

In Focus

July 2016

The newsletter of the TriState Photographic Society

We seldom publish articles not directly related to photography but since Independence Day falls in July and VJ Day is August 14, we salute wanted to recognize the Greatest Generation for their service to our country. Experts predicted enormous casualties on both sides and fighting door to door fighting possibly for several years. They expected to lose a great number of ships and sailors because of the Kamikazes. Put yourself in John Deering's shoes...

Where Were You in August, 1945?

By John Deering

In August, 1945, I was 18 and in a destroyer pool of new construction on Treasure Island, San Francisco. The European war was over, but there was still the Pacific war to win. We were going to school after school in preparation for being on and operating our ship sometime soon -- U.S.S. James E. Kyes--DD-787. There we were young men and somewhat older men who had already "been there and done that." We younger ones were quite eager to go. (Naive? Well maybe!) The experienced men largely kept to themselves. They were rather quiet, played cards often, spoke of their families and the things they already had done. We younger ones listened in; however all of us assumed we would be in the attack on Japan relatively soon. November was the intended date of the completion of the construction of our ship; but as we learned later, it was also the date of the first invasion of Japan. Therefore, we could not do both the shakedown cruise of our ship and the attack on Japan. Our being a part of the attack was going to have to wait -- for a while anyway. We'd more likely have been in the second wave of attack. Suddenly everything changed and the war abruptly ended.

The results of the Manhattan Project came to pass with the atomic bombs on Hiroshima and Nagasaki, Japan. We were not going anywhere for a while. We had mixed emotions about that. As a result of the bombs, we were reasonably sure we were going to live, but there was a note of disappointment -- perhaps frustration. (Psyched-up maybe?) I have often facetiously compared it to a post-season football game that was cancelled because of bad weather. (Okay, I admit that is an over simplification.)

President Obama is the first in-office president to visit Hiroshima. While he was there he made a speech concerning atomic warfare and how horrible the Hiroshima demise had been and how another such war would be. Then he placed a wreath on the site where the first bomb had detonated and killed 100,000 or more human beings. The report went on to say he had not apologized for the bombings; allegedly some expected him to do so. Should he have apologized? Think about this. I was not the only young man on Treasure Island. I had lots and lots of company, and this does not count the thousands upon thousands of other Americans, allied personnel on ships and islands, and civilians. Do we count?

Perhaps we should have a séance with President Harry Truman and ask him about an apology. After all, he was the person who had to give the permission to use

the bombs. Parenthetically, even he -- the vice president -- knew nothing of the Manhattan Project until after the death of President Roosevelt. He was immediately informed about the Manhattan Project and the bombs that were about to come forth, not to mention the aftermath of using them. When they were ready for use, he has been quoted as having said, "I gave them permission. Then I went upstairs, got into bed, and went to sleep." Of course, President Truman was a veteran of WW I. He too had "been there and done that." That can make a big difference in considering warfare and apologies.

How many other things are deserving of apologies? We can consider Pearl Harbor, the Bataan Death March, capturing young Chinese women to be the "play things" of some Japanese soldiers, the unbelievable death rate of allied prisoners-of-war in Japanese prisons, ad infinitum. Are these worthy of apologies? Yes, war is evil. There is no doubt about that; yet there has been a constant parade of wars ever since World War II -- Korea, Vietnam, and on to the constant parade of wars in the Middle East. One has to wonder why these wars have not exploded into a major world war. It might well be the presence of atomic weapons in the hands of major powers -- the United States and Russia, not to mention some others in the hands of some idiots who want the "prestige" of ownership. For example, there is North Korea where the "leader" [puppet] has the audacity to threaten us and Russia with his missiles and has allegedly developed atomic weapons -- although I seriously doubt that he has such a weapon..

Obviously the loss of one future English teacher does not deserve any city being devastated. However, I repeat I was not the only person in the service in August, 1945. If there is a forthcoming apology, has anyone considered so many of these others? We survived and went on living -- most of us in rather worthwhile and valued positions. In fact, among the eight or so men whom I associated with, all became college educated and one even has a Ph.D. -- for whatever that might mean. Do we count?

A Favorite Photo Site: Moab Utah

By Richard Jones and Michele Hill

Moab, Utah (population 50460) is a town in South East Utah that has a plethora of opportunities for photographers. It is home to two major national parks, Arches and Canyonlands National Parks as well as a great state park, Dead Horse State Park. There are dozens of other areas with great photo opportunities.

