June 2024 Issue

CamNats Vision

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Editor

- Mary Doo

Massachusetts Camera Naturalists

https://www.masscamnats.org

Message from CamNats Chair

Hello CamNats members, I hope everyone had an enjoyable, fun and productive spring season. I have a few items to pass along but first I want to thank Mary Doo once again for helping to put together our newsletter.

So, on to the news for the rest of this year and what is in store for CamNats. I am working on the final details to confirm the fall meeting for Saturday, October 5. The meeting will take place at Mass Audubon Broadmoor Wildlife Sanctuary in Natick. I still need to finalize details with my contact at Mass Audubon but hope to have this wrapped up in the next week or two. You will receive the official notice for the fall meeting in September.

Up next will be a Zoom program by Vice Chair Shiv Verma on Friday October 25. Shiv will present a program on his travels and photography in Namibia. I will send more information about this Zoom program as we get closer to October 25 so, please stay tuned and THANKS to Shiv for agreeing to present his program to CamNats.

Third on my list is the ongoing saga of trying to schedule National Geographic photographer Tim Laman. As many of you are aware I have been trying for almost two years now to find a date and location for us to host Tim. Well, we now have a date which is Saturday November 2, 2024. As for the location, I'm working with an old Mass Audubon contact who is now with South Shore YMCA. I am trying to partner with them, and the use of the Laura's Center for the Arts in Norwell which South Shore YMCA manages. They seem very willing to work with us and I'm just waiting to see if the November 2 date is good for their schedule…stay tuned. If this location is confirmed we will have several co-sponsors for the Tim Laman program including, PSRI, Greater Lynn, Nashoba Valley Photo Club and Hunt's Photo. A very BIG THANKS to all those just referenced for stepping up and helping to sponsor this event.

Last but not least the annual meeting is now scheduled for Saturday January 25 and will once again be hosted by Greater Lynn Photographic Association. Thanks in advance to Susan Mosser, Pam Linter and Chris Germain for their help scheduling for the annual meeting in January 2025.

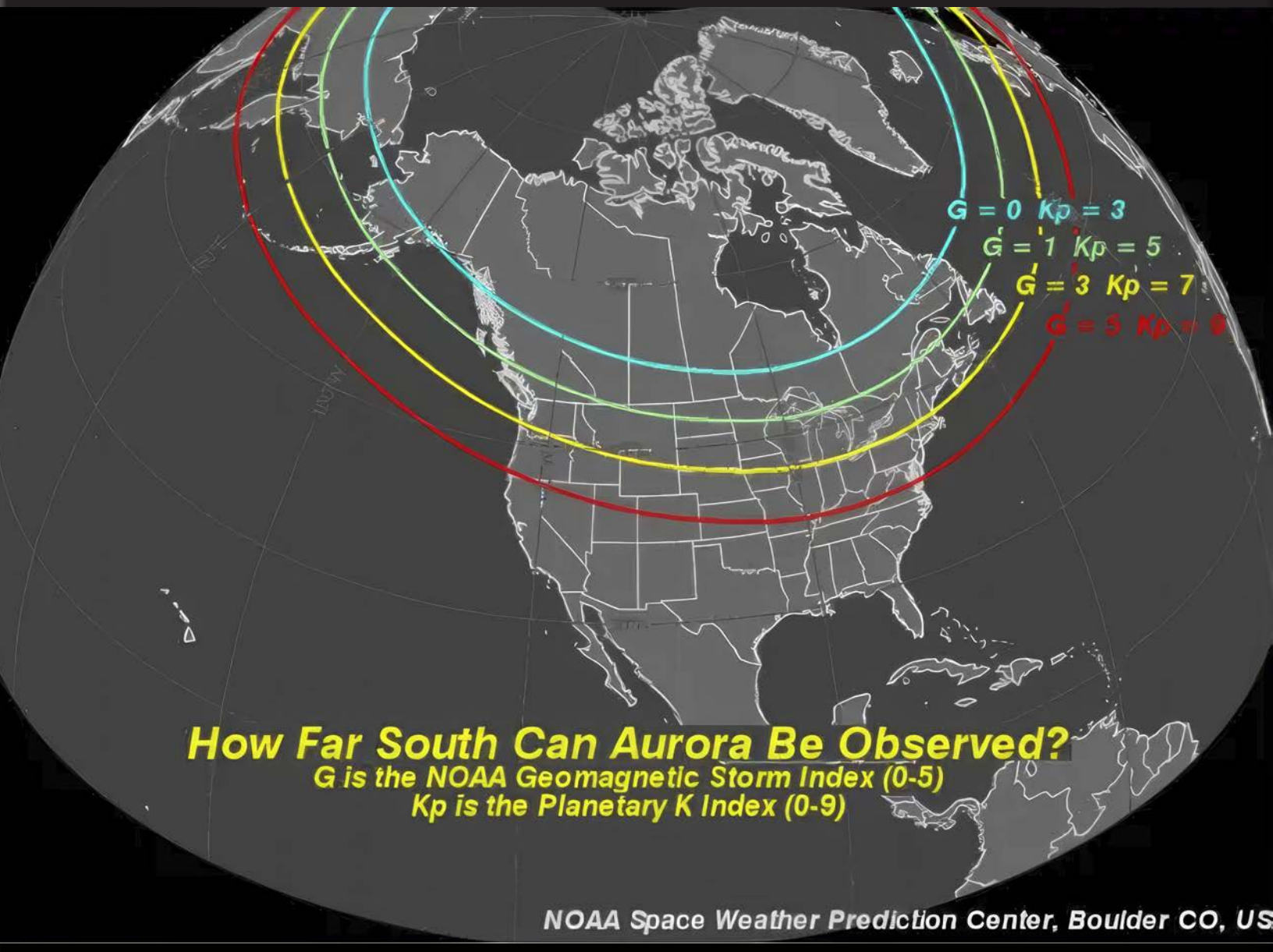
Final thoughts and part of what I say at all the meetings: Remember this is your camera club. I am here to help make our time together as enjoyable as possible. If you have any thoughts, comments or other ideas to pass along for something you believe we might like to see or do as a camera club please let me know. Also feel free to contact me anytime with your questions and please consider helping at any of the 2024 CamNats events.

