

The Essentials of Nature Photography

Second Edition

by Milton Heiberg



Nature & Wildlife Photography

If you are an outdoor person, lover of nature, and own a DSLR or DSLM (the M is for Mirrorless), then this book is for you. It is somewhat interesting, and sometimes detailed and boring, but read those parts anyway—because it will get you to where you need to be with your nature and wildlife photography.



The Essentials of Nature Photography, 2nd Edition
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Foreword

February 1984, about 3 1/3 decades ago, I took a course in nature photography taught by Milton Heiberg: two hours every Tuesday night for eight weeks at the offices of *The New York City Audubon Society*. It was the only formal instruction in photography that I ever received. Milton must have been a very good teacher because I have done OK with my photography since then.

Milton Heiberg and I have long shared the same passions: nature—including and especially bird photography—capturing images of the things that we love to share with others, and teaching—sharing what we know so that others might improve their skills and their results.

In his latest book, *The Essentials of Nature Photography*, Second Edition, Milton will teach you the basics that you will need to get started making great images of birds and animals and flowers and bugs and landscapes and snakes and turtles and gators and the rest. His galleries will inspire you, and his words, written clearly and with purpose, will instruct you.

Knowing what gear to choose is an essential. Understanding your camera and exposure are essentials. Understanding depth of field is an essential. Learning to evaluate a situation and to design a pleasing image are essentials. Knowing what to do in the field and understanding histograms when you are there are essentials. Having a clue as to what to do when you get your images onto your computer is an essential. Know how to use flash effectively is an essential.

Milton taught me the essentials of nature photography. In this latest book, he will do the same for you.

Arthur Morris/BIRDS AS ART

www.BIRDSASART-Blog.com

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Indian Lake Estates, FL.

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Dedication

This volume is the eighth book that I have written on photography; two were as a ghost writer for other photographers, and five were under my own name. This is also the second edition of the original book about my first love in photography—*The Essentials of Nature Photography*. That original edition was dedicated to “The Noble Red Fox.” So I feel compelled to mention what one reader of the first edition, Carol Johnson, brought to me.

Carol and her husband Rick live in a rural area of central Florida, and happen to have a family of Red Fox (*Vulpes vulpes*) living on their property. When a litter was born she invited me to take pictures of them. I took her up on her offer, and found out just how skittish a Red Fox can be, especially with kits—probably from dodging bullets from hunters like me. So . . . three years later I got some decent pictures. One of which appears here, and others throughout this book. With that, I’m compelled to reprint the dedication page from the first edition of *The Essentials of Nature Photography*.



Dedication from

The Essentials of Nature Photography (1st Ed.)

Who we are today depends greatly on where we were in our early years and who we were with, who impressed us most. I think that is what contributed to my finally becoming a nature photographer. I was born in 1937, which brought me through World War II as a wide-eyed little kid whose relatives and family friends of the draft age had many exciting war stories to tell. And I listened to them all.

Also at this young age I was able to observe personality traits in these men that I wouldn’t be able to interpret until many years later. To make a long story short, these men went through hell and wanted to both tell their story and get back to the things they missed. In 1946 it was nature’s peaceful tranquility. The excuse to be there was hunting and fishing in the Catskill and Adirondack regions of New York State. Even though they were there to “kill” wild animals, they had a deep appreciation for these animals and the environment that supported them. That generation of hunters were the people who laid the foundation for the wilderness preservation that we fight for today. But more about that later.

These men were my mentors, and I, also, became a hunter, and too good a shot for my own conscience. Killing an animal for sport with the excuse of feeding myself only went so far.

One day in my fifteenth year, I shot the noble Red Fox who stood atop of a farmer’s rock fence. Under the guise of saving the farmer’s chickens, I convinced myself that I was doing the right thing. It was a beautiful sight in silhouette, and a perfect target. I fired my .22 caliber rifle and the fox spun a quarter turn and fell behind the rocks. I ran to the top of the hill and found a trail of blood going into a space between the rocks that accompanied a carefully dug, well-traveled entrance to a den about five feet from the point of impact. I had more than an empty feeling.