There are many activities beyond photography that can be enjoyed in and around Moab. There is trout fishing in the La Sal Mountains. Boating is available in the Colorado River. There are a number of great bike trails and 4 wheel drive roads from easy to extreme difficulty. Skydiving, ballooning and horseback riding are also available. There are a number of concessionaires offering Moab adventures.

There are plenty of motels, hotels and campsites and a multitude of restaurants. There are several national food chains in Moab, but you simply must try some of the local food. Utah has some of the best food in the country. Tourism is a major industry, but Moab has maintained its friendly nature even with the amazing mass of tourism it attracts.

To get to Moab you can drive, fly or take the bus. Small commuter aircraft land at the airstrip just north of town. You can also fly into Grand Junction just over the border in Colorado.

No matter how you get to Moab, I suggest that you drive in with a 4 wheel drive vehicle or rent one on arrival. If you don't bring or rent a 4 wheel drive, you can still see a lot of the area, but there is so much more to see with a 4 wheel drive.

If you are uneasy about driving a four wheel drive vehicle there are several companies that offer guided 4x4 and photo tours.

If you are driving from the Greater Cincinnati/Northern Kentucky area or from Grand Junction, I recommend that you take exit #182 – US191 from I-70. You could also take exit 204 and use Utah 128, but we will save highway 128 for later.

Suggested Camera Equipment:

Minimum: Camera Body, wide angle lens (14-24mm, 12-24mm or similar), amid-range lens such as a 24 – 70mm and a moderate telephoto such as a 70 -200mm.

For those wishing to photograph rock art or wildlife, you might wish to add a longer lens. Some rock art panels are high on canyon walls. A 300-600mm or so could help. Add a macro lens, flash and a tripod to round out a good set of equipment for Moab photography.

Before we get started on specific areas, remember that roads, access, need for permits for some areas and entry fees, etc. can change and therefore some of the information below might be in error. Moab has a wonderful inter-agency visitor center that can give you information, details on trails, guides, maps and the like and can make your trip more pleasant. Much of the land is administered by U.S. Government agencies and they may have different rules for those areas. Remember that some areas are heavily restricted and require permits and permits may be limited. **The Moab Information Center should be your first stop in Moab. They can help with information on permits, maps, and advice on current road conditions.**

Some things to remember: Moab is in the desert. It is smart to carry water at all times. It is very hot in the summer and in the winter there can be large amounts snow. Another hazard is the possibility of flash floods from rains a hundred miles away. Lightning in the desert is also hazardous and can come from storms many miles away. There are rattlesnakes present although they are seldom seen. Scorpions are present but their sting is not lethal. This area has been heavily mined for Uranium and later Vanadium. Even though many people live in old mines, Uranium can be deadly, NEVER enter any abandoned mines in Utah. Uranium levels may be in the danger level.

Another concern we need to think about in the Moab area and for that matter most parts of Utah and other western states is the need to leave areas the way we found them. Petroglyphs and pictographs (collectively referred to as rock art) are extremely frail. It is critical that we avoid contact. Just the oil from our fingertips can cause irreparable damage. There has been much vandalism of rock art. Vandals have tried to make rubber molds and tracings which have led to partial and sometimes complete destruction of large panels. Some thieves have actually removed rock art for their collections. I know of one Barrier Canyon Culture Pictograph near Goblin Valley that has been damaged by people using it for target practice. Don't use chalk or other material to outline rock art for better contrast in photography. In many places fences have been erected in front of the panels to keep people at a safe distance.

It is also important not to enter any ruins whether ancient Indian or in modern ghost towns. They are dangerous and your presence can destroy historical artifacts. Take pictures from the outside. If you wish to go through an Anasazi cliff dwelling you might try stopping at Mesa Verde on your way back home. There are a few that you can walk through, some with guided tours.

Another concern is erosion. Stay on trails. Much of the Moab area has living soil crusts. These soil crusts are composed of cyanobacteria, lichens, fungi, algae, and mosses. They are essential for plant life. They reduce soil loss, retain moisture and add critical nutrients to the soil. Walking these crusts must be avoided.

