

Photographing Wildlife in the Snow

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Figure 1 Cameras tend to focus on the snowflakes right in front of the subject like this bull elk in Yellowstone. By shooting an in-camera focus stack using Increment 1 and the number of images set to 5, the fourth image in the set was focused right on this elk's face.

I have spent a few decades living in snowy Michigan and for the past 35 years near Yellowstone National Park. Long winters with plenty of snow is normal for me. Winter is a terrific time to photograph wildlife for many reasons. Wildlife habitat is usually cluttered with sticks, rocks, and logs lying on the ground. A foot or two of snow covers these objects making the landscape appear less cluttered. Snow on wildlife or falling with animals makes

images more appealing. Plus, snow is a terrific light reflector. Even under real dark cloudy conditions, due to snow reflecting what light is available, often subjects remain well illuminated. And most wildlife is easier to find in winter as leaves no longer hide them and often they are attracted to specific areas that provide food, water, and shelter. For example, in Yellowstone National Park bison typically congregate around the thermal basins in the

interior of Yellowstone. And far more Yellowstone wildlife make the short migration to Yellowstone's northern range – the dry side of Yellowstone. Due to warmer temperatures and much less snowfall, elk, bison, mule deer, bighorn sheep, and the smaller mammals like red fox, coyote, and wolves are far more plentiful.

Though wildlife are generally more approachable in winter, two photo problems make capturing excellent wildlife images a challenge unless you know how to handle the problems. The solution for both the exposure and the focus problem is simple once you know what to do.



Figure 2 Due to all the dark hair on this bison, once the first blinkies appear using manual exposure, I added another 1/3 stop of light and I call that the second blinkies.

Exposure

Photographing anything in the snow often produces images that are too dark or underexposed. Why? The camera's exposure meter is designed to properly expose a subject or scene that averages out to a middle-tone reflectance. This is commonly known as 18% middle gray, though, 18% could be blue, red, or any color. Throughout the year, if you took meter readings in all seasons and averaged them out, they likely would approach middle tonality but during winter with lots of snow,

virtually all scenes are much brighter than 18% reflectance. Since the camera does not know you are metering an elk standing in white snow there the elk might be close to middle tone reflectance but 75% of the scene is white snow and that is much brighter than 18%, the camera automatically sets the exposure to average out to 18% and to do that the exposure must be made darker than the white snowy scene.

Fortunately, all cameras let you compensate for the abundance of light snow tones by using an exposure compensation control. For example, you might properly expose an elk in the snow requires you to compensate the exposure by plus 1 1/3-stop of light of light. Keep in mind this positive compensation varies with how reflective the subject is and how much of the frame the darker subject occupies in the composition and even what the camera meter is actually evaluating. If camera meter is set to spot metering and it was on the elk, you might not need much exposure compensation or none at all.

Of course, exposure compensation is provided for use with any autoexposure metering mode such as aperture-priority, Program, or Auto ISO. Be sure you understand exposure compensation is used to achieve an optimum exposure that retains highlight details and gives more exposure to the dark areas to reduce noise that "hides" in the dark tones. And let us use terminology correctly. Too many authors tell you to overexpose snow scenes due to all the white to get a suitable exposure. Overexposure really means you lose details in the highlights because bright areas of the snow that should have been somewhat different brightness's are all the same brightness. In truth, to properly expose a snowy scene with an animal in it, if you had to add 1 1/3-stop of light to get the ideal exposure. You are not overexposing the image, but rather giving the scene a positive exposure compensation to

achieve a good exposure that preserves highlight details.

