divide a picture in half.

When you place your person, animal or other moving object, boat, motorcycle etc you want it off to one side appearing to move into the photo not exciting from it. Same goes for people and animals that are static,

you want them to be gazing into the photo, not out of it.

The rule of thirds is not a rule but just a compositional rule of thumb or a guideline to greatly improve the composition of your photos.

The rule of thirds is not a rule but just a compositional rule of thumb or a guideline to greatly improve the composition of your photos. Developing a composition is a creative process involving intuition and thinking more than following rules. Composition, an arbitrary, inexact process, appears to be guided best by intuition and chance rather than science.

That said you might want to heed the words of John Stuart Pryce: “Don’t waste time trying to find that perfect composition. Remember life is short, and while contemplating the wonderful texture and taste of that ice cream cone, and why you prefer one flavor over another... your ice cream cone is melting”. Along the same thought Ansel Adams said, “I usually have an immediate recognition of the potential image, and I have found that too much concern about matters such as conventional composition may take the edge off the first inclusive reaction”.

Those of us who become photographers are never satisfied with just looking at someone else’s beautiful work. We must produce our own images. When I succeed in interpreting the landscape powerfully, it resonates with an audience. The important question to ask is “What message do I want my picture to deliver?”

Ansel Adams once said: “Sometimes I get to places just when God’s ready to have somebody click the shutter”.

LEARNING TO SEE

The photographer's most important and likewise most difficult task is not learning to manage his camera, or to develop, or to print. It is learning to see photographically – that is, learning to see his subject matter in terms of the capacities of his tools and processes, so that he can instantaneously translate the elements and values in a scene before him into the photograph he wants to make. - Edward Weston

When we first use a camera we take pictures of all the obvious things around us, landmarks, people we know, family pets, our favorite spots etc. This is a very necessary part of learning exposure and composition but this superficial, rudimentary approach often leaves the capturing the light of photographic gems un-harvested as you have yet delved enough into the study of light to learn to see.

The nuance of light and shape are all around us but most of us fail too see. Unlike our own eyes that are capable of seeing vast scenes all at once are all too often used only for survival, not for the mining and harvest of beauty and although our Yellowstone landscape has an abundance of the obvious, its gems are less so.

I like to isolate subjects with a telephoto but I have a great appreciation for macro photographers that have a gift for finding an unseen world inside the weeds at our feet. Many think the grand vistas of the Grand Tetons and Yosemite call for wide-angle lenses but when shooting mountains vistas wide angles shrink the mountains, diminishing them. I usually shoot mountain scapes with as much magnification as possible to enhance their grandeur.

The whole gamut between macro shots of weeds and flowers to telephoto landscapes provides a whole world of objects that hosts light in unique ways and it is part of our journey to learn to see then harvest it.

Ansel Adams used the term “visualization” often—but what exactly does it mean? How does it fit into your workflow as a photographer? How did Ansel train students to look and see? First he explained visualization: the whole key lies very specifically in seeing it in your mind's eye first. Then he handed out black rectangles frames and told them to go out and use it to find and frame your shots. These black frames were tools to isolate gems out of the chaos of a scene.

Compelling photographs come from inspiration, not duplication. Cameras don't take pictures, photographers do. Cameras are just another artist's tool, Ansel Adams said: “The single most important component of a camera is the twelve inches behind it.”

Pre-visualizing the image before you take the photograph is a fundamental process in learning to see. Pre-visualization means that you are always viewing things by mentally transposing what you see into the foreign language of imagery and imagining the visual power in this way of seeing that is not before your eyes. Learn to see like a digital sensor and pre-visualize the different way a photograph will look compared to what's before your eyes.

Edward Weston said: The photograph isolates and perpetuates a moment of time: an important and revealing moment, or an unimportant and meaningless one, depending upon the photographer's understanding of his subject and mastery of his process.



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