Take care and "good shooting"!

Shawn Carey

The AURORAS

~ By Karl M Zuzart, MNEC ~



The Kp index is a 10-point scale used to characterize the magnitude of a geomagnetic disturbance. The areas above the green line have the greatest chances of seeing the northern lights. (NOAA Space Weather Prediction Center graphic)

Timing!

Isn't that what it's all about when it comes to photographing wildlife?

The years 2024–25 are considered the peak periods for auroras as this is when Solar energy will be at its highest in these 11- year cycles.

Aurora Borealis or the Northern Lights (Australis in the Southern hemisphere) is one of the most spectacular natural phenomena. It is the result of interactions between the Sun and the Earth's outer atmosphere.

It is actually hard to describe these and I strongly encourage anyone who hasn't already, to put in that extra effort to see them at least once in their lifetime.

Key Factors that influence Aurora Visibility

Weather
A clear dark sky – the lesser clouds, the better the visibility. The more the moon the less dominant the aurora is likely to be. But one can also use the moon creatively. Besides, auroras are seen better in the polar areas- which means winters are better as the nights are much longer. Statistically, the best times are from 10 PM to 2 AM.

Latitude
55-80 degrees best - the higher the better. One can see these dancing sky lights overhead but as we get lower, these tend to be closer to the horizon, facing North.

Geomagnetic Activity
Auroras occur when charged particles (mostly electrons and protons) in the solar wind sneak past Earth's magnetic shield and collide with atoms Oxygen and Nitrogen) in the upper atmosphere.

As the ionized gas/plasma/solar wind comes in contact with the earth's magnetic field, some of these get trapped and interact with nitrogen and oxygen.

The color of the aurora depends on the type of gas in the atmosphere and the altitude at which it interacts with the solar wind:

- Nitrogen interacting with plasma up to 96.5 km can produce blue and purple aurora.
- Oxygen interacting with plasma between 96.5 km and 241 km typically produces the common green auroras.
- Oxygen interacting above 241 km results in red auroras.

Besides the favorable weather one needs a strong Kp index (scale 0-10) as well as a strong Solar flare in the right direction.

