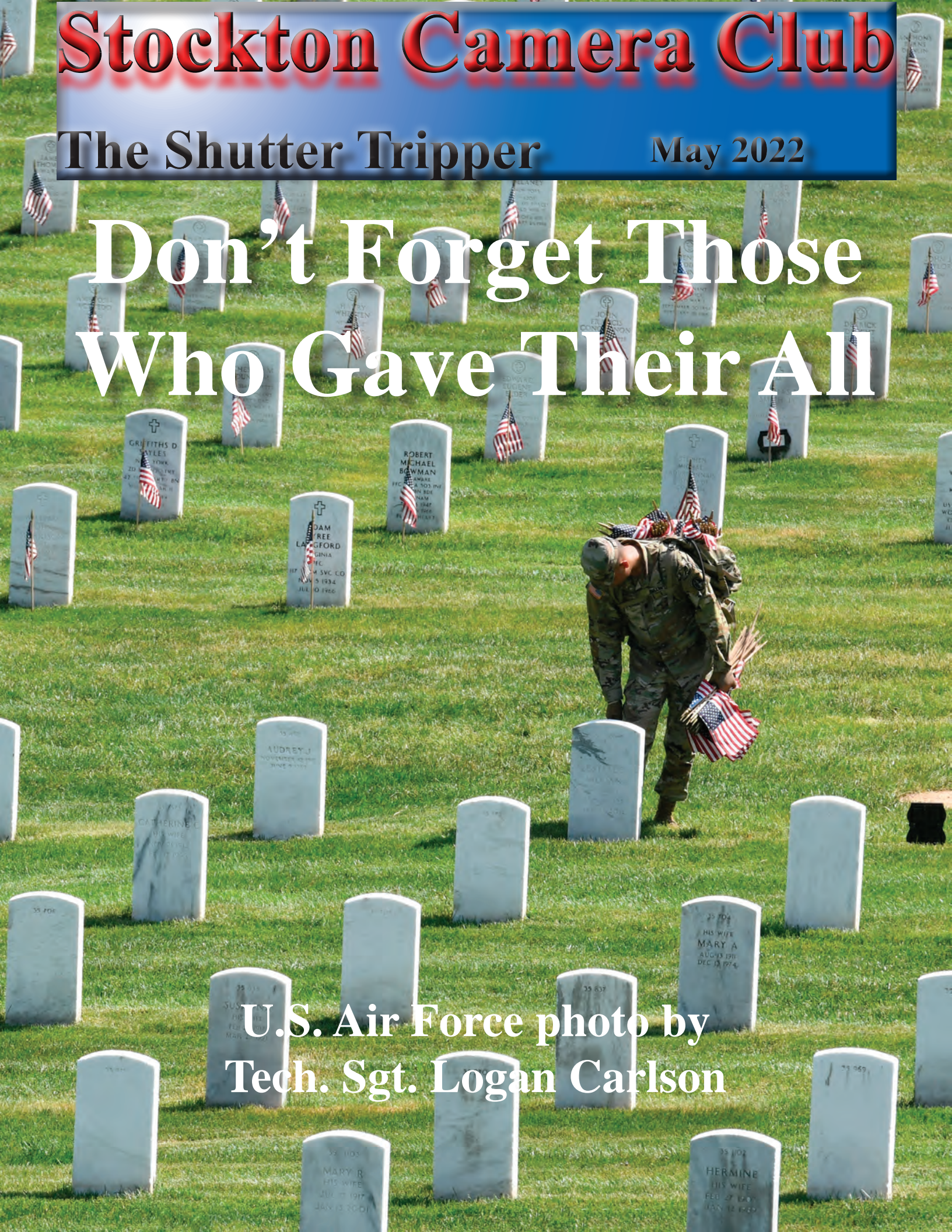


Stockton Camera Club

The Shutter Tripper

May 2022

Don't Forget Those Who Gave Their All



U.S. Air Force photo by
Tech. Sgt. Logan Carlson

SCC Officers 2021

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President's Message

May 2022

By Heide Stover

We did not have a regular meeting this month. Wayne did put on a special meeting for us, a Q&A so members could ask questions and get answers. Wayne went through focus stacking, the NIK black and white program and talked about using the smart filters in Photoshop.

There were not very many members that participated. Wayne gave the class, Christine, Ron, Joan, our new member Ren, and me were the ones in attendance. I think we all learned from this.

Many thanks to Wayne for doing this for us.

Heide

A Big Thank You to Our Sponsors!



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2022 Calendar of Events		
Every 3rd Thursday (Except April & Aug) 6:30 PM	Location	Membership Meeting Contact Heide Stover h1stover@aol.com
Thursday May 19	Zoom Meeting Stockton	May General Meeting Special Subject - Ice
Thursday June 16	Zoom Meeting Stockton	June General Meeting Special Subject - Prints Only (No Special Subject)
Thursday July 21	Zoom Meeting Stockton	July General Meeting Special Subject - Kids at Play
August	TBA	Annual Pot Luck
Thursday September 15	Zoom Meeting Stockton	September General Meeting Special Subject - Things That Float
Thursday October 20	Zoom Meeting Stockton	October General Meeting Special Subject - Monochrome
Thursday November 17	Zoom Meeting Stockton	November General Meeting Special Subject - Open Prints Only If Not Meeting On Zoom
Thursday December 15	Zoom Meeting Stockton	December General Meeting Special Subject - Optical Illusions
2023 Calendar of Events		
January	TBA	Annual Banquet
Thursday February 16	Zoom Meeting Stockton	February General Meeting Special Subject - Bokeh
Thursday March 16	Zoom Meeting Stockton	March General Meeting Special Subject -Circlesl
Thursday May 18	Zoom Meeting Stockton	May General Meeting Special Subject - Abstract
Thursday June 15	Zoom Meeting Stockton	June General Meeting Special Subject - Prints Only (No Special Subject)

Wayne's April Workshop

Photo Editing Tools

Workflow, Topaz Denoise, Focus Stacking, Nik Collection (SE), Smart Objects

Wayne Carlson - April 21, 2022

Participants: Wayne Carlson, Hollie Silver, Ron Wetters, Ren J.

Control bar: Mute, Stop Video, Security, Participants, Chat, Share Screen, Record, Reactions, End

Silver Efex Pro 2

Participants: Wayne Carlson, Hollie Silver, Ron Wetters, Ren J., Roger Elkins, christineblue

Control bar: Mute, Stop Video, Security, Participants, Chat, Share Screen, Record, Reactions, End

Stockton Camera Club
March 2022 Competition Standings
Congratulations to the winners!!!