The fox should have been dead, but he wasn’t. He was down in that hole dying slowly. I caused that suffering and there was nothing I could do to undo the wrong or to end the pain. I hunted again for the love of being there, but never lifted my rifle to another living animal.

**I would like to dedicate this book
to the memory of the noble Red Fox
to whom I wish I had aimed my camera**

How to Use This Book

When I pick up a book, I peruse through the table of contents and go to something in that book that interests me at the moment. Read a few paragraphs of that section and wonder what in the world this author is talking about. Then go back, start from the beginning, and find out. It's a reader's choice of course. But if you are a professional, this is a reference book. If you are a novice, start at page 1, and read all parts in sequence.

Part I The Bare Essentials Consider this book as a holistic approach to nature photography. I have covered the basics of individual topics of camera, lenses, digital darkroom. The details of usage are covered more thoroughly in the specialty chapters of Part II, where they should make more sense. If you are a seasoned photographer, and already use Photoshop and Lightroom, you might want to skim through these Part I chapters as a refresher, and use this book as a reference guide. BTW: if you see something that needs updating, or further explaining to a novice photographer, I would certainly appreciate you're sharing it with me for future editions. My email address is photonat@cfl.rr.com. No spamming please.

Part II You & Your Subject I said it before and I'll say it again—*"Love your subject more than your camera."* These chapters discuss how to handle yourself and your gear with respect to your subject, and make great photos. Each chapter is subject specific, and is based on my experiences in the field. If you are a naturalist of any level, and you are enthusiastically trying to capture photos of your chosen subject, then you are in good company. Read the chapters of your choice—and why not all of them. If you are a bird watcher like me, read that chapter, of course, but you may find bits of information in the other chapters that would apply to your specific work. BTW: The rules of composition for all subjects and/or species are discussed in the chapter on

Landscapes. Composition is more graphically described in a landscape, but can be applied to all of photography in general.

Nature is a beautiful and mysterious place. I say that with tongue in cheek. An old friend, a city girl who I was trying to influence with the beauty of the outdoors—after being bitten by a mosquito, told me “. . . Yes, nature is beautiful—IN ITS PLACE!” I handed her the insect repellent. The message in these chapters is preparation for field work—including insect repellent and sun block. But also keeping in mind the processing (the other half) of digital photography while clicking the shutter (ie, Photoshop and Lightroom). Think holistically.

Galleries (at the end of each chapter of Part II) This is a bit of braggadocio on my part, but it can be of significant value as examples of having a point of view, and a method of approach and execution. I tried to choose the best work that would convey that message, and discuss the qualities I thought made each photo work. They were selected with a little bit of bickering with Danielle (my editor, wife, and best critic) and include some of what she saw in them as well as my own experience in making them. Also, if you are a pixel-peeping techy, and must know the f/stop and shutter speed (Aaarrrgh!), the gallery captions will contain that metadata.

Part III Odds & Ends I didn't know what else to call this collection. These are tidbits of information that are worthwhile knowing by themselves, and did not fit in with any particular chapter without being disruptive to that chapter's flow or continuity.

BTW: To quickly get around the pages of this book, click on the TOC (table of contents) entries of your choice. To return to the TOC, simply click on the center of the bottom page margin of any page.



Chapter 3

Camera Basics— Know Your Equipment

Before we set up your camera, let's take a look at what the camera is doing. Then we will get into how you can make the camera do what *you* want. Skip this section if you understand the relationship between **Aperture**, **Shutter speed**, and **Depth of field**, and how these camera settings effect your photo. If you are fuzzy with this topic, please refresh yourself by reviewing these basics before setting up your camera.

Camera Setting Relationships

Exposure

I frequently get questions about my photography. Some are quite good, and some are . . . well?!