Flares are classified by size (A,B,C, M and X – with A being the smallest)

High activity in the M and X classes help predict aurora activity; described as M class (M1-M9)

How to photograph auroras

Essentially similar to any Astro-landscape photography.

- Wide angle lens (14-24) with a F/2.8 or wider aperture, preferably a full frame camera body with remote control to avoid camera shake.

- Sturdy tripod
- Look for a decent foreground facing North with the minimum ambient light and compose accordingly.
- Manually focus on the stars.
- Exposure is a function of the intensity of the aurora and the speed at which it dances.
- A good place to start is – ISO 3200 / F2.8 / 4 seconds.
- By using Manual Mode, one can vary the exposure time as well as change the ISO on the fly.

Some Stories Behind the Lens

November 2015

I put a trip together for 8 in Iceland. Imagine my excitement when driving on Iceland's Rt 1 ring road I saw my first!

I should have looked for a better foreground, but I'll take this one anytime.

I didn't know better then, but hopefully you know better now!

- 10 secs / f4.0 / ISO 400

Lofoten, Norway

Well known for its classic red cabins which contrast well in the snow, with the auroras as the icing on the cake!

- 4 secs / f2.8 / ISO 400
- This is a composite as the lights in the foreground were simply too bright

For Aurora updates:

- Space Weather Live, Aurora, Glendale and the NOAA website.
- Sky and Telescope, National Weather Service
- Google

The Corona

Every now and then one can hear a short explosion above – have to be ready at the right ISO , focused and adjust the exposure based on the speed.

- 2 seconds / f2.8 / ISO 5000

Alaska at minus 40F

Cold. But as they say, no pain, no gain. Walked on the frozen Dietrich river for over 2 hours and almost froze myself.

- 2.5 seconds / f2.8 / ISO 4000

Another from Alaska

This time taking advantage of the moon back-lighting the trees with eye catching shadows on the frosted Dietrich

A Mother's Day gift 2024 – at Halibut Point State Park

- 3.0 seconds / f2.8 / ISO 4000 – focus stacked

Image Editing and Background Control

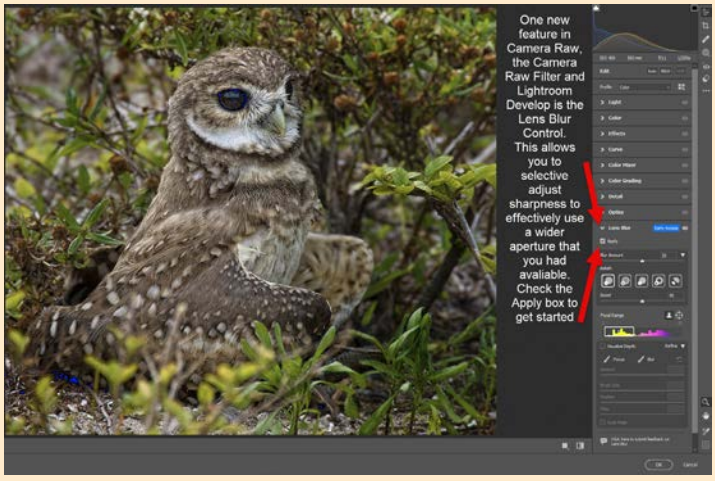
Rick Cloran
HonPSA, GMPSA, Hon NEC

While there is no universal rule relative to how someone edits their nature images, many of us participate in camera clubs that follow the Photographic Society of America (PSA) Nature definition and associated rules for what can and cannot be done when editing a nature image. As with everything, rules change. A few years back the then VP of Exhibition Standards for PSA decided that the editing rules for all three "Reality Divisions" (Nature, Photo-Travel, Photojournalism) should be standardized. What wasn't appreciated at the time, was that this change opened up some options that were previously barred when it comes to adjusting nature images.

The most significant aspect of the change was a shift in wording to say, "Blurring parts of the image during processing **to hide** elements in the original scene". The "to hide" becomes key in how it is interpreted. You can blur (but not distort) something so long as the element remains discernible (is not obscured - "hidden") **AND** the result remains realistic in appearance. There are tools in Photoshop and Lightroom that make this a viable option when editing images where we may not have had optimal depth of field control. I will start with one of the newest and explore others in later articles.