The Moab area contains so many photographic opportunities; you may want to allow 3 -10 days or even more for your visit.

National Park Entrance Fees

Unlike our nearby National parks [Smoky Mountains N. P. and Mammoth Cave N.P. and National Recreation areas such as the Red River Gorge and Big South N.R.A. (Forest Service)], in the western U.S. most national lands have entry fees. They are not cheap and if you will be visiting several of them, you might save money by buying one of the annual inter agency (N.P.S., Forest Service, and BLM) annual "America the Beautiful" passes. These passes cost \$80 and are valid for one year from the date of purchase. They offer free entrance to most federal lands.

For those 62 or older there is a similar pass called the "Senior Pass". This pass is \$10 and never expires. The older version was called the "Golden Age Pass" and is still valid. Both 62 passes even offer some discounts on user fees such as camping.

Current military personnel, including Reserves and National Guard, are also admitted at no charge.

See the National Park Service website or telephone or visit the Taft Home National Historic Site in Cincinnati to buy passes or get information on documentation need to prove military status.

In the descriptions of the Federal Fee Areas below you will see the entrance fees for 2016. These fees are for good for 7 days. They can add up quickly. NOTE: **Federal passes are NOT valid for state parks.** Utah State Park entrance fees are among the highest in the nation. (KY doesn't have entrance fees for state parks)

Arches National Park

Now that the hazards have been mentioned, let's look at some of the photo opportunities. We will start with Arches National Park. The entrance fee is \$25 good for 7 days

Once in Arches N. P. there are so many photo opportunities, you could spend days there. The paved roads take you to many of the best areas for photography. Your first stop is likely to be Park Avenue. This area is a long rock fin that you should recognize if you have seen the first Indiana Jones movie. Erosion along this rock fin has created many interesting formations. A little farther along the road is another easily identified rock formation called Balanced Rock. Although this is a very heavily photographed site, try shooting from different sides and in different lighting scenarios.[Hint, try moonlight]

As you continue along the road, there will be many side roads that lead you to the many of the arches. You will even be able to see Delicate Arch [seen on the Utah License Plate] in the distance. Double arch where Indiana Jones attempts to rescue a relic from illegal pot hunters was filmed here. It can be photographed from the parking lot or better, take the short easy trail under the arch for more interesting photos. Walk across the road and photograph any of several other large arches. There are other short trails to many major arches. And there are some long trails as well.

The two most well-known arches are Delicate Arch and Landscape Arch. The trail to Delicate Arch is steep and almost completely across slick rock. In the heat of a summer day this trail can be horrible. It is best to make the hike in early morning. Landscape Arch is along a longer but flat trail through the desert. There are numerous other arches visible along this trail. Allow 2+ hours for Delicate Arch Trail and 1-2 hours for the Landscape Arch Trail. 1 to 4 days for park in general. Times do not include photography time. Take water on all trails.

The Devil's Garden is another good walking trail. The rangers sometimes lead tours in this area.

There are several 4 wheel drive roads in the park, however they can be rough and they are not as interesting as some that will be mentioned below.

Canyonlands Nation Park

Canyonlands N.P. is split between two main areas: the Island in the Sky District at Moab and the Needles District accessed by Utah 211, about 54 miles south of Moab. This road is also known as the Indian Creek Byway. The Needles District is primarily composed of 4 wheel drive roads, and is of less interest to those without 4 wheel drive vehicles. However you might consider driving to Newspaper Rock to photograph petroglyphs. Newspaper rock is about half way to Canyonlands Needles District. Allow half to one hour + trip time to Newspaper Rock.

There are plenty of roads in The Island of the Sky District for 4 and 2 wheel drivers. One interesting stop is Mesa Arch. It is a highly photographed arch so try some different angles and lighting to make your image unique. Looking through Mesa Arch you can see Washer Woman Arch in the distance. Allow one day for Island in the Sky.

As you drive along the main road, you will find several overlooks. On a clear day you can see the Needles, canyons that plunge deep into the mesa below, the White Rim Trail, the Colorado River and the switch back road that is the access point for the White Rim Trail and the Potash Road.

When entering the park on the main road you must pay \$25 for a 7 day pass or present one of the annual or permanent passes that were mentioned in the section about Arches National Park. The Visitor Center is just beyond the entry booth. If you paid to get in be sure to secure the receipt safely to your windshield as you will need it to get out of the park. In a moment you will understand why.