**Because the bowling ally conference room was not available for SCC competition
the meeting was held via Zoom.**

March 1st Place - Blooming Lotus - Joanne Sogsti
March 2nd Place - Grizzly Bear - Sharon McLemore
March 3rd Place - Phoenix Ascending - Dean Taylor

Please check out the website <http://www.stockton-cameraclub.com/home.html>”

Class A Standing	TOTAL	OPEN	SS	FEB	MAR	MAY	JUN	JULY	SEP	OCT	NOV	DEC
Class AA Standing	TOTAL	OPEN	SS	FEB	MAR	MAY	JUN	JULY	SEP	OCT	NOV	DEC
Wayne Carlson	76	57	19	38	38	0	0	0	0	0	0	0
Heide Stover	75	58	17	37	38	0	0	0	0	0	0	0
Ron Wetherell	38	28	10	38	0	0	0	0	0	0	0	0
Karleen Gansberg	35	27	8	32	0	0	0	0	0	0	0	0
Elizabeth Parrish	35	27	8	0	35	0	0	0	0	0	0	0
Sheldon McCormick	32	24	8	32	0	0	0	0	0	0	0	0
Joan Erreca	32	24	8	32	0	0	0	0	0	0	0	0
Christine Blue	0	0	0	0	0	0	0	0	0	0	0	0
Darrell O’Sullivan	0	0	0	0	0	0	0	0	0	0	0	0
Lanny Brown	0	0	0	0	0	0	0	0	0	0	0	0
Class AAA Standing	TOTAL	OPEN	SS	FEB	MAR	MAY	JUN	JULY	SEP	OCT	NOV	DEC
Em McLaren	78	59	19	39	39	0	0	0	0	0	0	0
Joanne Sogsti	77	57	20	38	39	0	0	0	0	0	0	0
Dean Taylor	76	56	20	39	37	0	0	0	0	0	0	0
Sharon McLemore	75	56	19	38	37	0	0	0	0	0	0	0
Doug Ridgway	75	57	18	38	37	0	0	0	0	0	0	0
Trey Steinhart	72	52	20	36	36	0	0	0	0	0	0	0

2022 Competition Policy

A. GENERAL RULES

1. Only paid-up members may enter club competition.
2. Regular print and digital image competition period: Once each month except January. A competition year is February through December. Current regular meetings are February, March, May, July, September, October and December. The number of meetings may change from time to time at the discretion of the Board of Directors and approval of the general membership as facilities permit. The Annual Awards Dinner will be held in January.
3. A total of four (4) images (all prints, all digital or a combination of both) may be entered each competition month. A total of three (3) images may be entered in the Open Division and a total of one (1) in the Special Subject Division. The number of entries may change from time to time at the discretion of the Board of Directors and the approval of the general membership.
4. Each image will be scored from 6 to 10 points. All prints or digital images receiving 9 or 10 points will be classed as an honor image. The title of each print or digital image entered will be read before being evaluated. The name of the maker will be read for 9-point honor winners. Maker's names will be announced for the 10 point images after the Print & Digital Image-of-the-Month winners are chosen.
5. A print or digital image that does not receive an honor score, may be re-entered one more time in the same division.
6. A print or digital image may be entered in all divisions for which it qualifies; i.e., an honor image in Open may also be entered in the Special Subject Division at another competition. A print or digital image that receives an honor score may not be re-entered in the same division.
7. Any print or digital image that appears to be ineligible for competition or not qualified for a specific division could expect to be challenged. The Competition Vice-President shall decide whether or not the image is acceptable.
8. The exhibitor must have exposed each negative, slide or digital image entered. All images submitted for judging must be the work of the photographer/maker including the taking of the images and any digital enhancements and/or manipulation of the image. This does not apply to the processing of film or printing by a commercial processor.
9. The same image should not be entered both as a print and a projected digital image in the same competition.
10. In the event of absence or barring unforeseen circumstances, a member may submit make-up prints or digital images for one competition night per competition year; and whenever possible must submit all make-up prints or digital images at the meeting immediately following the month a member failed or was unable to submit the prints or digital images. Make-ups in the Special Subject Division must be the same subject as the month missed. Also, in case of absence a member may assign the responsibility of submitting his or her prints and/or digital images for competition to another member.
11. A club member who serves as judge cannot enter his or her own prints or digital images in the same competition. The judge's make-up prints or digital images can then be entered in another competition during that competition year. This is in addition to the once-a-year make-up provision already

allowed.

12. Prints or digital images may be projected/viewed briefly before the judging of each division if the judge indicates he/she would like a preview.

B. PRINT ENTRY RULES

1. Each print entered must have a completed label attached to the back of the print including; name of maker, title, date entered and Division (Open or Special Subject). The writing or printing on the form must be legible. Labels must be attached on the back of the print in the upper left-hand corner for correct viewing of the print.
2. All prints must be matted or mounted with a total size (including mat board) of no larger than 18" X 24" and no smaller than 8" X 10". Exception: One side of a Panorama Print may be no larger than 36". Prints that are smaller than 5" X 7" will not be accepted. The maker's name must not appear on the viewing surface of the image. Framed prints shall not be entered.
3. Prints accompanied by entry forms should be submitted no later than 15 minutes prior to the start of the regular monthly meeting.
4. Prints receiving a score of 10 points, in each class, will be regrouped and judged for selection for the Print-of-the-Month honors. Print-of-the-Month honors will be given in Class A, AA & AAA.

C. DIGITAL IMAGE ENTRY RULES

1. Digital images must be submitted in a format and by the deadline specified by the Competition Vice-President. Digital images may be submitted by email, mailed (CD) or delivered (CD) to the Competition Vice-President. Definition of Digital Image: An image taken with a digital camera, a negative, slide or print scanned into the computer and processed digitally.
2. Images must be in a format compatible with the projector. The key thing to keep in mind when formatting photos for submission is that the projector we use in the competition has a (maximum) resolution of 1400 x 1050 pixels. This means that any photo that exceeds this size in either dimension, could end-up being cropped by the projector. In other words: the image width cannot be more than 1400 pixels and the image height cannot be more than 1050 pixels. If your image is horizontal, only change the width to 1400, if your image is vertical, only change the height to 1050. Do not change both. Down-sizing the image from the "native" resolution coming out of your camera also significantly reduces the file size. This helps when emailing the files and takes-up less space on our hard-drives.
3. The maker's name, title of image, date entered and division (Open or Special Subject) must be included as the title of the image. When you have finished re-sizing your image save your image with a new title. For example do a Save as: Smith Sunrise Splendor 05-15 O.jpeg. (O-Open or SS-Special Subject). Specify whether you're Beginner, Advanced or Very Advanced.
4. Digital Images receiving a score of 10 points, in each class, will be regrouped and judged for selection for the Digital Image-of-the-Month honors. Digital Image-of-the-Month honors will be given in Class A, AA & AAA.