Lens Blur

The Lens Blur Control in Camera Raw, the Camera Raw Filter, and Lightroom Develop is an early access (aka beta) version that may be a refinement of the Neural Depth Blur filter we will look at later. My recommendation is to use this on a background copy layer or a new composite layer. You can change the layer to a smart object, but my experience has been that if I go back in to adjust the effect, the control currently resets to the original "Apply" settings and I have to start from scratch again.

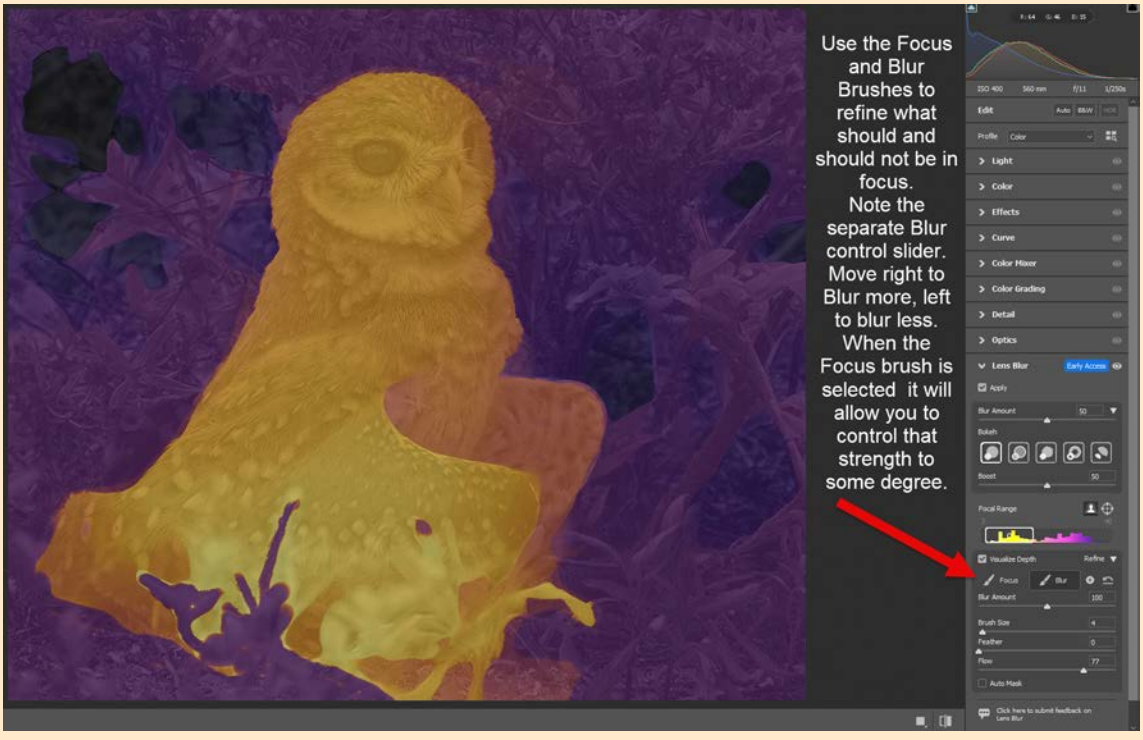


After invoking the Lens Blur control, Click Apply to have it render the initial depth mapping. This will take a minute or so. Once rendered the grayed out depth map controls will become active.

I am only going to deal with the basic controls, but feel free to experiment with different bokeh and the like.

I suggest clicking on the Visualize Depth box next to see a colored depth map of the control's initial rendering. You can adjust the global nature of that by dragging the ends of the box on the Focal Range line.

Use the Focus and Blur Brushes to refine what should be in or out of focus. You will find that it is hard to take something that shows as strongly in focus totally out of focus. Likewise, it does not seem possible to take something that is out of focus and make it totally in focus, or more accurately in the zone of depth since this is not doing any sharpening. There is an Auto Mask box that you can check and use the crosshair of the brush to further control where blurring or focus is applied. I also find it useful to uncheck the Visualize Depth box to see the actual image when working in areas needing finer control. I suspect control would be enhanced by the use of a tablet as compared to a mouse.



