

2017 Changes to my Photography Techniques

By John Gerlach

www.gerlachnaturephoto.com



Figure 1 For safety reasons, you must be in a safari vehicle when photographing in Kenya's national parks. This means you move rather quickly in and out of the forest. The ambient light can change significantly and instantly. To keep up with rapidly changing ambient light, an autoexposure mode is best. I find using manual aperture and shutter speed, along with auto ISO and exposure compensation is the best way to deal with the situations encountered on safari.

At the beginning of 2017, I began an intensive year of photography that took me to Iceland, Kenya, Ecuador, New Mexico for geese and cranes at Bosque del Apache NWR, and all over Arizona and Utah. I also taught numerous photo field workshops in-between my personal photo forays. During this time, my photo working methods evolved to make my photography better, far more efficient, and more rewarding than

ever. Although, I have done photography full-time to earn a living for at least four decades, I continually learn more about the new features found on cameras and how to apply them to field photography. Let's look at them.

Exposure Modes

Since my latest Canon cameras are better able to work the way I want them to, I now

have little use for aperture-priority (nothing new there) or my formerly favorite shutter-priority when I needed an autoexposure mode. I was a big fan of shutter-priority because it allowed me to use exposure compensation while locking in the shutter speed I demanded for sharp images – at least much of the time. But, now my Canon cameras let me use manual aperture, manual shutter speed, ISO auto, and permit exposure compensation (EC) simultaneously. At first, I found EC to be cumbersome because I had to press the Q button on the rear of the camera, look at the LCD, and make the EC adjustment. Taking my eye away from the viewfinder required too much time. On exploring my cameras further, I discovered I could assign exposure compensation to the SET button. Pressing the SET button and turning the main control dial on top of the camera let me adjust the EC without even taking my eye from the viewfinder. It is quick, efficient, and a great way to adjust exposure compensation – something I find necessary for almost every photograph I shoot. When I need an autoexposure mode, I use manual A and S, Auto ISO, and EC. I see little need to use program, aperture-priority, or shutter-priority going forward.

However, one thing that has not changed is I primarily use full manual exposure. I like locking in the ideal exposure whenever possible. Only when ambient light changes quickly do I prefer the autoexposure mode using Manual A & S, ISO auto, and EC. I will tell you, though, if ever they make cameras that can set the exposure based on the highlight alert before the image is shot, I

will be using autoexposure much more when this happens. Cameras aren't perfect yet, but new improvements can easily make them easier to use successfully.

Histograms

I was a huge believer in histograms for arriving at the ideal in-camera exposure. I even set my cameras to display the RGB histogram that shows a separate histogram for the red, green, and blue color channels. All that changed when my eyesight deteriorated due to developing cataracts. The key to histograms is determining where the far-right data lies. But, if the highlights are few, and with my eyes, it is often difficult to see a small amount of data appearing in the histogram. So, I have not used histograms for at least two years. I found a better method for me, and I think for you, especially if you only shoot RAW files. And if you read my several books on photo technique, you will see how much I favored the histogram at the time of writing the books. But, things change, and the way I do exposure using the highlight alert is much easier.



Figure 2 Rothschild's giraffes walk in and out of the sun. The ambient light changes quickly, so the auto exposure method I prefer is helpful here.



Figure 3 Exposure is incredibly easy today. I adjust my exposure until the first flashing highlights appear (a.k.a. Blinkies) on the white head feathers of this lilac-breasted roller. To do this, I might set + 1/3-stop exposure compensation, shoot an image, and check the image when it appears on the camera's LCD. If no blinkies, then I add more light, shoot, and soon when I see the first blinkies, I know that is ideal for the Canon RAW images I make.

Highlight Alert

It is important to know (or remember) that both the histogram and highlight alert (blinkies) are based on the embedded JPEG in a RAW file. JPEGs do not contain the amount of data found in a RAW file, and the dynamic range is compressed. So, both the histogram and highlight alert will indicate overexposure for the camera-produced JPEG before the RAW data is truly overexposed – sometimes up to a stop or more. I find blinkies are easy to see, even for my deteriorating eyes, so I simply adjust the exposure – either with the EC if using ISO auto, or by manually adjusting one of the three exposure controls – aperture, shutter speed, ISO – until the first blinkies appear in an important highlight. It is not yet overexposed, but getting close to overexposed. And should the main subject be dark – such as a bison in the snow – I go another 1/3 stop lighter once the first blinkies appear to get more detail and less noise in the bison's dark fur. Working this

way has worked perfectly for me, and best of all, it is so easy to do and see! Indeed, I just ran a test to see how far beyond the first blinkies I could go when photographing only white snow. I discovered that once I see the very first blinkies appear on the camera's LCD, I can add another 2/3 stops of light and still not touch the right wall when viewing my histogram for the RAW file I shot using Canon's DPP4 software.