How to Photograph a Lunar Eclipse

By [Nasim Mansurov](#)

Every so often the Moon falls into the shadows of the Earth, resulting in a lunar eclipse. Although lunar eclipses take place more often than solar eclipses, you'll still want to experience watching and potentially photographing this somewhat rare and stunningly beautiful phenomenon. I have been taking pictures of both partial and total lunar eclipses for a number of years now, and I decided to document my experiences and the challenges I encountered for the benefit of our readers. In this article, I will do my best to explain how to photograph a lunar eclipse in detail.



Super Wolf Blood Moon (Total Lunar Eclipse of January 20, 2019)
NIKON Z 7 + 300mm f/4 + 1.4x @ 420mm, ISO 200, 10 sec, f/8.0

Photographing a Lunar Eclipse

- What Time And Place Is the Lunar Eclipse?
- The Basics of Moon Photography
- Photographing the Sequence
- Planning
- Camera Equipment and Lenses
- Camera Settings
- Focus Accuracy and Sharpness
- Moon Movement Speed
- Bracketing Partial Lunar Eclipse
- Composition
- Post-Processing



The locations where the November 2021 lunar eclipse is visible
(best visibility is shaded in dark) – Image credit NASA

What Time And Place Is the Lunar Eclipse?

Lunar eclipses are never visible across the entire world, only part of it. But they happen often enough that you'll definitely be able to see a lunar eclipse from where you live if you're patient! [I recommend visiting this website](#) and typing in your city name to see if the upcoming eclipse is visible where you live, as well as the time and duration of the eclipse.

The locations where the November 2021 lunar eclipse is visible (best visibility is shaded in dark) – Image credit NASA

The Basics of Moon Photography

Before reading the information below, I recommend reading my "[How to Photograph the Moon](#)" article, where you can find plenty of information (including camera settings) on the subject. You will need that while capturing the beginning and the end of a lunar eclipse, when the Moon is partially lit by the Sun.



Total Lunar Eclipse Composite

Photographing the Sequence

One thing you need to decide on, is whether you want to shoot the entire sequence of the lunar eclipse, or just the period of totality when the Moon is orange / red in color. I would personally recommend to document the whole process from the beginning to the end, so that you have pictures of the full Moon, then a partial eclipse, then a total eclipse, then a partial eclipse again, returning back to full Moon when the eclipse ends. The nice thing about having the entire sequence in pictures, is that you can later combine images together like this:

You will have to be very patient though – it took me about four hours in total to capture the Moon from the beginning to the end of the eclipse. The night was quite cold, but I was out with a group of photographers and we decided to document all phases of the eclipse with our cameras. After we were done, we decided to drive to an overlook where we photographed the above scene separately as a panorama, in order to create a single composite you see above. It is important to note that the image has a much larger Moon compared to the reality. If I kept the Moon at its real size relative to the landscape, it would have looked minuscule. Some photographers choose to photograph real scenes with super telephoto lenses, without resizing the landscape or the Moon. Such photographs require a lot of planning and effort (often requiring a lunar eclipse to take place near the horizon for matching a landscape), but offer a much more rewarding experience. Proper planning is extremely important in such cases. Reliable tools and apps that allow one to preview the location of the lunar eclipse should be used for best results, as explained below.

Planning

Whether your goal is to simply photograph the Moon during an eclipse, or to photograph a scene with the Moon at the time of the eclipse, proper planning is important and should not be overlooked. There are plenty of great software and smart phone apps out there that you can use for planning purposes, but the two apps I use the most are [PhotoPills](#) and [The Photographer's Ephemeris](#). When doing night photography, I sometimes fire up [Star Walk](#) as well, but that's only if I need to find a particular object in the sky. Being able to see exactly where the Moon is going to rise is very important – it will make the job of scouting for a location much easier.

While leading a group of photographers in [Death Valley National Park](#), I really hoped that the sky would clear up during the total lunar eclipse on January 20, 2019. The weather was quite stormy for a few days at the beginning of my workshop, but the day of the eclipse looked promising, with the sky opening up in the evening. While checking for weather reports every few hours, I also used the PhotoPills app on my smart phone to find out exactly where the Moon would be located in the sky during the lunar eclipse. Using the Night Augmented Reality (Night AR) feature of the app allowed me to pinpoint the exact location of the Moon.



Moonrise over Mesquite Dunes

NIKON Z 6 + NIKKOR Z 24-70mm f/4 S @ 24mm, ISO 100, 4 sec,
f/8.0

After realizing that I would not be able to find a subject tall enough in the vicinity to be able to use it as my foreground, I made the decision to skip the scouting process and only focus on photographing the lunar eclipse with my super-telephoto lens. However, if I found a very tall foreground subject, it could have worked to photograph the eclipse over it. Instead, I looked up where the Moon was going to rise from and decided to photograph a landscape scene facing the Moon as it rose up:

As you can see, it was a pretty foggy evening – not particularly great for photographing a lunar eclipse! As the Moon rose over the distant mountains, the clouds in the sky were too thick, making it a problem to get a clear shot of the Moon. The weather forecast still insisted on a clear night though. I looked at the horizon and the sky indeed looked quite clear there. After about an hour the sky indeed cleared up for the most part – just in time for the beginning of the lunar eclipse!

So, keep all this in mind. When planning for a lunar eclipse, always pay close attention to weather forecast – you might need to move to a different location with less cloud coverage.