With some trial and error, you should be able to refine the apparent depth of field in an image to enhance its overall strength.

The original Burrowing Owl Shot

The adjusted version using Lens Blur

If you have the subscription version of Photoshop and Lightroom, give this a try. It is legal under PSA nature editing rules as long as you do not blur something to the point is can no longer be recognized as what is is AND the result remains realistic in appearance.

I started photographing hummingbirds in flight using flash in the 1990's. Film exposure was limited by the relatively low ISO sensitivity of film, generally ISO 400. Intuitively, a high shutter speed would be required to freeze the wing motion which would only happen if we had a large amount of light hitting the subject. In addition to that, it would be nice to have a high depth of field to ensure the entire bird was in focus considering there is no way to predict where the wings will be when the image is captured. By adding high speed flash, a large amount of light illuminates the subject for a very short amount of time.

Electronic flash produces a blast of light that is typically 1/300th of a second at full power, and most flashes offer reduced power setting to generate less light than full power, and this is accomplished by reducing the time the flash tube is emitting light. So a flash set to ¼ power will emit a flash of light that is 1//1200th of a second, and a 1/8 power flash will emit a 1/2400 of a second. Although we've reduced the duration of the flash, we've also reduced the amount of light provided by the flash.

Using more than one flash increases the total light on the subject where the flash output overlaps, but can also provide fill light and/or back light if desired. Similar to a studio set up for portraits.

When the flash system is set up as the main light, all the light for the exposure is provided by the flash.

Essentially, hummingbird photography using flash is pretty much like a portrait studio set up, where in most cases the light from the flash is the only light used for exposure of the scene. Luckily, todays cameras offer immediate feedback so that lighting setups and be checked for coverage and correct exposure. No need to wait a week to get your developed slides in the mail.

Another aspect of modern cameras that gets better with every new model is noise performance at higher ISOs. With film a typical hummingbird flash set up used 6-8 speed lights, today it is typical to use four; a main light, a fill light, a back light, and a background light.

Multiple flashes results in more than one eye highlight depending on the position of the flashes.

In the years before digital capture, hummingbird photography using flash could be expensive. Typical high speed flash set ups included 6-8 speedlights, as many stands and/or articulated arms, many batteries or battery packs (Quantum Instruments), lots of cables (no wireless), etc. The need for so many flashes is due to the low ISO of common films, with ISO 400 about as high as one would safely use. Digital cameras came along offering higher ISO, but not great quality, and now, digital cameras have technology advances that offer high ISO

sensors with reasonable noise; not to mention the AI image processing software available to reduce noise in an image file while preserving detail.

Today, wing stopping hummingbird photography requires half the equipment used in the past. In recent years I've experimented with set ups as many as four flashes and as few as one. My goal is to have sufficient light to make good exposures, with stopped wing motion and one highlight in the eye. We'll get to that later.

My hummingbird flash setup consists of a printed background, a nectar feeder, a flower, and one or more speedlights. And a hummingbird, of course.

The Background

I've been using printed backgrounds for 20 years or so. There are two problems with using three dimensional backgrounds; it is difficult to light a three dimensional background without deep shadows, and using a small aperture will result in more background details showing. I photograph a background scene with the camera and lens set at a large aperture an focused at a distance I would normally place the flower. This causes the background to be softly rendered. I then have them printed at Shortrunposters.com in the 18x24 inch size. The price for these is currently $5 each, with 20x30 size only $11. To support these in use, I secure them to a corrugated plastic board using spring clips on a tripod. I often take several backgrounds with me to change while photographing.

Nectar Feeder

I place a simple, one port feeder in the location that I will set up the flower when photographing. Hummingbirds remember the locations they find food and will regularly go there, even if a feeder is not there.

In May, I will see the first male hummingbird in my area hovering in from of the window where we have a feeder all summer long; it is a hummer who frequented that feeder last year. When set up to photograph, the feeder will be replaced with a flower and the bird will zoom to that location, look around, then go to the flower, which is one of his natural food sources. I fill the nectar feeders with a simple mix of one part sugar to four parts boiling water; let cool before using, store in refrigerator.