Figure 4 It is so much easier to view the camera's LCD screen when it is articulating, especially when using the camera high or low.

Articulating Screen

During August of 2017, I began writing articles for Canon to be published on Canon's digital learning center site on the web. Canon sent me a new Canon 6D Mark II to shoot, so I could write a review of this fine camera. I thought, sounds like fun, and I shot it a lot as I had to send it back in about ten short days. The camera features an articulating LCD screen, the first I had ever had. At first, I thought it was some sort of amateur gimmick as my two high-end Canon cameras – Canon 1DX Mark II and 5D Mark IV – do not have it. I used the articulating LCD, so I could write about its

uses (should I find any that are truly worthwhile). By the day I had to return the camera to Canon, I was hooked on using the articulated LCD. I miss it so much and wish my more expensive Canon cameras had it too. It makes it so much easier to see the image that will be shot, especially when shooting close to the ground or slightly above my head. My suggestion to Canon – don't trot out another new camera without an articulated LCD! Indeed, I know several friends who did not upgrade to the Canon 5D Mark IV because it has no articulated LCD. I know why now! The articulating LCD is enormously useful!!!!!! May all camera makers get the message!!!

Touch Shutter

The LCD has another splendid feature that I use a lot now with my Canon 5D Mark IV. I once used a cable release – either a wire attached to the camera or wireless of some sort – to trip the camera to avoid touching it and possibly jarring the camera which may cause a slight loss of sharpness. But, the LCD on my 5D Mark IV, though sadly not my 1DX Mark II, has a Touch Shutter. Instead of using a remote release to trip the camera on a tripod, I now barely touch the LCD, and the camera fires. Still worried about vibrations, I set the LCD to the SENSITIVE setting, and use the two-second self-timer. I touch the LCD so gently I can barely feel anything, pull my hand away, and two seconds later the camera fires. And of course, I am using Live View that places the mirror in the upright position, so no vibrations are created by the moving mirror.



Figure 5 The wave in North Coyote Buttes is always gorgeous. The Touch Shutter lets me take the image without bothering with a remote release. Set to Sensitive, I barely touch the LCD, and the camera fires two-seconds later since I have the 2-second self-timer set, too.

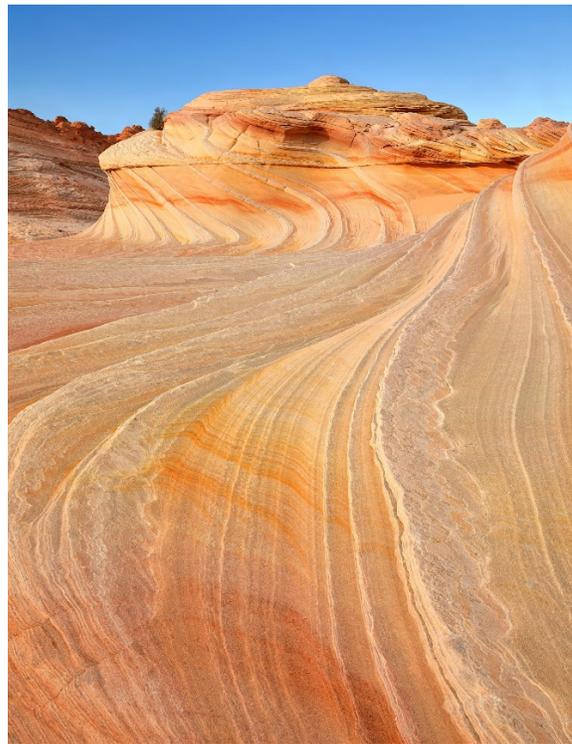


Figure 6 This is a ten-image focus stack of the second wave in North Coyote Buttes. Stacking is so much easier if you merely must touch the LCD gently to fire the next image. With my Canon cameras, I not only use the Touch Shutter to fire each shot, but to avoid vibrations, I have the LCD display set to Sensitive and use the 2-second self-timer delay too!