Much of the beauty of Canyonlands is only visible from 4 wheel drive roads. The best of these is the White Rim Trail. **Permits are required for this road.** This road is an easy to moderate 4 wheel drive road. To drive the entire road which circles the Island in the Sky takes about 3 days and requires camping for two nights along the road.

The White Rim Trail was mostly built by uranium miners during the cold war days. There are Indian petroglyphs, cliff dwellings and fabulous views of the park along the trails. The "official" way to get started is via the Schaefer Trail that descends from the main park road just beyond the Visitor Center. But there is a more scenic way, the Potash Road.

The Potash Road (Utah 279) starts just north of the Colorado River. After crossing the bridge over the Colorado River on the north side of Moab take an almost immediate left turn onto Potash Road. At first the road is paved but becomes gravel at the Potash Mine. The paved portion of the road has a large amount of petroglyphs along the cliffs on the right side (north) of the road. Soon you will come to Jug Handle Arch, one of the most photogenic and least photographed arches. There are fossilized dinosaur tracks here as well.

Just beyond Jug Handle Arch, Highway 279 ends and the road becomes gravel and makes a right turn at the location of the former town of Potash, now a modern mining facility.

Technically from this point on the road is an easy to moderate 4 wheel drive road. However, most vehicles can make this trip with little trouble all the way to the end at the main road in the Island in the Sky. You might want to check in town at the visitor center to make sure of road conditions.

After passing the Potash Mine, the road continues through the desert. We have had close photo opportunities of Mountain Sheep along this area of the road. After several miles, the road starts along the cliff overlooking the Colorado River. There are magnificent views along the road. There are switchbacks and narrow curves as the road progresses. During this part of the road you are traveling below Dead Horse Point State Park. As you cross the National Park boundary, the road becomes the Schaefer Trail and gradually begins to rise and eventually comes to the entrance to the White Rim Trail.

You may be able depending on your permit status, to choose to take a short drive on the trail or you can stay on the Schaefer Trail as it climbs through a series of switch backs to the main road in Canyonlands. You can return to Moab either by retracing your way back on the Potash Road or by exiting at the Park at

the main entrance. If you haven't already paid the Park entrance fee, you will have to pay to leave through the official exit. Allow 5 -8 hours.

Along Utah 313, that leads from US 191 to the main entrance to Canyonlands, is the entrance to **Dead Horse Point State Park** (entrance fee \$10, it is not covered by federal passes). The opportunities for photography here are well worth the admission fee. You can take pictures of other vehicles making their way along the Potash Road hundreds of feet below you. Allow 1 hour.

There are other areas for photography that are not in fee areas. Here are some of them:

Kane Creek:

This is one of my favorite drives and although part of this road is very rough in places, it can be done with a 2 wheel drive vehicle. Kane Creek road begins next to the Burger King on US 191. Kane Creek Road travels a couple of miles before becoming gravel. Continue driving until you reach a pull off with large boulder on the right side of the road. It has many small of petroglyphs on it. On one side is the largest – the birthing scene. Such a scene is not found elsewhere. Perhaps it marks the birth of a great chief. Continue driving along the rough road. The road descends eventually to the south bank of the Colorado River, the road greatly improves here. There are numerous large panels of Fremont Culture petroglyphs. You will see many mines that have been made into homes along the road. There is good photography of the cliffs and of river scenes. A short distance from the homes, there is a tiny stream crossing. From here the road is 4 wheel drive vehicle road only. The road goes many miles back into the canyons. There are lots of photo opportunities.

Thompson Springs and Segó Canyon:

Between the two I-70 exits that serve Moab, is exit 187 Thompson Springs. Sometimes there is a working gas station/truck stop, but most of the time Thompson Springs is a ghost town. There are a number of buildings including a hotel and a railroad terminal. They make great images, but don't enter the buildings. It is not clear who owns these buildings and entry may constitute trespassing. The railroad is still active although trains no longer stop here. This is a great stop before continuing on to Moab.