I like to keep things simple, and I bet you do too. Here are the exposure guidelines I have used for my last one million photos shot in the snow, and it has worked perfectly for me every time and it is easy. With my Canon digital cameras that I have used for the past 20 years, I use the exposure tools offered in the camera – the histogram and the highlight alert (blinkies). My cameras offer a live histogram that I can view inside my viewfinder all the time. I merely adjust the exposure using the exposure compensation control if using Auto ISO or when manually setting the exposure, I turn my shutter speed dial until the rightmost histogram data touches the right wall of the histogram and shoot a quick photo. Then I play it back to see if I see if any flashing highlights are generated when the highlight alert is turned on and the camera finds an area that it “thinks” is overexposed. When I play the image back and no flashing highlights appear (aka blinkies), then I add another 1/3 stop and shoot another test image so I can play it back again. Once the first blinkies appear, I use that for my exposure. I do wish my camera would show me live blinkies so I would not have to shoot a test image and play it back, but for now I have no other choice. Eventually, being able to see blinkies before you shoot will be possible with Canon cameras as that is already available in some cameras of other brands like Sony.

I realize many authors tell you to avoid all blinkies because that means that area in the image that is blinking is overexposed and does not contain any detail. But there is more to know about this. While I would agree with avoiding flashing highlights (blinkies) if you are shooting JPEGs and want to retain details in the highlights, then avoid blinkies. But since I shoot only RAW images and most of you do too, always remember that a RAW file is

unprocessed data. That means the histogram and the highlight alert cannot be based on the RAW file, so all RAW files have an embedded JPEG that is processed, and those exposure aids are generated from the JPEG and not the RAW data that covers a much larger range of brightness levels. That means when the rightmost data of the histogram first begins to touch the right histogram wall or the first flashing highlights appear (the blinkies) the RAW file highlights are not yet overexposed, just approaching overexposure. Indeed, though it depends on the camera, many cameras can record another stop of light or even more after the first blinkies appear before highlight areas in the image are actually overexposed and therefore show no detail. If you only go to the exposure that produces the first blinkies, you are certainly safe if shooting RAW files. Indeed, in snow when I have a large area of dark tones such as the dark hair of a moose or elk, I often add another 1/3-stop of light once I see the first blinkies appear. I call these the second blinkies.



Figure 3 This is an in-camera focus stack where I actually planned to stack images together to cover the depth of field between these two bighorn sheep in the Grand Tetons. I pointed the active AF point at the bushes in the lower left of the bottom sheep and let the camera shoot a stack of 10 images. I had to use 6 of the images to cover the depth.

And do not judge your exposure by how many blinkies suddenly appear. Be sure to go with them when they first appear and don't pay much attention to how many there are when

they first appear. It is entirely possible to photograph an elk, for example, in a solid field of snow on a dull overcast day and go from no blinkies at all to a lot of blinkies merely by adding another 1/3-stop of light. All that means is you have a huge area of white snow that essentially has the same brightness level and when you finally give the snow enough exposure to trip the blinkies tool, a lot of them trip and you get a lot of flashing highlights, but you still have detail if any detail is visible when you shoot the image. Process the image by reducing the highlight exposure, maybe even increasing the dark tones, and perhaps darkening or brightening the midtones a little to suit your tastes.



Figure 4 I saw this bull moose hiking along the road when in Grand Tetons National Park. I set my exposure manually to produce the first blinkies in the snow and use that exposure when the moose walked past me.

And keep in mind that on dull cloudy days, especially when fresh snow has fallen, usually you cannot see any detail in the snow anyway. The snow in the overcast light is all a uniform white brightness and without any bright ambient light to create shadows, often it all looks alike, and you don't see detail. That is how cars often run off the road and get stuck in the ditch because the driver could not tell where the road ends at the ditch due to no contrast between the snow-covered road and the ditch.

I normally use all manual metering for subjects in the snow, especially when the ambient light is steady and not continually becoming more and then less. That means I set the ISO, aperture, and shutter speed manually and meter for the snow until the rightmost histogram data touches the right wall of the histogram and shoot an image. Then I play it back to look for flashing highlights. Once the first blinkies appear, I use that exposure for all the rest of my images assuming the ambient light does not vary much. This avoids the problem of using any automatic exposure mode where the percentage of white snow and other dark objects varies due to an animal moving closer or further away or your composition changing the relative percentages of snow tones and all other tones.