- **Question:** What's your favorite lens? **Answer:** Any lens that gives me the perspective or angle of view that I'm looking for.
- **Question:** What's your favorite f/stop? (Aaargh!!) **Answer:** Any f/stop that gives me the depth of field that I'm looking for. If it's a landscape, the smallest aperture I can use without losing too much light or shutter speed. If it's a portrait, human or other species, then the largest aperture for minimum depth of field for a soft blurry background. Or if you simply need the

fastest shutter speed for an action shot, the widest aperture of that particular lens will give me the fastest shutter speed to stop the action.

Therefore, let's talk about exposure. There are three basic variables within the exposure of an image: Aperture, Shutter speed, and ISO.

- **Aperture:** The size of the hole (opening of the lens' diaphragm) that allows light to enter the camera.
- **Shutter speed:** The length of time the shutter remains open to let the light pass through it.
- **ISO** (International Standards Organization—formerly ASA, America Standards Association): The capacity of a digital focal plane sensor (or film) to collect enough, and only enough light for a desirable image.

Most DSLR camera light meter systems let you, the photographer, set one or two of these variables, and the system will select the second and/or third to give you a proper exposure. Many seasoned photographers by-

Digital Darkroom Basics

This is the other half of digital photography that I've been talking about. Let's discuss artwork. If you think of photography as an art, as most people do. And you think about yourself as an artist—as you should. Then think of what you are doing with the camera as creating “artwork.” Not just creating “art.” Your picture making should be done with the computer processing in mind. Consider taking pictures as the art, and processing as the work. Not that one can't be the other. Sometimes we work very hard at planning and getting a great photo, and the inspirational art is born in the computer. The point is you can't have one without the other.

Workflow

The photographer's workflow as I see it, has three major parts.

1. The Camera

Preparing the camera equipment for maximum creativity.

- Shooting mode: A (Nikon), Av (Canon), or M (any other camera)
- Settings: RAW, RGB 1998, Neutral Picture Style
- Watch closely: Histogram + Exposure Compensation Scale
- Philosophy: Creative Imagination

2. The Computer

Storing and processing the images for output.

- Organize: Library—Date, File number, & Location
- Tools: Lightroom, Photoshop, NIK/Google software plug-ins
- Enhancement: Make SHADOW-HIGHLIGHT-CONTRAST preset (see processing later in this chapter).

3. The Show

Your visual message to the viewer

- Social media, web site, slide shows, or prints: Direct from Lightroom
- Other media: Export at 300dpi or full size

The Camera: Set-up

For a complete discussion of camera set-up see page 17 of this chapter.

To review: In the camera's menu, make the following settings:

- A or Av shooting mode. You set the aperture, and the camera sets the shutter speed (manual mode—with training wheels). Or, be familiar with the manual mode—and use it.
- Quality—RAW
- Color space—Adobe RGB 1998
- Picture style—Neutral
- Watch the histogram: The most workable data are in the right-side two-thirds of the graph. Too far to the left loses shadow detail. Too far to the right risks highlight *blowouts* if the data goes past the limits of the f/stop's dynamic range.

Figures 3.17 & 3.18 in the preceding section of this chapter show where most of the best data are in a RAW image

Use the Exposure Compensation Scale: It appears in both the back screen and the eye piece. Get used to using the eye piece so as not to take your eye away from the scene. It should look something like this:

-3 -2 -1 0 +1 +2 +3

To increase or decrease the exposure, find the button on the camera that looks like this:  Many camera models require you to depress this button while turning the control wheel.

TIP: Don't forget to set it back to “0” for the next scene :-).

The Computer: Library, Processing, & Storage

Organization: The advantage of a well-thought-out system is finding an image quickly—or finding it at all. So I label and store all photos using the procedures mentioned below in Lightroom's Library Mode.

Part II

You & Your Subject

I hate to sound like a skipping CD, and as a nature photographer, I'm assuming you love nature . . . anyway . . . you know the drill—love your subject more than your camera.