I especially like the Touch Shutter when I am shooting a focus stack. I look at the focus controls on my camera, shoot the image, manually rotate the focus ring a tiny

bit more, shoot another image by barely touching the LCD, and continue until I get to infinity or focused as far as necessary for macro subjects. Perfecto!!!!

But, as much as I like this system, when you need to catch the peak of action or the moment of absolute stillness, then a remote release remains the best way to achieve that.

Use Flash Manually More

I discovered that at certain slow shutter speeds of 1/15 second and slower, using the auto flash exposure system causes images that aren't as sharp when using live view. Now I primarily use the flash on manual to avoid this situation. When using live view, the camera's mirror is in the upright position and shooting like this eliminates all vibrations caused by the mirror's movement. But, with auto flash, even if live view is set, the mirror leaps into action and drops back down immediately before the exposure, the flash fires a preflash that is used to automatically determine the flash exposure, and then the mirror jumps up out of the way when the exposure is made. The mirror moving down and back up right before the exposure causes camera vibrations, so I use manual flash exposure to avoid making the mirror move.



Figure 7 I use three flashes on manual to light this bathing Townsend's warbler.



Figure 8 I use flash more for side light or backlight than any other reason. Here I am backlighting a tree at white pocket. I did not mean to get in my own image, but I feel me being in the image shows what I was doing better. Notice the backlight on the tree from the Canon 600EX-RT Speedlight. I fired the camera remotely by pressing the release button on the flash.

Use Flash Mostly for Backlight and Sidelight

Due to the excellent shadow/highlight controls in photo editing software that work so well if you have a RAW file, I seldom use flash as a fill light. Instead, I tend to use it to create some contrast by side lighting or backlighting the subject. Therefore, I have little use for on-camera flash today.

Use Flash to Trigger the Camera

My Canon 600EX-RT Speedlite lets me fire my camera remotely with the REL (release) button on the flash when I have the ST-E3-RT mounted in the camera's hot shoe. I use this as a convenient way to fire the camera

whenever possible – even when I don't need the light from the flash.

Facebook

While recovering from a serious accident in South America where I broke several bones, I could not do any photography with one arm in a cast. Fortunately, my computer whiz niece did show me how to use Facebook, I begin posting nature images there. I normally include plenty of photo data with each post and do describe my ongoing changes to how I make nature images. Please follow my instructional Facebook page.

<https://www.facebook.com/gerlachnaturephotography>

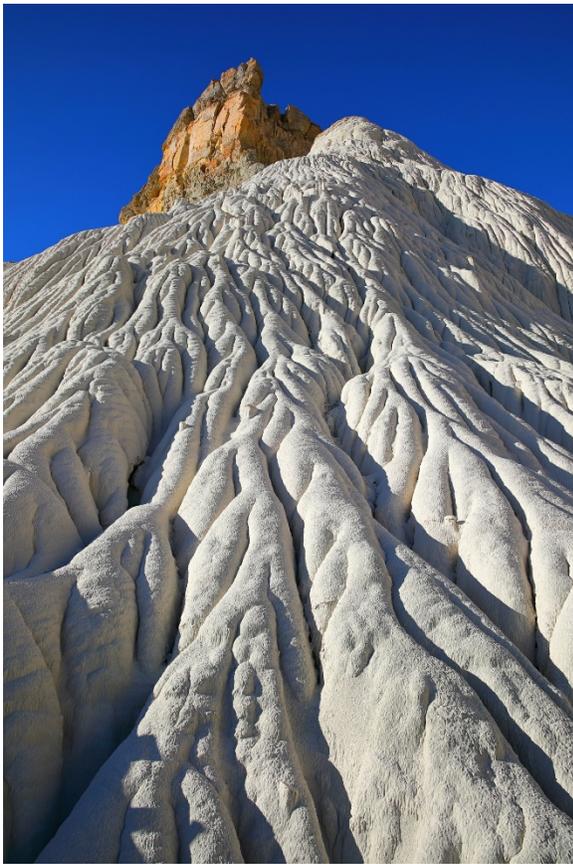


Figure 9 Thanks to Laurent Martres books, I read about the Wahweep Hoodoos and made the almost eight-mile round-trip trek four times now. What do I think of the Wahweep Hoodoos?

This place should be on every landscape photographers bucket list! Get there early, and that means hiking up the dry (usually) wash well before sunrise.