Camera Equipment and Lenses

When it comes to photographing a lunar eclipse, the type of equipment you are using plays a huge role. Photographing a lunar eclipse is not the same as photographing the Moon for one major reason – lack of light. When you photograph the Moon lit by the Sun, it is typically so bright, that you can easily use fast shutter speeds and low ISO, without having to worry about noise and motion blur. Photographing a lunar eclipse is much more challenging, because the Moon gets very dim when it is in the Earth's shadow. Not only will you have to drastically decrease your shutter speed, but you will also have to increase camera ISO to a much higher value, especially if you are shooting with long lenses above 300mm. Having a good DSLR or a mirrorless camera that can handle noise at high ISO levels will certainly help.

When it comes to lenses, longer lenses will magnify the Moon more and provide some good details for your shots. So, unless you are planning to capture the Moon with a foreground element, I would recommend to use the longest lens in your arsenal. But a longer lens presents another problem for Moon photography – you will have to use a fast shutter speed to get blur-free images of the Moon, since it moves so fast.



Equatorial Tracker

Without a doubt, the best thing you can do for lunar eclipse photography is get an equatorial tracker, such as the [iOptron SkyGuider Pro](#):

I have previously attempted to photograph the Moon without a tracker and I always found myself struggling with camera settings at the time of the total lunar eclipse. Even with a very slow shutter speed of 1 second (which was barely enough to keep motion blur under control), I had to increase my camera ISO to 3200, at which point the amount of noise in the images was too much to deal with. With an equatorial tracker, once you set it up to track the Moon, you can take very long exposures without having to worry about shutter speed, since the setup automatically adjusts for the Moon movements. In addition, you do not have to constantly deal with readjusting your composition every few minutes. The biggest task is going to be proper and accurate alignment with the North Star – once you do that, the rest of it is going to be a breeze. With the tracker, I was easily able to take 10-20 second exposures at ISO 64 – ISO 200, which allowed me to take images with no noise issues to deal with in post-processing.

A good equatorial tracker is not just useful for photographing lunar eclipses. I used the same setup before for [photographing a solar eclipse](#), as well as [photographing the Milky Way](#) and it worked amazingly well. If you are into photographing the night sky, you should seriously consider investing in such a device. In fact, instead of spending a lot of money buying expensive lenses designed for astrophotography, I would recommend to start out with a tracker!

If you have no plans for getting an equatorial tracker, you can still successfully photograph the lunar eclipse. See the instructions below for more details.

Camera Settings

When you shoot a bright Moon, a good starting exposure is typically around 1/125-1/250th of a second @ f/8, ISO 100. When an eclipse starts, this exposure should work great to expose the bright part of the Moon, while the dark side of the Moon is not going to be visible at all. At some point, you will have to change your shutter speed to expose for the dark side, while overexposing the bright side of the Moon, similar to this image:



550mm @ ISO 400, 0.6 sec, f/6.3

I found out that the exposure difference between the bright and the dark sides of the Moon was a whopping 8 [full stops](#)! What does this mean? It means that if you were getting a great exposure of the Sun-lit Moon at 1/250th of a second at ISO 200, in order to capture the part of the Moon that is in the Earth's shadow, you will have to shoot at 1 second @ ISO 200 (1/125 -> 1/60 -> 1/30 -> 1/15 -> 1/8 -> 1/4 -> 1/2 -> 1!).

This is the part where the focal length of your lens becomes your enemy. The longer the lens, the more you need to worry about two major problems – shutter speed and camera shake. A long lens (above 300mm) will make the Moon larger in your picture, which at the same time means that the Moon will move very quickly through your frame. Using a slow shutter speed is obviously unacceptable, because the Moon features will appear blurry due to [motion blur](#). Therefore, your only choice (aside from getting a motorized equatorial tracker) is to shoot at maximum aperture and increase camera ISO to

a large number. In the above example, to increase my shutter speed to just 1/15th of a second, I would have to shoot at ISO 3200, which would result in a lot of noise, especially if I were shooting on a small sensor camera.

So, what should your shutter speed be? It depends on the focal length of your lens. If you are shooting at 300mm on a 1.5x [crop-factor camera body](#) using a 70-300mm lens, shoot at shutter speeds faster than 2 seconds. If you are using a longer lens, you will have to use even faster shutter speeds to get a blur-free image of the Moon. I was shooting at 560mm (a 400mm lens with a 1.4x teleconverter) on a 12 MP full-frame camera and I found that my limit was about a half a second (1/2) before the Moon started to get blurry. If you have a high resolution camera with a 30+ MP sensor, you might need to use even longer shutter speeds to avoid blurring the Moon.



Motion blur @ 550mm, ISO 200, 2 sec, f/8

Take a look at the below crop shot at 2 seconds to see how blurry the Moon got:

And that's with me shooting on a tripod using a remote shutter release, plus Mirror Up with about 1-second interval after raising the mirror! So it is definitely not camera shake you are looking at in the above photo – that's motion blur. Speaking of camera shake, you need to absolutely make sure that you are taking advantage of all the capabilities of your camera to minimize camera shake, especially when shooting with long super-telephoto lenses.

It goes without saying that your camera needs to be mounted securely on your tripod and you should not be releasing the shutter with your hand. Either use a remote shutter release in combination with "Mirror Up" mode to reduce camera shake, or if you have a more advanced camera that supports features such as [Exposure Delay](#)

[Mode](#) and [Electronic Front-Curtain Shutter](#), you can use those features to reduce, or potentially even eliminate camera shake. Lastly, don't forget to turn off Image Stabilization/Vibration Reduction when your lens is mounted on a tripod.

Keep in mind that taking pictures of half-lit or quarter-lit Moon is relatively easy, since you still have quite a bit of light to work with. Once the Moon goes into Earth's umbral shadow and totality starts, that's when you will encounter the most issues. Depending on how bright the Moon appears during this phase, you will have to adjust your exposure accordingly. During the last total lunar eclipse event, those around me that did not have equatorial trackers had to open up their aperture fully and shoot between ISO 1600 and 3200, which added quite a bit of noise to their images. Always keep in mind that it is better to have noise than motion blur in images. While noise can be dealt with in post-processing, a blurry photograph cannot be saved.