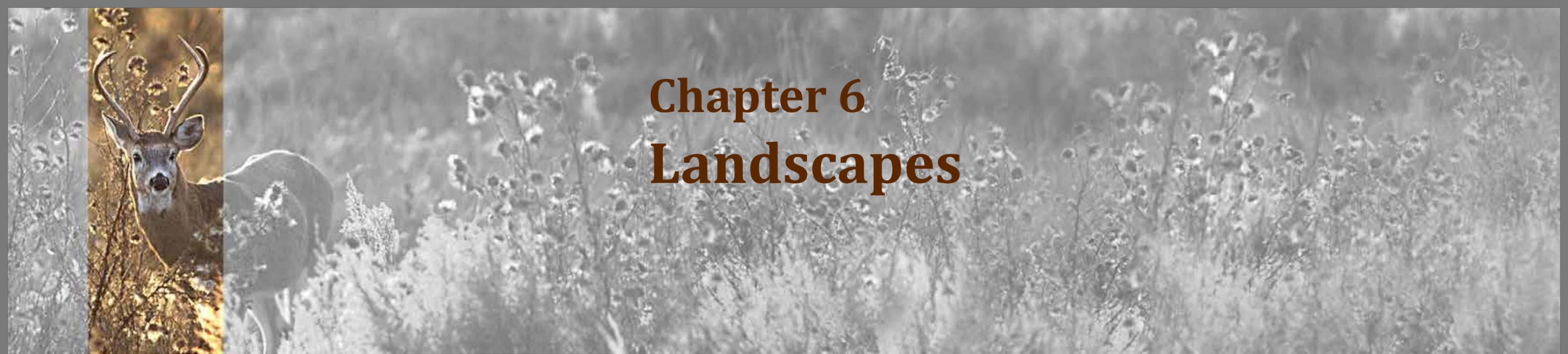
Know your subject well, and know yourself well. In other words, how far can you go with your subject before you may be crossing boundaries. Paparazzi cross boundaries, and so do nature photographers. The trouble is, nature photographers cross them unseen, and usually don't get caught. You may be confident to take risks for your own safety, and I hope you survive those risks. If you take risks that damage the lifestyle and survival of wildlife species, you may get away with it for a while—or always. But if you really, REALLY love your subject (more than your camera), you will find a way to reach your goals without disturbing the subject, and really, REALLY get better photos.

I won't preach any morality in the forthcoming chapters. And I can't give you all you need to know about your specific subjects or yourself. But I will give you all that I can about the situations that I've experienced within the limits of these pages, and wish you the best with good fortune and great photos.



Chapter 6

Landscapes



With landscape photography, as with all nature photography, one basic rule holds true: Yes! Love your subject more than your camera. When this attitude is applied to landscape photography, it means that you are going on a nature walk to examine and appreciate the sand dunes along a barrier reef, the rock formations of a canyon wall, or the sunrise over a favorite pond. You are not going out to “shoot landscapes.” Only after you have appreciated and studied a particular niche of nature’s beauty are you able to record an image of the visual elements that evoke the emotions.

In this chapter we will try to analyze and break down an emotional subject into the hard cold *visual* parts that evoke the emotion. (Ouch!)

Seeing Landscapes

How does one see landscapes? Examine both the scene and the emotion. Is the scene beautiful in itself, or is it moderately good but helped by the sweet smell of jasmine in the air, or by the mood you bring to the scene? Even when looking at the camera’s viewing screen you are still there smelling the jasmine—so to speak. A scene can visually fool you when stimuli to the other senses are present in the same way that a person of average good looks can suddenly take on a new and “visually” beautiful dimension by that person’s verbal charm. That same “charm” may or may not photo-

graph well. So whether your subject is a person, place, or inanimate object, look for the visual qualities.