Books to Learn Where to Shoot

There is lots of information available describing where to go to make photos. But, no series of books on the American southwest has been as good as those produced by Laurent Martres. Check out *A Guide to the Natural Landmarks of Southern Utah* by Laurent Martres. This book will keep you busy for the next decade, and there are others covering different places in the series. <http://www.martres.com/books>

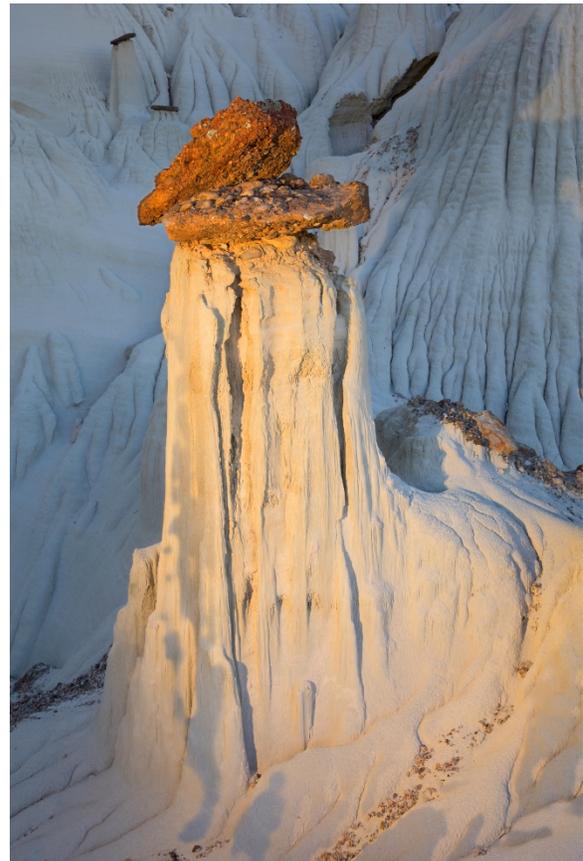


Figure 10 If you were following my Facebook page, you would have known about the Wahweep Hoodoos long ago. Here I am using a 1/2 CTO filtered flash to add sidelight to this hoodoo. I laid the flash on a rock, gave it time to replenish its energy after each shot, and did a multiple image focus stack to assemble later with Helicon Focus software for the ultimate in sharpness.

Processing and Assembling a Focus Stack

I shoot the stack of images. Then I process one of them using Canon's DPP4 software. Then I Copy Recipe, select the other images that I did not process in the stack, and Paste Recipe. Now save them all. Now do a batch process to resize them smaller for the Internet, and save them all as a JPEG. Then with **Helicon Focus**, I select all the JPEGs in the stack and Render them where all the sharp parts of the images in the stack are combined into one final image.



Figure 11 Handholding the camera does work for flying birds when there is plenty of ambient light to work with. Here is a blue morph snow goose at Bosque del Apache, NM.

Handheld BIFs

As much as I enjoy bird photography, I have had very little opportunity to photograph birds in flight which I recently learned is usually written as BIF on the Internet. I have never been one to shoot handheld, but there are times when it does work quite well. Often birds are flying above you and it is near impossible to use a gimbal tripod head to track the birds when they are above you at close quarters. So, using my Canon 5D Mark IV camera, and the new Canon 100-400mm lens, I set it to Mode 2 IS and

panned with the birds carefully while handholding the camera. I managed to get sharp images when I did my part by panning so smoothly that I kept the birds in the same portion of the image along with using a higher ISO and not stopping down too much to allow a super-fast shutter speed. It did work well, so even I admit there is certainly a time when handheld photography does make sense. Still, if I can use a tripod easily, that remains the way I continue to shoot.



Figure 12 Flying snow geese right overhead is a time when panning with a handheld camera while using a fast shutter speed is the best way to capture the image.

There is a time to use a Camera Strap

I have long been against using a camera strap. I know most photographers put the strap on their camera to help them carry it, and to provide some protection should they drop it. If the strap is around your neck, and you drop the camera, the camera doesn't hit the ground! I get that!!!! But, I normally hike to an area full of photo prospects, take my camera bag off, and place it somewhere safe in the area. I then work out of the bag – my new office! That nearly always works well for me. Since I shoot on a tripod, I find the camera strap all too often gets in the way. I find having to move the strap off the LCD, so I can see it is