Below are my recommendations for a proper setup and camera settings:

1. Use the longest lens you can get your hands on. If it is compatible with a teleconverter, you might want to use it.
2. When using a heavy lens, always mount the lens on a tripod instead of the camera.
3. Use a stable tripod and a solid tripod head that can easily handle the weight of your camera + lens.
4. If your camera has the EFCS feature, make sure to turn it on and use the particular camera mode that takes advantage of it in order to eliminate shutter shock.
5. If your camera does not have the EFCS feature, use Mirror Up in combination with a remote shutter release or Exposure Delay Mode (if available).
6. Make sure to properly focus your lens. Do it before the eclipse starts. Once focus is acquired, turn off autofocus (see #6 below for more details on focusing).
7. Start at ISO 100 during the partial eclipse and increase ISO as needed during totality.
8. Choose the sharpest aperture of the lens for partial lunar eclipse shots (typically between f/4-f/8). Open up the lens to the maximum aperture during totality.
9. When it comes to shutter speed, start with the 500 rule (divide 500 by the full-frame equivalent focal length of the lens), review images at 100% zoom and adjust as needed.

Focus Accuracy and Sharpness

No matter what lens you are using, getting a very accurate focus on the Moon is extremely important. I know that some of you might suggest to shoot at infinity, but since many lenses now allow focusing beyond infinity, getting a true infinity focus is not that easy – a slight inaccuracy will make the Moon appear blurry. While using your center focus point to acquire focus might work fine when the Moon is lit by the Sun, your autofocus will most likely cease to function or might be grossly inaccurate when the Moon is in totality. Use your camera LCD screen to zoom into the Moon and acquire precise focus. If your LCD screen overexposes the Moon, making it impossible to see the details for focusing, see if you can turn off exposure simulation in your camera menu system. On some Nikon DSLRs, the solution is to press the "OK" button in Live View, which takes care of the problem.

Instead of dealing with refocusing every time you take a picture, I highly recommend to switch off autofocus once you get accurate focus on the Moon (ideally before the lunar eclipse starts). Take a picture and use the LCD screen of the camera to see how sharp the Moon is. Zoom in all the way and make sure that all the features of the Moon are visible. If the Moon appears blurry, go back and retry. If you cannot manage to get your camera to autofocus in Live View mode, try manually focusing with your hand while zoomed in all the way in the LCD. If you get precise focus before the Moon goes into the Earth's shadow, you won't have to touch your focus until the end of the eclipse.

One more thing I would like to point out: if you are using a lens with a teleconverter, or if you are using a consumer zoom lens, the optics are probably not very sharp when shooting at large apertures. Stopping down the lens aperture to f/8-f/11 should give you the sharpest results. Don't use apertures smaller than f/11 (such as f/16 or f/22) – [diffraction](#) will kick in and make the Moon appear even softer.

[Moon Movement Speed](#)

So far I mentioned several times how fast the Moon moves when using long lenses. Take a look at this video and see for yourself where the Moon starts in the frame, and then ends up at the end of the 2 minute video. If you are impatient, simply look at the beginning of the video, then the end and compare the location of the in the frame:

Moon in the frame:

Now just think how many times I had to move my camera to photograph a 4 hour long eclipse!



HDR Stack of Partial Lunar Eclipse
NIKON Z 7 + 300mm f/4 @ 420mm, ISO 64, 1/50, f/8.0

[Bracketing Partial Lunar Eclipse](#)

Considering that the shadow and the bright side of the Moon are 8 stops apart, you might be wondering if there is value in bracketing the shots to capture detail in both. To be honest, after going through the process of bracketing during the last total lunar eclipse, I really struggle to see the benefits of doing it. First of all, you end up taking way too many images in the process and second, I don't see how one can blend exposures 8 stops apart without making the resulting image look artificial. Take a look at the below photograph:

Personally, I find the image quite unnatural. During the partial lunar eclipse, our eyes cannot really see the shadow part of the Moon – we can only start seeing the details once the Moon nears totality. While it is cool to be able to see both with our digital cameras, I struggle to see the value of capturing all the shadow and highlight detail during the partial lunar eclipse. Plus, blending these images in post-processing software was rather painful.

Lightroom was not able to do a good job, so I had to export multiple images into Photoshop and blend them manually, which took quite a bit of time and effort.

My recommendation would be to expose for the highlights during the partial eclipse. Once the Moon nears totality, you can switch your metering to the shadows.

[Composition](#)

Unless you are shooting at short focal lengths with a foreground object or some sort of a scene, don't worry about composition – place the moon anywhere in your frame. The location does not matter, since you can easily crop the Moon out in post-processing, as long as it is exposed properly. When shooting without a motorized equatorial tracker, I often found myself re-centering the Moon in my frame, but as you saw from the above video, it was not an easy task. After I while, I started placing the Moon on my top left corner frame and let it move towards the right bottom corner. When it approached the bottom, I would move it back to the top left again.

If you want to have stars with the Moon in the final picture, the best way is to shoot stars separately, then combine both images together. If you want to have a composite image like the one I posted in this article, then your best bet is to photograph a night scene separately with a wide-angle lens, then use Photoshop to copy-paste the Moon into the image.

[Post-Processing](#)

The post-processing method I use for the Moon is described in detail in my [“How to Photograph the Moon”](#) article. If you did not use a tracker, the biggest problem is going to be dealing with all the noise in images due to high ISO levels. If noise bothers you, see my [“Noise Reduction Tutorial”](#) – there are plenty of tips in that article on how to clean up noise in Photoshop and Lightroom.

As for doing composite images (combining the various phases of the Moon with other images), the process is not that difficult:

1. Pick a couple of photos with a dark sky, obviously shot at night.
2. Open your Moon photos and using the “Quick Selection” tool, select just the Moon by itself. Make sure that you are grabbing the whole Moon, not just parts of it.
3. Copy the Moon by pressing CTRL+C / Command+C
4. Paste it into a corresponding image with a dark sky.
5. If the Moon you copied has some black edges to it and your sky is not totally black, then try this trick: select the Moon

once again with the Quick Selection tool, then right click the Moon, choose “Select Inverse”, then right click again, choose “Feather” and give it 2-3 pixels. Next, click on the “Add a Mask” button on the layers palette. Once this is done, click on the Mask itself in the layers window, then click “Apply Mask”. Repeat this process several times, if necessary, to make the edges of the Moon smooth.

6. Experiment with copy-pasting several phases of the Moon and see how you like the final image.
7. Don’t forget about sharpening the Moon. Do it before selecting the Moon with the Quick Selection tool, otherwise the sharpening tool will also sharpen the edges of the Moon.