Content

Content is what is in the picture. It is usually where your eye went first when you came upon the scene. It’s what grabbed you. So, before you put the camera on the scene, examine its content—its main subject (where your eye went first), its supporting subjects, and its forms of composition. Try this little test. Make a rectangle with your hands and frame the area that you think looks good. Bring your hands/frame in closer to your eyes to include more of the scene, and farther away from you to include less. Once you have decided that the content of the scene really is beautiful without music or fragrance, examine the scene still further to determine its visual essence. Is it the broad expanse of the color spectrum on the pre-sunrise horizon? Or is it one segment of the forest where the dark, wet tree trunks stand in contrast to the mist that engulfs the forest? Whatever the visual stimuli may be, isolate the scene in the viewfinder and examine it further.



Figure 6.1 This scene invites the viewer into the photographer's world by allowing enough foreground to mentally step into it and walk across the footbridge and under the arch.

Also note that by lowering the camera to the level of the wooden bridge's handrail, the wide path area was minimized to a size that is in balance with the rest of the forms in the composition.

This isolation may mean zooming in or out, or changing to a lens that better fits the scene, or moving to a better location. Train yourself to become visually sensitive to what makes a good picture. Then, put it in a comfortable space on the frame. Think in terms of *making* the picture. Also consider the *Rules of Composition* described in Chapter 4.

One more important consideration while you are standing there enjoying the scene. You are making this picture for other viewers to enjoy. It is your message that you are sending to the viewer. Wherever applicable, invite the viewer into the scene with some foreground—just enough to mentally step into, and not be an overwhelming form (Figure 6.1).

Once you have isolated the content and subject area in a comfortable frame, re-examine it for form and lighting. If lighting was the original emotion-

provoking element, as it so often is, then you'd best make the exposure quickly before the light changes. If the lighting is less than perfect, you may do better at a different time of day or under different weather conditions.

Here's a few things that help a good landscape photograph:

- A slight overcast will make harsh shadows disappear.
- Fog may block out an undesirable background.
- Backlighting at a different time of day may add a glow to foliage.
- Mountains may be more dramatic if their tops disappeared into storm clouds.
- Consider seasonal changes from spring flowers to fall foliage or snow.

Landscape Gallery

If you count the Sinai peninsula as part Africa, and if I stuck my big toe in Jordan as setting foot in Asia, then I can say that I've explored five continents. No! I am not a world traveler, but I got around to see some of it. I am not the Anthony Bourdain-type of traveler, and stay away from the world's finest restaurants. As a naturalist, I favor the outdoors where you can be eaten by wild animals, by attacked fire ants or fall off a cliff. But it's worth it. I'd rather die happy in a place that I love than die of boredom waiting for a surly waiter to bring me food poisoning.

Have I gone too far? Perhaps! But at least you know where my heart is. I'm at home in any one of mother earth's many beautiful places. It may be lost in the mountains somewhere on the Appalachian Trail, floating on a lazy river in a small boat, or on a horse in the desert. But always with a camera.

If you ask, "why bring a camera?" I'll have to ask you why you bought this book. If you love the outdoors, you won't ask. And you will bring a camera, and bring home something beautiful to show friends where you've been. And when the photos are really good, your friends will wish they had been there with you. That's what landscape photography is all about. A good landscape photo is the artistic expression that serves as your trophy to others, and a beautiful memory of mother earth for yourself.

In this gallery, as in all of my photography, I'm concerned with my work as my art. Not to be judged by anyone but me! I submit it here for you to possibly see its merits or demerits that you may or may not agree with. But from my end, I hope you can learn from it, and pick up a thing or two that will benefit your art.

If you are, or possibly become, addicted to this avocation and want to improve your skills, then I highly recommend that you

join a local camera club. Camera clubs are great for an exchange of ideas, and measuring your work against the talents and styles of others. I say this with a bit of caution. As a studio owner and avid nature photographer, I was frequently asked to judge camera club competitions. After a few years of this, I caught the rumors that ". . . Hey! Milton's judging, . . . get your best bird photos in." That usually meant disaster for me. I didn't see member's best of what they loved. I saw bad examples of what I did best. So! Don't make photos for judges! Make great photos of what you love! For yourself—not for a judge! And if the judge doesn't agree with your greatness, he or she just doesn't see things through your eyes—don't take it personal. Just listen to any constructive criticism that may help you improve what you see and how you show it to the viewers of your art.