annoying. And a strap can strike your subject when making macro images while shooting downward. But, when photographing birds at Bosque del Apache, I had my longest lens on the tripod – 800mm – and using the Wimberley gimbal head, it was easy for me to track BIFs that were quite far away and certainly not overhead. But, often the sandhill cranes or snow geese did fly right above me. I found that using my Canon 100-400mm lens on my Canon 5D Mark IV worked well for overhead shots handheld. But, my problem was I used the camera on my gimbal head a lot, so I had to put my smaller lens on my camera bag, and grab it when I saw an opportunity to do flight shots with it handheld. In this case, it makes more sense to have a strap on the camera, so it hangs from my neck at the ready, so I could use it faster than bending over to pick it up. Also, in other situations where handholding is necessary, having the strap attached to the camera and around your neck really does make sense. For example, you must handhold to photograph the colorful shoreline along Pictured Rocks National Lakeshore from the boat. The strap helps to keep the camera ready and you don't have to worry about dropping it into Lake Superior. You can always build a fish reef with cheaper materials!

Wide-angles are my main Landscape Lenses

All photographers evolved over time. That just keeps things fresh and interesting. I notice I am tending to get closer than ever to strong foregrounds. I just enjoy how a close strong foreground pulls me – and hopefully you into the scene. And I like sharp images, often everything in the scene,

so focus stacking makes it easy for me to achieve the sharpness I seek.



Figure 13 This is only one of the many colorful patterns to photograph at White Pocket. This is a ten-image focus stack using f/8 because it is a sharp aperture on my wide-angle lens. I have spent a lot of time at White Pocket, but there is still so much to do. I want to get there when the pockets in the rocks are full of water for all the reflection opportunities it offers.

White Pocket

This small area way out in the sandy hills southeast of Kanab, Utah may well be my favorite place for wide-angle lenses. I have spent several days exploring White Pocket (it is small, so I know it well), and I find my Canon 16-35mm and 24-70mm lenses, each with a polarizer, are all I feel that I need there. Seldom do I carry another lens, but in flower season, I might carry a 180mm macro with me too. Strong foregrounds

and dramatic leading lines are plentiful, and are perfect for my wide-angle lenses and focus stacking to make super sharp images. I know of few other places where wide-angle photo opportunities are so abundant, but you still must look carefully. With every visit I make, I find new angles that please me. (Word of warning: White Pocket is not the easiest place to drive to. Yes, there are dirt tracks that are sort of marked, but any mistake here is likely to be costly.) Finding your way without errors and driving over rocks or in deep sand are mandatory for your high-clearance 4WD vehicle. I am not exaggerating!



Figure 14 A rufous hummingbird made with four flashes set to the 1/64 power level. It is amazing how much photographing hummingbirds has changed since I began in 2000! Every year Scott Bechtel and I come up with a new way to improve our results.

Hummingbirds

Many of you know that I have been photographing hummingbirds with multiple flash since 2000 and teaching field workshops on how to do it since 2004. Every year brings improvements to what I do and teach. And since having Scott Bechtel join me at the workshops, the two of us continually advance the art of hummingbird photography. We found in

2017 that if we use Yongnuo Speedlites at 1/64 power, keep the flashes closer to the bird since the light output is tiny, and use a little higher ISO than normal – maybe ISO 400 – we can shoot images at the rate of nine shots per second and every shot is nicely exposed. The flash keeps its power up at that 1/64th power level. Just make sure the frame rate on the camera is not set faster than 9 shots per second, or you might only get the first exposure and then all others are black.



Figure 15 All of my lenses used for wildlife photography where I use autofocus are micro adjusted to ensure the lens focuses where it should. If the lens is not micro adjusted, it may focus a little too close or too far. Micro adjusting gets the lens to focus precisely where it should be! Of course, lenses that I use for landscapes and macro aren't micro adjusted because I always use manual focus anyway.

Autofocus Micro Adjusting

I have been working a lot with micro adjusting my autofocus for various camera and lens combinations. I do find a little micro adjusting is often helpful. I do it the

simple way. Using a tripod, I set the camera lens wide open, autofocus on a flat target with tiny details, and shoot three images at various micro adjustment settings, such as 0, -2, -4, -6, +2, +4, and +6. Then I review the magnified images on my computer to see which one of these settings is best. If the lens is near-focusing and best at +4, then I run another test using +1, +2, +3, +4, +5, +6, +7, and +8 and examine those carefully to see which one produces the sharpest result.