Flowers

I planted flowers in my gardens that hummingbirds are attracted to since they are a good source of nectar; honeysuckle, beebalm, penstemon, and cardinal flower. I cut one or more of the flowering stems and use a floral water tubes that are available on Amazon for about 20 cents each. Using

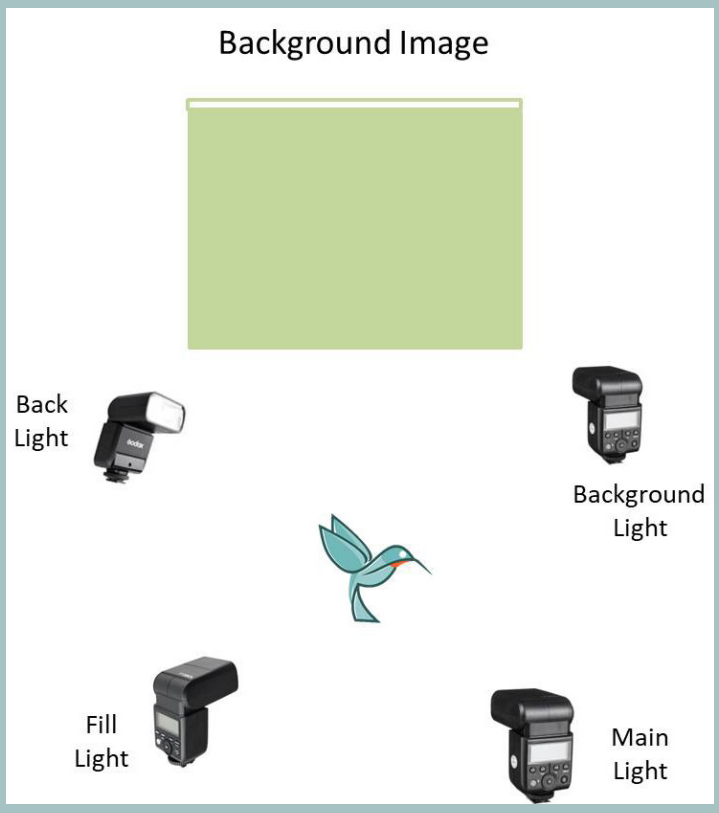
a flexible clamp such as the Plamp from Wimberley I can adjust the position of the flower in the scene. To keep the hummers coming, I fill the tubular flowers with the sugar water mix, using a irrigation syringe or a ink tank filling syringe. Neither has sharp point and will not cause any problems if airport security searches your bag.

Flashes

There are many options for flash gear for each camera model. I have had several multi-flash setups from the 1990s (Nikon), 2000s (Canon), early 2010s Yongnuo, and from 2015 the Flashpoint line of flashes. These are an Adorama house branded Godox flashes and are cross compatible. I moved to this line of flash since they have compatibility with any camera brand. The shoe mounted flashes are purchased based on the camera brand but can be controlled off-camera by a show mounted controller. When I was shooting Canon and Olympus, I could have one Canon shoe mount flash, one Olympus shoe mount flash, and a controller for each body, and use both flashes in a multi-flash setup and use either camera to shoot. The flashes (with Godox model in parentheses) in my current arsenal include a Zoom Mini (TT350), a Zoom TTL (TT685) and an eVolv 200 (AD200). I use the Mini primarily for macro photography with a softbox, the Zoom TTL for more distant subjects, and the eVolv 200 Pocket Flash primarily for hummingbird photography in various combinations with the other two flashes. The eVolv has a variety of heads including a bare bulb, a conventional flash head, and an LED head. The controller for this system allows the individual setting of each flash's operational features such as mode, compensation, power level, etc.

Outdoor Studio

The four light set up is typical of portrait studios, with a main light, fill light, back light and background light. From this starting setup other lighting options can be tried by removing one or more of the lights.



If you don' t have four speedlights available, you can easily leave out the background light, and adjust the amount of light on the background by moving the background closer to, or farther from the subject. Careful placement of the main and fill flashes, with a wider angle setting, will ensure enough light on the background. You can see from the image below that some lighting issues are visible with two lights in front of the hummer; two shadows of the plant stem and two highlights in the eye. In general, this is not bothersome viewers will be looking at the details in the bird and many won't notice or care about the highlights.