The real treasure here is not the town, it is Segó Canyon. From Thompson Springs a paved road leads to Segó Canyon. When the road ends at a locked gate you have arrived at a very special place. Some of the best Indian petroglyphs are here. Many are from the Anasazi which built the cliff dwelling and great pueblos.. Others are for the Fremont culture which left very little record of their way of life. These can be identified by the images of trapezoidal shaped people. Modern Utes also have petroglyphs that are done in paint. There are signs that will help you learn to identify the different styles of the numerous cultures.

But the major treasure is the Barrier Canyon Culture Pictographs. The Barrier Canyon Culture disappeared around 46 B.C. [Recently there are a number of archeologists who think the Barrier Canyon Culture existed from 1B.C to 1100A.D.]. The only things they left were there giant red paintings mostly of people. There is a great panel that can be photographed.. It is one of the few to which you can drive. Most require many hours of hot desert hiking. The painted images are 8 to 10 feet tall.

In the past you could drive farther on the road although it became gravel. There are several panels of Barrier Canyon rock art, plus the ghost town of Segó beyond the locked gate. We were able to photograph these before the fence and locked gate.

The pictographs at Segó Canyon have been used on numerous UFO TV shows [including *In Search of Ancient Astronauts*] as evidence of ancient astronauts. It is more likely that the pictographs represent tribal leaders or spiritual leaders. Allow 45 minutes to 1 hour.

Utah 128:

One of the best scenic byways is Utah 128. It starts along US 191 on the north side of Moab, just before the bridge over the Colorado River. It ends at I-70. Along the way are the Fisher Towers, Colorado River, river rafters, the turn off for the Castle Valley/La Sal Mountains Byway, which loops back to southern Moab. Even in the summer the La Sal Mountains may have a bit of snow in the high country. It can be a cool refreshing getaway from the hot days in Moab. Expect lots of wildflowers. Near the north end of Utah

is 128 is the ghost town of Cisco. Allow two hours for the road to I-70. Allow 1 hour for Castle Valley Road and 1 hour for Fisher towers.

Ghost Town:

Along Utah 128 about 0.5 miles from I-70 is the Ghost Town of Cisco. It was used as a movie location in several movies including *Vanishing Point* and *Thelma and Louise*. A 24 – 70mm and 70 – 200mm lenses work well here. At times this area has been posted against trespassing. If it is during your visit, you can still get many good photographs from the road. Allow 1 hour.

Goblin Valley State Park:

In the movie *City Slickers II*, Curly's map used drawings of geographical features to mark the route to the gold. One of these was called the frozen people. The frozen people were the goblins in Goblin Valley. They are also known as Hoodoos. The goblins are rock formations that look like not just people but mushrooms, hands, etc. There are no trails just walk among the goblins for photographs, A 24 – 70mm or similar lens works well. Allow one to two hours. Admission fee \$13 per car. There is a campground or you can rent one of two Yurts at the park. The Yurts have a/c. Allow 4 to 6 hours.

Giants- the Great Gallery – Canyonlands National Park Maze District:

The Great Gallery is the best of 20 large panels of Barrier Canyon culture red painted images in Horseshoe canyon. It is reached by a 2 hour drive to the trail head near Goblin Valley State Park. While there is a 4 wheel drive road from the trailhead to the Great Gallery, the National Park Service only allows their vehicles on the road. Ordinary citizens must hike 3 miles to the Great Gallery and three miles back. The trail is very strenuous and hikers are required to carry a minimum of 1 gallon of water and food for one meal. Allow 6 to 7 hours. [these are the same type of barrier canyon culture images that you can photograph at Sege Canyon described above which don't require you to hike more than a couple of minutes from your car.] Never the less the trip to the Great Gallery is a very rewarding hike.

There are many nearby areas that are worth taking a look at as photographic destination if you have some additional days to spend in Utah. Here is a list of destinations in a 100 or so mile radius of Moab:

Natural Bridges National Monument(\$10 or free with pass)

There are three very large arches. Allow 3 to 4 hours.

Mexican Hat

This area, includes Mexican Hat Rock, the Goosenecks, Moki Dugway, and Little Monument Valley, Monument Valley, Hovenweep National Monument [free] and Canyons of the Ancients [free]. Allow 1 to 3 days.

Nine Mile Canyon – Price, Utah:

Nine mile Canyon is a 40 mile long box canyon. It is the world's largest art gallery (30miles+) of ancient rock art including the famous Hunter Panel at the very end. It also has multiple narrow rock wall side canyons, and restored stage stop. The metal telegraph poles that follow the road were put up by the Buffalo Soldiers after the War Between the States. Allow all day.