Autofocusing Parameters

My Canon cameras offer three of them. They include:

1. Tracking Sensitivity

Choices are -2, -1, 0, 1, and 2. I use -2 so the camera delays the time it takes for it to refocus on another object. This helps me if I am panning with a bird and the AF points drift away from the bird and “see” the background. At -2, the camera does not change focus so fast, whereas, at +2, the lens is almost instantly focused on the background. The -2 setting gives me more time to get back on the subject.

2. Accel. /decel. Tracking

The choices again are -2, -1, 0, 1, and 2. Here I want the focus to adjust to changes in the speed of the subject, so I use +1. Canon says +2 could be a little unstable at times, so only use it when you see a real need for it.

3. AF pt auto switching

The three choices are 0,1, and 2. Setting 2 lets the camera quickly switch to another AF point (that is active) when the subject

moves away from the original AF point that was tracking it. The 0 choice slows down how fast the camera switches to other AF points. I often don't use more than one active AF point, so it is meaningless as there is no AF point to switch to. But, in cases where I do use more than one AF point, then I feel having it switch faster is helpful.



Figure 16 Using more than one active AF point is helpful to sharply focus flying birds. I often use one main AF point along with the surrounding points for autofocus as I pan with a bird like this sandhill crane at Bosque del Apache National Wildlife Refuge.

Active AF Points

I used to use only one active AF point. Canon calls this Manual Select Spot AF. But, now I am getting more consistent results my using a little larger array of active AF points. So, I am trying Expand AF area: Surround and even Manual select: Large Zone AF when the birds are flying against a clean background like the blue sky.

Level the Camera

I once used a level attached to my camera's hot shoe to level the camera. Then a level was added to my LCD monitor when I activated the level, of course. Now both of my Canon cameras – 1DX Mark II and 5D Mark IV – let me activate a level that appears in the viewfinder – and that is so sweet. I use the level in the viewfinder all the time now. Having a level in view in the

viewfinder is far better than having it on the LCD or the hot shoe. I don't know how I got along without the in-the-viewfinder level for so long!



Figure 17 I love to photograph water birds. Keeping them level on the water is critical for best results. I use the level in my camera's viewfinder to keep the world, well, level!

Auto White Balance

I once used to set the White balance that I felt was most suitable for the situation. For example, when photographing in the blue light of open shade on a sunny day, I set the white balance to Shade and the camera added more yellow to the image to reduce the excess blue. On an overcast day, I use Cloudy white balance and so on. Today, since I process all the images I shoot with

Canon's DPP4 software, I leave the white balance on Auto. This generally gets the white balance close to ideal, but never as perfect as I would like. That's fine because I always adjust the colors when I process the image anyway.

Shoot RAW only and Process with Canon's DPP4 software

When I shoot my nature images, I have the camera always set to produce only a large RAW file. Then I process the file with Canon's Digital Photo Professional software. I never shoot JPEGs intentionally as I much prefer the ability to tweak the RAW image with software. But, I do sometimes have to deal with a JPEG. If I use the in-camera HDR option, the in-camera final result is a large JPEG, so then I must deal with a JPEG in this case. To do that, I have purchased Adobe Photoshop Elements. We will see how easy it is to learn for this computer blockhead.

This is a summary of changes I am made for my own photography. In no case do I think these methods are necessarily the best method, or only way to do things, but they are working nicely for me. Enjoy the journey!

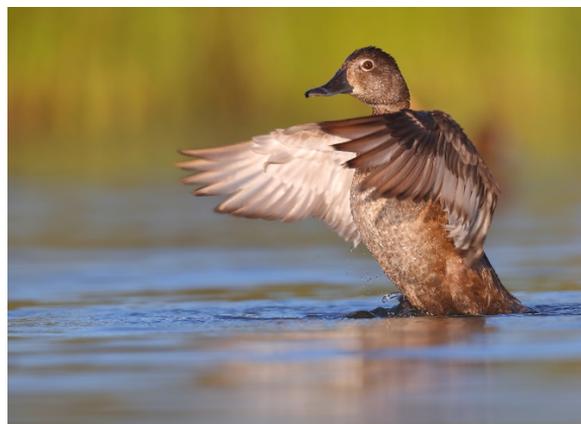


Figure 18 Sometimes doing everything right works out well when the action suddenly happens.



Figure 19 White Pocket - The ideal place for wide-angle lenses!



Figure 20 Crowned Plovers are striking Kenya birds! Here I focused on the eyes. THEREFORE, it is important to micro adjust your lenses to focus perfectly on the target.