Because the light from a flash is directional, it can cast shadows in odd places on the hummingbird, so many images are made with a main and fill flash at a minimum. However, we can make a setup with only two lights by broadening the light of the main flash and rely on the second flash to provide some edge highlights. The two light setup with softbox provides good even lighting on the subject with no shadows because the source of light is much larger than the subject. The light hitting the subject comes from many directions.

(The following two images illustrate the softbox image and setup.)

Camera and Flash Setup

For this type of photography we are using the flashes as the main light; little ambient light is used in capturing the image. The full power flash duration of most flashes is about 1/300th of a second. To stop wing motion we need a flash duration nearer to 1/1500th of a second. To accomplish this we set the camera and the flashes to manual mode, and avoid the camera making uninformed decisions in aperture or shutter mode. Set the camera to a known shutter sync speed typically 1/200th of a second, or less. Set the aperture to f/11-f/16

and ISO to anywhere from 400-800. Set each flash to provide a reduced flash of 1/8 power, which will provide a flash duration of 1/2400th of a second. This starting point is somewhat arbitrary and adjustments to exposure can be made with changes to ISO, flash power setting, and/or aperture. If you find more exposure is needed, try increasing the flash power to ¼, then start increasing ISO.

Hummingbird photography in New England can get to be boring because the subject never changes. There are only Ruby Throated Hummingbirds in this area. However, experimenting with the lighting and setup can provide some different results. The reduced requirement on hardware makes it more convenient to take the system on the road to more exciting locations in the Southwest.

Since high ISO noise performance has improved, and the availability of short shutter speeds, I'll be experimenting with using continuous lighting using a studio LED light and high shutter speed to see if I can achieve good exposures. A advantage to this methods may be a rapid rate of exposures. I expect I will be able to make images at 60 frames a second at fast shutter speeds. We'll see.

Ethics and Wildlife Photography

~ By Sarah Keates ~

A **hot-button** issue that should be a consideration for all wildlife photographers is the ethics of their photography. When out in the field, photographers should be asking themselves a series of questions: Is what I'm doing ethically sound? Am I disturbing the animal to the point where they can't hunt, sleep, eat, or reproduce? Can I do this better? Personally, I have been in situations where I have just walked away, sometimes from amazing photography opportunities, because I realized that my presence could be detrimental.

I think that almost everyone in the early stages of their wildlife photography journey is a little ignorant of the harm taking a few pictures of animals may cause, and I believe that more thought needs to go into the impact you may be having on your subjects.

Social media certainly feeds into a desire to produce photographs as often as possible, and the more exotic the animal you post, the better. The closer you can get to your subject, the better. Who doesn't want to be famous on social media with hundreds or even thousands of adoring followers? Another motivator for unethical wildlife photography is money. Money from photo sales, prize money from photography competitions, and if your social media account becomes large enough, money from sponsors. Money is quite the motivator, and rather than put in the hard work, some unscrupulous photographers resort to baiting and harassing wildlife in order to achieve their aims.

Wildlife photography requires dedication, an understanding of your subject and fieldcraft. All these barriers can be easily overcome if you visit a photography game farm. Here, you can take pictures without the hassle of traveling to hard-to-reach locations, without researching animal behavior, without waiting for the right weather and the right time of year, and the right light. Game farms even provide perfect backdrops! The downside? Oh, yes, these poor animals that are bred in captivity are abused, shut away in tiny cages, and then forced to "perform" by any means the owners see fit, all so that unscrupulous photographers can take shortcuts and get their staged money shot. Why put in the time and effort on your own when you can pay someone to provide the perfect photo opportunity at the expense of the animals' welfare? Taking photographs at these game farms is not only unethical but also undermines the credibility of photographers who do take wildlife photographs the right way, as it brings into question where and how you obtained your photographs.

Recently, I attended an online talk on advanced bird photography by a world-renowned photographer. The talk consisted of endless advertising for his workshops and an introduction to a series of questionable techniques for photographing birds, the most notable being how he was using live bait to get "cool" shots of Kingfishers diving into, of all things, a glass tank. Horrified by what I was hearing, I left the meeting. I am now left wondering if the rest of the audience was as turned off by his presentation or whether these unsavory tips awakened a desire to replicate his practices. I really hope not! This definitely served as a reminder that even experienced wildlife photographers can stray into unethical territory. What we need are more ethically aware wildlife photographers who lead by example and are not swayed by financial gain and fame at the expense of the vulnerable subjects that they photograph.