Mesa Verde National Park[Fee \$10 or free with pass]:

Cliff dwellings and canyons are the main attractions. 1 to 4 days.

Capitol Reef National Park- Torrey Utah:

Capitol Reef (\$10, free with passes above) includes box canyons, rock art, wildflowers, pioneer signatures, and mountain sheep. There are several 4 wheel drive roads. The most spectacular is Cathedral Valley Road. This road should be only attempted by those with 4 wheel drive vehicles. The road starts by fording the Fremont River followed by slick Bentonite Clay, rough rock roads and a quarter mile of quicksand. Great rock formations and magnificent vistas await photographers along the entire road. Also along main road is the remains of farms developed by Mormon pioneers. You are allowed to pick the fruit for personal consumption. Allow 2 days plus an extra day if you take the Cathedral Valley Road. Always check with rangers prior to accessing Cathedral Valley Road.

Escalante-Grand Staircase National Monument:

Lots of rough gravel roads lead to great photo opportunities: Scenics, Metate Arch, rock art, and Petrified Forests. Allow 1 to 5 days.[no fee] Maps are important in this area.

Sand Island Recreation Area:

This small roadside park is 3 miles south of Bluff Utah. Although it is primarily a campground along the San Juan River, it is noted for its very large petroglyph panel.

A visit to the Moab Visitor Center is a must and you can get information on many lesser photographed areas and pictograph and petroglyph areas.

My wife and I have made a number of trips to Moab and we are both certain that you will enjoy the experience. Even if you are planning a trip father west, Moab is a great stopping place on the way.

Perhaps this could be a field trip for the club in the future.

Links to more information about the area follows.

Good places for information on Moab, Utah:

www.discovermoab.com or call at 1-800-635-6622

Moab Information Center (Main Street and Center Streets)

Average Temperatures for Moab

MONTH	HIGH °F	LOW °F
January	41	17
February	51	24
March	61	32
April	72	40
May	82	48
June	93	56

MONTH	HIGH °F	LOW °F
July	98	63
August	96	60
September	87	51
October	73	39
November	56	27
December	44	20

Temperatures provided by the Moab Travel Council

Where to Photograph in August and September

Summer brings the larger and showier wildflowers. Many animals have their babies over the course of the summer. Our summer resident birds are back. Now is the time to start photographing insects including caterpillars, dragonflies and butterflies.

Good areas for summer wildflowers and birds:

Big Bone State Park (Boone County, KY)

Red River Gorge (Slade, KY)
 Lake Leary (Grant County, KY)
 Muscatatuck National Wildlife Refuge (Seymour, Indiana)
 Cincinnati Nature Center
 Your yard
 Public gardens
 Any public area with a pond or lake
 Cincinnati Nature Center
 Parks

Special Interest:

August:

The Appalachian Craft Festival, at Natural Bridge State Park, Slade, KY, August 19,20, 21 offers three days of demonstrations and activities.

September:

The Great Caterpillar Count, Natural Bridge State Park, Slade, KY has 2 days of tours and demonstrations from Sept. 10 to-Sept.11, 2016..The guided tours offer great photo Ops.

2016Club Competitions Subjects:

Pictorial Nature

August	STAIRS/STAIRCASES`	FORMAL OPEN
September	FORMAL OPEN	WATERFOWL
October	BEVERAGE CANS	OPEN
November	FORMAL OPEN	MOUNTAIN(S)/HILL(S)/VALLEY(S)
December	ARCHES/DOORS/WINDOWS	OPEN

Do you have a favorite place to photograph that you are willing to share with other club members? Please write it up and send it to the editor and it will be published in a future edition of In Focus.

Books that may be valuable for Photographers

Close-Up Photograph by Michael Freeman: This book covers close-up and macro photography techniques for a variety of both nature and pictorial subjects. Freeman also shows innovative methods of lighting subjects.