There are times when ambient light does continually change, especially on a partly cloudy day or when an animal is moving about the trees and goes in and out of the shadows created by vegetation. In that case, Auto ISO works better. I set my aperture and shutter speed manually, but the camera is set on Auto ISO, so the ISO floats to different settings as the ambient light changes or the tones in the image change. To use Auto ISO, like all auto exposure modes, you must use exposure compensation to adjust the exposure and usually exposure compensation requires some positive exposure. Be sure to make exposure compensation easy to get to. You do not want to have to search in camera menus to get to it. I always assign exposure compensation to a button on the back of my camera.

Achieving Crisp Focus in Falling Snow

On a day with lots of snow on the ground and bushes, but no falling snow focus is similar to no snow at all. Focus on your animal in the usual way and you should achieve sharp focus. However, if snow is falling (even a little snow) while you are photographing, it is far more

difficult to sharply focus the animal. Modern autofocus camera are so good they typically focus on falling snowflakes right in front of the darker subject. Many photographers assume their images are not quite as sharp because the falling snow is in the way and that blurs the subject somewhat. There is some truth to that, but the big culprit is the camera focuses slightly in front of the animal on falling snow and not precisely on the animal. I have known this for some time and eventually I learned to turn autofocus off on my Canon lens and focus manually on the animal. If the animal is still, it isn't hard to do accurately. Using a tripod, I compose the animal, then magnify the animal's face, look in my viewfinder rather than the camera's LCD as it is easier to tell sharp focus in the viewfinder, and manually focus on the animal's eye or nose if I have trouble finding the eye due to heavily falling snow, and go with that. Manually focusing this way works well, but it is slow and is difficult when animals are active.

Today I get sharp focus in falling snow using a much easier method. I have been focus stacking to achieve incredible depth of field for more than 15 years and process the stack with Helicon Focus as I have a lifetime license to use that superb software. In the beginning, I had to focus on the closest object that I wanted in sharp focus and take that shot. Then I manually turned my focus ring a tiny amount in the direction of focusing further away, shoot another image, and repeat this sequence until I was focused on the object that is furthest away that I want in focus. This worked well and in some cases I had to do this up to 50 times to make a single image. Eventually one of my new digital cameras came with a touch shutter. All I had to do was touch the LCD on the point closest to me and the camera would focus on that point and then shoot the image two seconds later. Then I touched the next point where I wanted sharp focus and repeated this

until I finally selected a spot that was in the background. This method worked well for landscapes where few focus points had to be used, but it would not work for macro shots at all.



Figure 5 The beauty of manual exposure in the winter when the ambient light is not changing like on this sunny morning is once you have a suitable exposure for the snow, you have a good exposure for all compositions. If you use an automatic exposure mode, even if the ambient light stays the same, having the percentage of light snow tones and dark vegetation and moose tones can still throw the exposure off.

So how does this help you with getting sharp focus on an animal's face in a snowstorm. Today my Canon cameras offer an in-camera auto focus bracketing mode. When activated, select the number of images to be in your "stack" of images and the increment level. Increment 1 is a tiny change in focus from one shot to the next and increment 10 is a huge change in focus. I found with my Canon R5 that if I turn on Auto Focus Bracketing (Canon calls it bracketing but it really is an automated way to shoot a set of images focused at slightly different distances and the images can be stacked together to achieve tremendous depth of field. But, in most cases I am not really trying to stack an animal with Helicon Focus in a snowstorm (though I have successfully done that) but all I want is a single exposure focused on the animals face. I first thought of this strategy in 2021 but did not get enough chances to use it in falling snow, but in 2022 I got many

opportunities, and it has worked far better than I hoped it would.