Personally, I really like combining several phases of the lunar eclipse in a single composite. Take a look at the below image, which shows three total lunar eclipse phases:



Phases of Total Lunar Eclipse
NIKON Z 7 + 300mm f/4 @ 420mm, ISO 200, 10 sec, f/8.0

Here is another composite that shows two partial eclipse photos and a total eclipse photo in the middle:



Lunar Eclipse Phases
NIKON Z 7 + 300mm f/4 @ 420mm, ISO 200, 10 sec, f/8.0

I personally like the first version, but others like the second one better. Doing this took some time in Photoshop to cut the Moon and place it like this, but I like the end result and that’s what really matters.

I hope you found this article useful. If you have any questions, please let me know in the comments section below!

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Macro Photography: How to Photograph Frost & Ice

By [Mark Hamblin](#)

Freezing weather creates some fantastic opportunities for close-up studies, so don't let the thermals and explore the world in miniature. [Autumn colours are an obvious and rewarding subject to tackle at the right time of the year](#), but what is perhaps a little less obvious is the photographic potential that the colder nights bring. As the nights get longer the chance of overnight temperatures dropping below zero degrees Celsius increases day by day, and so does the prospect of a magical covering of frost. This miracle of nature that coats everything in ice crystals transforms even the most mundane of subjects into something of real beauty.

But what makes frosty mornings so special is that very often the day dawns clear and sunny, so not only are there a plethora of subjects to train your lens on but the light is fantastic as well. What's not to like?

Ironically, frosts are most likely to occur in periods of calm sunny weather when the temperature plunges at night without a fluffy blanket of clouds to hold in the warm air generated during the day. On evenings like this the air temperature drops like a stone, and so long as it stays clear during the night you can be pretty sure that you'll wake up to frost in the morning. Keeping an eye on the local weather forecast will also help you to plan your photography for the next day. Get yourself geared up and ready to go out early to catch the best of the frost and the light.

So what are the kinds of subjects should you look for? Here are a few examples and some details about how I took each shot.



Sycamore Leaf

This sycamore leaf immediately struck me because of its simplicity. It's not the most colourful leaf in the world, but the coating of frost had accentuated the structure and form of the decaying veins, and it was this detail I wanted to record.

I composed the shot making use of the natural symmetry of the veins, with the central vein running up the middle of the frame. An alternative approach would have been to place the central vein diagonally. The camera was on a tripod and positioned vertically above the leaf so that it was in the same plane of focus. It's worth spending time to get the camera position spot on so that as much of the subject is as sharp as possible. This can be a bit fiddly to get right and involves checking all corners of the frame until you get it right.

The reason for doing this is that at these close working distances depth of field is really minimal: just a few millimetres even when the aperture is stopped down to f/16 or f/22. So, even though a small aperture will maximise depth of field, and therefore how much of the subject is in focus, it may not be enough to bring all parts of the subject into focus if the camera's sensor isn't square to the subject. The other thing to bear in mind is that if the subject is as sharp as possible to begin with, then it may not be necessary to stop the lens down to such a small aperture. This means you can use f/8 or f/11, which are often the sweet range of many lenses giving optimum image quality.



Frost-laden Rose Hip

Whilst it's possible to get some subjects perfectly sharp when shooting close up – because they are essentially flat – this isn't always the case irrespective of camera position or aperture setting. This can be frustrating, but you can't do anything about the physics of using optics at this close range. So you either try to get as much of the subject as sharp as you can and live with the fact that it won't all be tack sharp, or you take a different approach altogether and shoot at your widest aperture so that only a very small part of the subject is in focus. By using this selective focusing technique on these frosted rowan berries, I was able to isolate just one of the berries and throw the others out of focus, which I felt was the best option for this particular subject. [This also helped with composition](#), allowing me to frame the shot with the sharp berry placed on one of the 'compositional thirds'.

Depth of field is absolutely minimal at wide apertures, so focusing has to be very precise. One way to ensure that the focus point is exactly where you want it is to use Live View. I've started using this function more and more for macro work, and I find it very useful as it allows me to zoom in at 5x or 10x magnification and tweak the focusing until it's spot on. I also use Manual focusing for all my macro work as I find it a lot more accurate than autofocus and it gives me full control over how I want the subject focused.

The lighting for this shot, and the previous one of the sycamore leaf, was overcast, which produces a soft and even light with no shadows. This is good for recording fine detail. Direct sunlight can work well for these kinds of subjects, but you need to watch for burnt out highlights – something that can be hard to avoid with frosted subjects without underexposing the overall picture. Weak sunlight is easier to control with less risk of high contrast.



Bracken Frond

Although soft light is easier to work with, there are times when direct sunlight really brings a subject to life and this is never more pronounced than with backlighting – one of my favourite forms of lighting. Frosted leaves and foliage look fantastic backlit by early morning sunshine and this bracken frond was an ideal subject for this treatment. As always with backlighting, I had to work quite quickly while the sun was low in the sky producing a strong backlit effect with gorgeous warm light. This is especially the case when working with a frosted subject because the frost soon melts once the warming rays of the sun strike it.

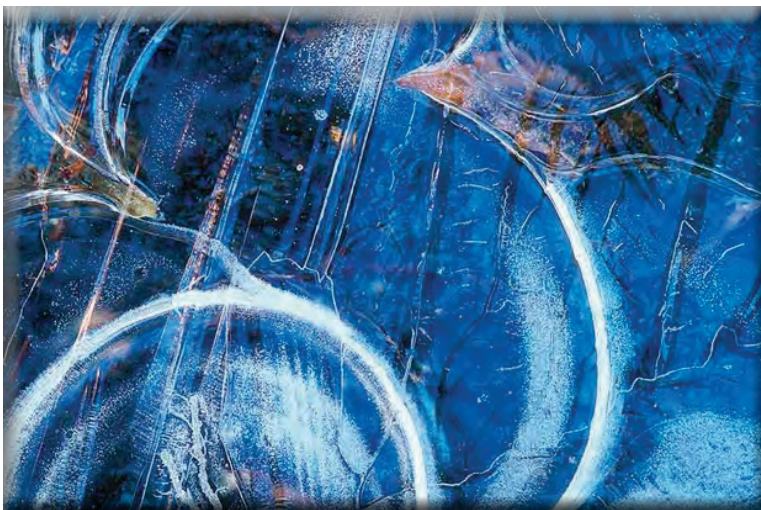
I tend to prefer to shoot backlit subjects against a dark background as this accentuates the rim lighting effect and makes the subject stand out well. Shooting into a shaded part of the wood provided the ideal backdrop and because

it was several stops darker in tone than the subject, and it came out almost black in the final image. The shape of the bracken frond lent itself perfectly to this slightly diagonal composition with the curl at the end adding an extra bit of interest.