Websites of interest:

These websites may help you with photography:

<http://digital-photography-school.com/how-to-photograph-sunrises-and-sunsets/>

<http://extreme-macro.co.uk/focus-stacking/>

<http://www.earthboundlight.com/phototips/focus-stacking-software-photoshop-helicon-combine-zp-zerene.html>

Technique: A Primer on Insect and other Small Critter Photography

Summer is the perfect time to start photographing insects. Most of these images are going to be either macro or near macro close ups. A few insects and Arachnids are a bit too large for macro photography unless you only photograph parts of the animals. Some animals that fall into this latter group include some butterflies, many praying mantises, and many spiders. I don't photograph spiders! It maybe that I have a phobia about spiders, but I think it is just common sense to avoid spiders.

Where do we find insects? They are everywhere, but one of the best places may be in your own yard. You will need a camera body and a macro lens. Or you can use any number of short focal length lenses and extension tubes.

When selecting macro lenses, you will have a bit more flexibility if you use a macro lens of 200mm or so. It will be somewhat more expensive than shorter macro lenses. This length of lens gives you a bit more working distance. This allows you to get more light to the subject and with shorter lenses it can be harder to get close insects such as butterflies and dragonflies without spooking them. If you are insistent on photographing spiders you should use a 600mm lens and a bunch of extension tubes. Okay, I'm just joking. But I would still use the longest focal length macro lens I could afford.

1:1 is the reproduction factor. 1:1 means the image on the film or sensor is the same size as the subject. 1x means the magnification of the subject on the film or sensor. A reproduction ratio of 1:2 means half size on the film or sensor. 0.5x means the image on the film or sensor is half the life size of the subject.

If you prefer to use extension tubes, you can make standard lenses able to focus to as close as macro lens. If you have a 50mm non-macro lens, the addition of 50mm of extension will allow it to focus to 1:1. You can use a single tube or 2 or more tubes to get that 50mm of extension. For large insects it may not be necessary for 1:1 magnification ratio (1X magnification) . Butterflies and dragonflies need only a 25mm tube or maybe only a 12mm tube.

Using longer lenses with extension tubes becomes problematic quickly. A 100mm lens can focus to 1:1 by adding 100mm of extension. That is a lot of extension and probably would be difficult to handle. The longer the lens, the less practical extension tubes becomes. The example above of using a 600 mm. lens to photograph spiders is clearly not practical. And of course who really wants to photograph spiders? However I use one or even two 25mm extension tubes to reduce the minimum focus distance for photographing small birds or other small animals. The extension needed to focus a 600mm to a macro range while possible is definitely not practical. But for a 50mm lens it is very practical.

You must of course buy tubes that fit your camera. You want tubes that couple together and work automatically with your camera. Older style tubes required a hand held meter and calculation of exposure because there is light lost in using tubes. That has been solved with automatic tubes. You can buy individual tubes or sets of several tubes for different effects.

For most photography I recommend using a good solid tripod, but in some cases the use of tripods is impossible. Butterflies are one example of an insect that moves fast and is unpredictable as to the next perch. Fast shutter speeds are necessary as are small apertures. You could use higher ISOs or flash for this situation.

Other insects such as dragonflies move fast but usually return to the same perch so tripods work well. Tripods work well in this case.

Aperture is an important part of insect photography. As lenses are focused closer and closer, depth of field gets less and less. The following table gives you the depth of field in mm at different magnification ratios, for different apertures. This will give you information you can use to choose the aperture needed for your subject.

Depth of Field Table in mm:

Reproduction Ratio	Magnification	f5.6	f8	f11	f16	f22	f32
1:10	0.1x	41	59	81	117	160	232
1:5	0.2x	14	16	22	32	45	64
1:3	0.33x	4.5	6.4	8.8	12.8	17.6	26
1:2	0.5x	2.2	3.2	4.4	6.4	8.8	12.8
1:1.5	0.6x	1.7	2	3.3	4	6.6	8
1:1	1x	0.8	1.1	1.6	2.1	3	4.2

Note that as the magnification ratio gets larger the depth of field gets so small that a tripod becomes more necessary, no matter what the shutter speed used.

As the aperture gets smaller, the likelihood of diffraction gets greater. You may have to balance sharpness with depth of field. True macro lenses (those focusing to 1x or greater) generally have fewer issues with diffraction due to their construction.

Depth of field can also be increased by using one of the various image stacking programs such as Helicon Focus.

This summer check out flowers for insects and spiders. If you check Queen Anne's lace you may find several species of Swallowtail butterfly caterpillars and milkweed often yields Monarch caterpillars. There are lots of great subjects for photography available now.