Figure 6 There is a lot of white tones in the snow and this similar toned long-tailed weasel. It is absolutely crucial to use a lot of positive exposure compensation to keep the snow and weasel white. With any auto exposure mode using no compensation, this would be gray snow with a gray weasel!

Since the camera will focus on snowflakes slightly in front of the animal's face, we know the first shot will not be sharply focused on the animal. But after the first shot, the auto stacking program found in many new cameras today will then shoot a second image focused a little further away than the first and hopefully that one coincides with the animal's face, and then the third image is focused a little further away than the second one. The beauty of this is after the camera select the spot to begin the focus stack and it picks snowflakes, after that the camera merely changes the focus a little according to the increment set (I use increment 1) and shoots another image and keeps doing that until it hits the maximum number of images set in the stacking program (I set 5 images) or hits infinity focus, whatever comes first. In nearly all cases third or fourth shot in the set of five images is sharply focused on the animal. And while I always mark the beginning and end of a focus stack set when I shoot them

by photographing my hand at the beginning and ending of the set, I don't bother to do that when photographing animals in a snowstorm. I just compose, put the active AF point on the animal's face and shoot stack after stack. When I edit the images, I look for one image that is focused on the face, so I blow up the face and scroll through the images. Always the first image is a little soft, but not terrible and that is what many accept since they only shoot one image, but typically the 3rd or 4th image is truly the one that is focused on the animal's face. I give the image in sharp focus a rating of 1 and do not rate the others. Once I am through all the images in that folder, I sort the images by rating using Canon's free DPP4 software and all rated images rise to the top of the folder and those are the images I want to keep. That makes it easy to select all unrated images and delete them! It took a couple of years to come up with this system, but now everything is so simple to do.

Remember: The real purpose of shooting in-camera auto focus stacking sets is not usually to combine multiple images for more depth of field, but rather to get one image focused precisely on the subject! I realize focus bracketing was never designed to solve the problem of getting sharp focus automatically in snowstorms, but it certainly solves the problem!!!



Figure 7 Can you believe this image is full frame and not cropped. We became buddies and he sat beside me while we pondered life's challenges. I like the snow on his face!



Figure 8 I like the two bighorn sheep together. Thanks to shooting in-camera focus stacks, I got both of them in sharp focus amid all the falling snow. By shooting a single autofocus shot, this would be impossible.



Figure 9 I combined three images together with Helicon Focus to get this entire herd of bighorn sheep in sharp focus.



Figure 10 I had a friendly red fox visit my home for a few days during December and I got lucky one afternoon when it snowed heavily. Thanks to the in-camera focus bracketing, I got at least one truly sharp image of every composition I took. Exposure was set manually to produce the first blinkies in the snow. Had the red fox been the dark morph version of a red fox, then I would have gone with the second blinkies.

More testing Results

While I have been working on this article, I have been staying in Gardiner, MT. Lots of animals winter over here, so it is a fun place to be. Any time I get a heavy snowfall, I am out photographing animals amid the snow. During a particularly heavy snowfall one day, I shot over 200 focus stacked sets of images using Increment 1 and five images to the set. Here is what I found. Nearly always the best focus happened when it was the 3rd or 4th image of the stack. While using Increment 1 is a very tiny focus change, especially when doing macro shots greater than life-size, I found the change was perfect for animals in the falling snow. Often as I scrolled through the image with the head of the animal magnified, each successive image got sharper and sharper until one was focused right on the animal's head. Even with Increment 1, if the 3rd image was the sharpest one, the images immediately before and after the 3rd image were less desirable as the focus wasn't as good. So when not doing high magnification shots, focus Increment 1 is enough of a change to really matter, but it isn't too big of a change in focus. Also, in a few cases when the falling snow was heaviest, sometimes the five shots never got to the subject. Apparently, in real heavy snow, the camera picked a focus point further in front of the animal and five shots just did not get to the critter. Therefore, I am thinking it might be safer to use Increment 1 and 8 shots in the stack going forward. We shall see!