Sarah Keates

Sarah Keates is originally from the UK and now lives in Sharon, Massachusetts. She is a self-trained photographer who took up wildlife photography in 2011. Sarah enjoys showcasing the beauty of her subjects in their natural habitats and recording their behavior. She finds it gratifying to highlight the surprisingly diverse bird life that can be found in the New England area, but she also enjoys traveling further afield for photography. Sarah has been a member of the Stony Brook Camera Club in Wrentham, MA since 2013 and recently became a member of CamNats. Her work has been exhibited by the Foxborough Art Association, the Attleboro Arts Museum, and the Cape Cod Art Center. Some of her photographs are currently on show at the Francesca Anderson Fine Art Gallery in Lexington, MA. She has received several awards for her photography, including from the International Photography Awards, the Society of International Nature and Wildlife Photographers, Mass Audubon, the National Audubon Society, the National Wildlife Federation, and The Nature Conservancy.

Karl M Zuzarte, MNEC

Karl M Zuzarte, MNEC, is a practicing physician and a self-taught photographer specializing in the natural world.

His contributions to photography include chairing Mass Cam Nats, the Photographic Society of Rhode Island, and the Ocean State International.

He has won numerous awards at the state, national, and international levels.

Karl has judged at the Glennie, NECCC, and various camera clubs. He has also written a few articles and published several coffee table books.

His work is on display at the La Salette Shrine in Attleboro.

Dennis Goulet

Dennis bought his first camera, a Minolta SRT101, in 1970 and migrated through Minolta, Nikon, and Canon systems, and now uses an Olympus/OM system. He stumbled through learning photography and improving a little at a time. He didn't necessarily know how to take a good photo, but knew what a good image looked like when selecing images to share. Many have come to him after seeing his images and mention that he always takes great images. His reply is he only shows the good stuff.

A member of Photographic Society of Rhode Island since 2000, he spends much of his photography efforts on landscape and nature subjects, especially close up and focus stacking techniques in his yard.

A past president and currently a vice president of the New England Camera Club Council (NECCC) he has also served as Chairman. He occasionally judges and gives presentations on photographic technique at camera clubs, has presented six times at the NECCC annual photography conference, and was the General Chairman of the NECCC 2013 and 2014 annual photography conferences.

Dennis' images have appeared in several magazines, including Audubon, Nature's Best Photography, Wild Bird, Birder's World, Rhode Island Monthly, Outdoor Photographer, and Sierra, as well as on the websites of Audubon and National Wildlife magazine. His image of a Green-breasted Mango was selected Grand Prize Winner of Audubon Magazine's 2010 Birds-In-Focus photography contest.

Editor's Note

I am happy to announce our newsletter-magazine's new name: **CamNats Vision!** This new name reflects our photographic vision as passionate photographers, capturing the beauty and essence of the natural world.

In this issue, we are delighted to feature a variety of articles that showcase the incredible talents and insights of our members:

- Our CamNats Chair Shawn shares exciting updates on upcoming events and meetings, including a special program by Shiv Verma and a highly anticipated presentation by National Geographic photographer Tim Laman.

- Karl Zuzart enlightens us with his guide on photographing the mesmerizing auroras, accompanied by his images of this awe-inspiring phenomena, sharing tips on timing, equipment, and technique.

- Rick Cloran offers a tutorial on using the new Lens Blur tool in Lightroom.

- Dennis Goulet presents a wonderful article with stunning images on capturing hummingbirds in flight, offering valuable techniques for photographing these fast-moving little birds.

- Sarah Keates discusses the ethics of wildlife photography, urging us to consider the impact of our actions and to lead by example.

Let's continue to grow not just as photographers, but as storytellers of the natural world. Your experiences, knowledge, and creativity are what make our newsletter inspiring. I encourage you to share your journeys, discoveries, images, thoughts and insights. Together, we can continue to capture and celebrate the wonders of nature.

Happy summer!

Mary Doo
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