Tech Tip: Dealing with Noise in High ISO Images

Photographers generally don't like noise unless they are trying to create an image that looks like Tri-X film or other high grain films of the past. The vast majority of photographers want very low noise in their images whether presented as PDIs or Prints.

Noise looks a lot like grain in film photography and is generally caused by one of four reasons: long exposure, using high ISOs, big crops of images or making prints too large.

Long Exposures :

Long exposures cause noise in digital images. The longer the exposure, the hotter the sensor gets. The hotter the sensor gets the more noise is generated. Most cameras have Long Exposure Noise Reduction settings that lower noise. Unfortunately, these noise reduction settings generally reduce sharpness. They sometime also remove some of the subject.

High ISOs:

Cameras are getting better with high ISOs. Still, I always suggest the use of the lowest ISO that works for your particular imaging needs. However, sometimes high ISOs are needed. It is wise to experiment with your camera or cameras to determine what the maximum level of noise that you can tolerate. That will vary a bit among photographers.

Just a few years ago, cameras had top ISOs of about 2000, but most photographers didn't use ISOs higher than 400. Higher ISOs were just too noisy. Today cameras may have marked ISOs of as much as one million. Most photographers will probably not find ISOs of one million acceptable yet, but it does show that cameras are rapidly expanding the possible ISOs that can be used. My camera is a few years old and I find that my maximum acceptable ISO is 6400. I still use 100 most of the time, but I know in low light when I can't use a tripod, I can go up to as much as 6400 if it is necessary. If my camera were newer, that personal maximum level would most likely be quite a bit higher. Possibly the maximum acceptable ISO would be 12,800 or maybe considerably higher. Perhaps it could be 25,000 or 50,000.

Some cameras have ISOs below the lowest marked ISO. These are often labeled Lo1, lo 0.7 and Lo .03 or similar. These settings are also noise generators and should be used only if absolutely necessary.

Most Cameras have High ISO Noise Reduction settings. As in the case of Long Exposure Noise Reduction, these features also tend to reduce sharpness. You will have

to decide whether the High ISO Noise Reduction feature makes things better or if it reduces sharpness too much.

Big Cropping:

The greatest cause of noisy images is big cropping. Digital cameras and photo editing programs have made us somewhat lazy. We make images and then fix them in Photoshop. When serious amateur photographers used transparency film, they strove to fill the frame. Frankly that isn't common with digital. There is a maximum crop level before you get images that are too noisy for your standards of imaging.

Just as when using film, filling the frame of the digital image is still just as important in making great images. The greater the crop, the greater the noise and at some point it becomes unacceptable.

There are two ways to fill the frame, either get longer lenses or get closer to the subject. Getting closer is cheaper. The late Joe Dimaggio [the photographer not the baseball player] made the following statement about the \$150,000 1200mm to 1600mm zoom Nikkor: "You should buy a used VW Beetle and drive back and forth to your subject. It's a lot cheaper."

Most of the time, it is pretty easy to get closer to our subject. However this does point out a common problem. Most photographers buy lenses without thinking about what lenses they really need. Photographers today own an average of 1.5 lenses. That isn't necessarily a problem as long as these lenses meet their need. By the way those of you with 1.5 lenses, what do you do with half a lens?

Big Enlargements:

The flip side of the issue of big crops is enlarging images too much. Every camera has a maximum image size. This varies because of the number of megapixels, the quality of those megapixels, the resolution of the lens and the amount of cropping by the photographer. Short of buying new cameras and lenses, the photographer has to be realistic about cropping. Filling the frame to minimizing cropping is the way to fixing this.

Think about this example. I currently use the 36.3 megapixel Nikon D800. It is a full frame format camera. If I simply crop the images to the DX format, I only create a 15megapixel image. Obviously that cropped image is not capable of being enlarged as much as the image I can make of the same subject using all 36.3 megapixels.

A Solution:

There is a solution that may help if you have already created images with noise or if in-camera noise reduction programs and the strategies above have failed to help. There are a number of noise reduction Photoshop plugins to reduce noise. My personal favorite is Denoise by Topaz Labs. It reduces noise with minimal reduction in sharpness.

Noise can cause problems in digital photography. My hope is that these techniques will help you manage noise.