Exposure can be tricky with backlit subjects because there are more extremes of tones and a greater likelihood that the camera's meter will be 'fooled' into either under or over-exposure if there is a predominance of light or dark tones in the picture. If there is an obvious mid-tone in the picture, then I'll use spot metering to take a precise exposure reading to avoid this problem. In this case though, there was a mixture of tones in the frame so I used evaluative metering and set the exposure in Manual mode. I prefer this to one of the automatic metering modes as it gives me full control over both aperture and shutter speed and also allows for very quick adjustments if the shot needs more or less light.

Whichever way you choose to meter, always check the histogram after taking your first shot and evaluate the exposure, make sure that the graph displays a good range of tones from black (left hand side) to white (right hand side) and that it doesn't extend off of either side. With backlit subjects it may be necessary to compromise a little because the camera may not be capable of recording all the tones in the shot if the range is too extreme. A little burn out of the highlights is acceptable if it means keeping detail in the darker areas, but if in doubt I tend to bracket the exposure around what I feel is the best compromise and make a proper judgment when looking at the RAW file during processing. And remember it's possible to [*recover some detail in shadows and highlights*](#) during processing in software such as Adobe Camera Raw or Lightroom.

Further Reading: [*“Why You Should Be Shooting in RAW”*](#)



Ice Patterns

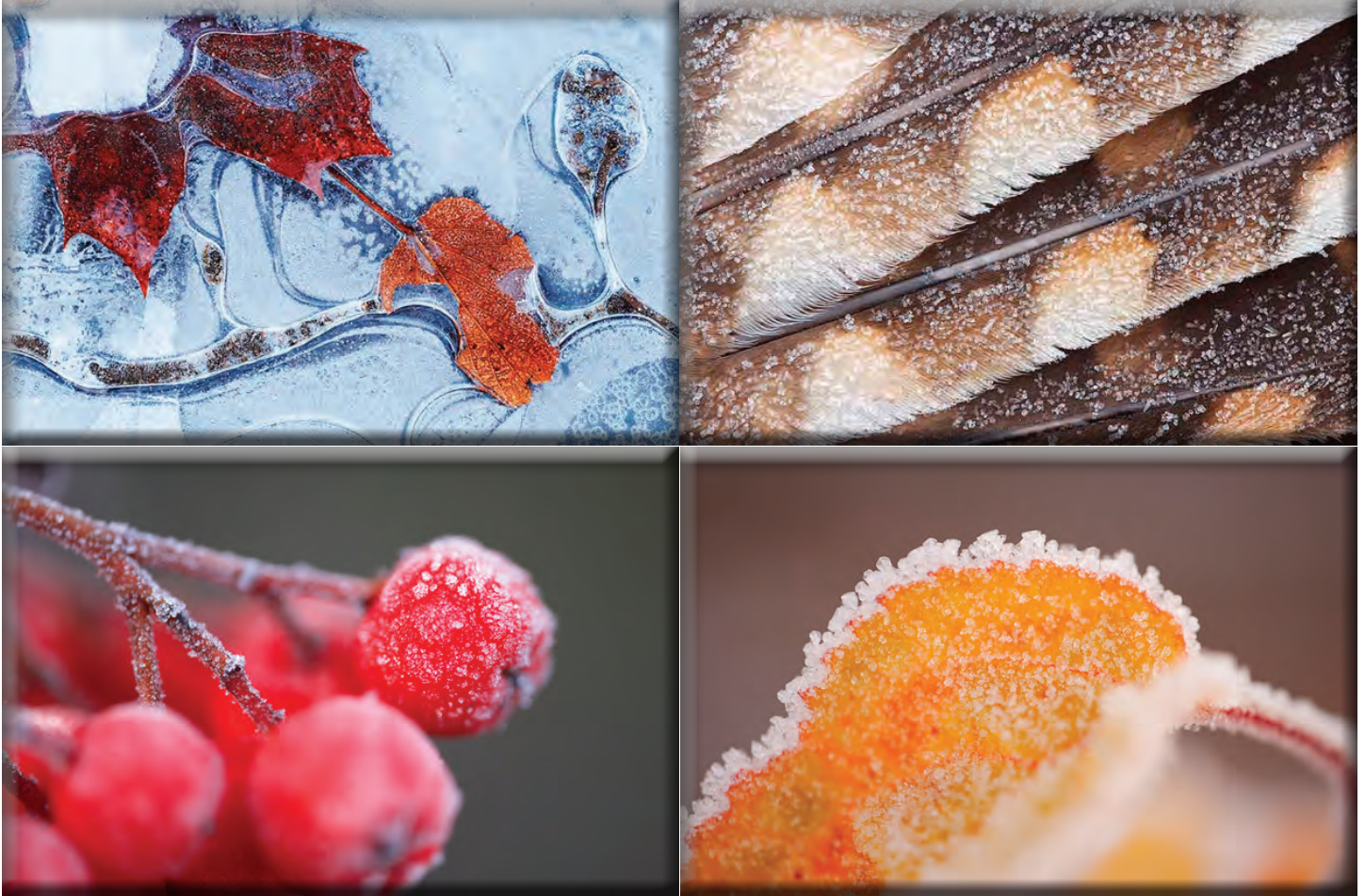
The day before this would have been a dull looking puddle, but following a hard frost it was frozen solid forming fantastic patterns in the process. I was actually out shooting a wide vista, but after taking my shots I started to pack up and saw the wonderful blue colours reflected in the ice from the clear sky above.

The pattern in the ice was fairly random but there was a cohesion formed by two distinct curves and so I used these as the main focus of the composition. With this kind of shot it's not always obvious what to include and what to exclude, and I find the best approach is to work the same section from different angles. It can also help to start with a wider composition and gradually move in closer to finally include just the strongest features.

Often when photographing ice there can be an issue with exposure because of its light tone and reflective surface, which can adversely affect the camera's meter reading, leading to underexposure. In this case that wasn't a problem because the ice was reflecting the mid-toned blue from the sky, so I simply used evaluative (average) metering without any compensation and the exposure was spot on.

Even though this was a completely static subject I still adopted my standard practice for macro work of using mirror lock-up to avoid camera shake. Some people use a remote release for this kind of work, but this doesn't help eliminate internal vibrations caused by the mirror slapping up a fraction of a second before the picture is exposed.

The remote is good for preventing vibrations caused from pressing the shutter but mirror slap is a bigger problem when working at slow shutter speeds. The most reliable and only certain way of eliminating mirror vibrations is to lock it up before taking the shot. The way I do this is to use the 2 sec self-timer in combination with mirror lock-up. That way when I physically press the shutter (you could use a remote if you wanted but there is little point) the mirror flips up and is locked in position 2 seconds before the picture is actually exposed. This leaves enough time for any vibrations to subside so that at the moment the shot is exposed the camera is completely still.



Here are a few more examples of the kinds of shots mentioned above for further ideas of what to shoot, but there are plenty more besides these. Getting outside on a frosty morning will provide all the inspiration you need and once you start you'll find fresh potential at every turn. You may not even need to leave your back garden! Have fun – feel free to post your frosty photos in the comments below.



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Mark is an internationally published freelance nature photographer specialising in the wildlife and wild places of the Scottish Highlands. He has worked on a number of highly acclaimed projects including Wild Wonders of Europe and, most recently, 2020VISION. Mark has written a popular eBook exclusively for Nature TTL: [A Practical Guide to Landscape Photography](#).



Why You Should Be Shooting in Raw

By [Drew Buckley](#)

When most photographers first pick up a camera, they don't give much thought as to what file format to shoot in. Generally, we're far too interested in anything other than how many [megapixels](#) a camera has got, how many frames per second it shoots, and will the autofocus system finally allow me to get that [bird in flight](#) shot I've always wanted? Who cares about what format I shoot in, as it won't improve my pictures either way.

Well, you'd be wrong to think that. Whilst picking one format over the other won't make you a better photographer overnight, it will allow you to capture lots more information in every image you take, which in turn will give you more scope when it comes to processing

your images in the digital darkroom.

Shooting raw over JPEG will be a question everyone who picks up a digital SLR will face at some point during their progression. If you've not changed any settings, then when your digital camera takes a photo, the chances are the result will be saved as a JPEG file. JPEGs are small; you can take lots of them thanks to larger memory card sizes these days, and they are automatically processed to be readable and viewable on pretty much anything!

But, most experienced photographers know that there are other file formats to choose from, and they'll usually opt for raw due to its quality and versatility when it comes to processing images and getting the very best out of them.

Hopefully this article will convert you to shooting raw, and if you are already, maybe you'll learn a technique or two when processing them.

The benefits of shooting in raw format

So what are the benefits, I hear you ask? Well, unlike JPEGs, raw files can't be used immediately in regards to being web friendly and they are only recognised by certain programs. They also take up a lot more room on your memory card resulting in it storing less images, and in turn uses up more space on your hard drives at home. A lot of drawbacks you may think, but they're really not a problem when you look at the benefits.

While shooting JPEG may be fine for general photography, the main reason you upgraded to a digital SLR was for the increase in image quality, and using JPEG will eventually cause you problems if you want to be creative with your processing, due to it being a compressed format. The main reason you can cram in loads of images on each memory card with JPEGs is because your camera is throwing away valuable information with every photo. Such information includes highlights & shadows data (not to mention losing colour information in graduated skies and people's skin), so you will find it harder, if not impossible, to recover over or underexposed areas.



Furthermore, the in-camera processor is converting the image from a raw to JPEG (throwing away the raw in the process) which again will lose image quality. How it's converted to JPEG is usually set in your camera's 'Picture Styles', be it Portrait or Vivid mode etc. How much sharpening it applies, colour saturation levels and white balance will all be set in the style.

However sophisticated modern cameras are, it'll never get the 'look' right all of the time, and what happens if these values were too severe for the scene, or even worse the [white balance](#) was wrong, making your image look too blue (cold) or too red (warm)? You can edit a JPEG to a certain extent, and you'll convert your raw to a JPEG once finished, but a JPEG will never hold the amount of information or depth of colours a raw can.

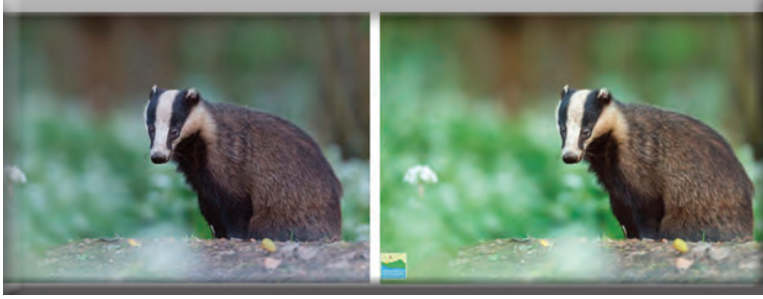
The downsides of raw format

Taking control of how your image's format is written will be one of the best decisions you'll make. This is where raw format comes in and it's pretty much as the name suggests: the raw image from the camera – no processing, no compression, no loss of information. Basically, it's the digital negative from the camera.

The downside to this is that every image you take in raw will require some degree of processing, but there are some great photography programs these days that make it easy to batch process sequences of images to speed up your workflow (such as Adobe Lightroom).

Read more: Lightroom Tutorials – [How to Use Lightroom to Edit Photos](#)

If you would prefer not to spend any more money on software, you'll find that your DSLR came with a CD with some raw processing software on. You can still apply the styles to the raw file that your camera would have used if you took the image as a JPEG, but you will have more options and can fine-tune the photo to your heart's content.



In conclusion

Editing a raw file is a non-destructive process, meaning you can always go back to the original image in years to come and reprocess it when your technique is better. There are some things you won't be able to change, such as the ISO speed after you've taken the image or any major focusing errors, but everything else from exposure to white balance, to colour space, lens distortion, recovering highlights and noise reduction can all be tweaked, and that's the great advantage.

You can take all the time you need to creatively tweak your images by changing values and sliders until you've polished the image the way you want it rather than the camera applying a 'blanket' setting across all images. Plus, you'll immediately see the difference each change will make, meaning you can really see how different settings effect values across the whole image, and change accordingly.



[Drew Buckley](#)

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Drew Buckley is an award-winning landscape and wildlife photographer based in Pembrokeshire, UK. He's a regular contributor to the very best of wildlife, landscape and photography magazines and has his own books published. Self-taught, Drew has always had a passion for combining the great outdoors with his love of photography. He also runs his own photographic workshops.