I also must add a word of caution to nature photography competition including and beyond camera clubs. There are strict rules in nature photography competition: "No sign of human interference in the photo" and/or "No manipulation of the photo other than would be acceptable by normal color, density, and spotting enhancements." In other words: be careful what you do in Photoshop.

This is true with a contest that I have been part of since 1998 here in Central Florida. The prestigious *Chertok Nature Photography Contest* requires all of the above rules plus: "No non-native to Florida species of flora or fauna should appear within the frame." I came to accept this rule after learning of the tumultuous disturbance of Florida's natural environment and wildlife habitat due to human intervention that could have been controlled intelligently.

There are other rules in many contests that are less sticky, and you can do anything that will WOW! the judges.



Saint Johns River, FL

Very early spring, when the ground is still cold and mist rises from ponds, rivers, or wet ground. This offers opportunities to capture the misty mood shot.

Canon EOS 7D, f/8 +1, 1/1000 sec., ISO 400 Canon 100-400mm f/4-5.6L at 100mm, Handheld from a boat



Orlando Wetlands Park, FL

This is my favorite place to be for a sunrise landscape shoot. I come here quite often, and once in a while something as good as this happens.

Canon EOS 20D, Canon 100-40mm F4-5.6L, f/7.1, 1/250 sec. -0.33, ISO 100



Anticipation 101

Coyote *Canis latrans*
Bosque Del Apache, Santa Fe, New Mexico

This is a lesson in anticipation, when things just might go right. In this case things did.

I missed the splash as a coyote jumped into the lake to catch her duck. And by the time I got to the 500mm lens/camera already on the tripod, she had finished the quick mercy killing—breaking the pintail's neck (1). She picked up the duck and trotted westward (2) toward the road that I was on. In hopes that she would turn south at the road, toward me, I moved to the west side of the road to gain what little cover there was from tall grass. She did! (3)

Knowing that canines depend more on scent than vision, and witnessing that she just had a snout full of water catching that duck, I froze! The only motion was a slight shift in the ball head of my tripod and the shutter release button. Which was activated exactly 78 times for the 3 minutes and 44 seconds of duration—starting at 6:27:27pm. Isn't digital photography wonderful? Automatic notes!

She got close enough for several eye contact shots, of which number 5 is my favorite. It was supper time for both of us, and seeing the hungry look in my eyes, she jumped through the grasses and trotted across the corn field (6).

(All) Canon EOS 5D Mark II, Canon EF500mm f/4L IS USM, f/8, 1/250 sec. -1, ISO 200, Gitzo 548 tripod w/Wimberly head.



Chapter 8

Bird Photography



Of all nature photography subjects, birds present the biggest challenge. So, if you are serious about becoming a good bird photographer, then—as I mentioned in my *Top Ten List*—study the masters (Chapter 10, #5 on the list). There I mentioned Ansel Adams and Elliot Porter as teaching me how to make pictures through their works.

Becoming a Bird Photographer

But when it comes to bird photography, I have to refer you to one of my students, Arthur Morris. A few years after attending my *Nature Photography* class at the New York City Audubon Society in 1984, Artie became known as the world’s premier bird photographer—a title he holds to this day, and which will probably remain long after we’re all gone. The most thorough interview with him was on the TV series *Understanding Photography* with Peggy Farren on September 9, 2016. He not only talks about bird photography tips, but gives much philosophical advice and his own history of what makes him tick. And, yes—it’s on YouTube at:

<https://www.youtube.com/watch?v=HMaV4pwfYyU>

The video is almost book length (1 hour & 27 minutes), so prepare to relax and enjoy, and take notes. In it he also shows some of the most beautiful bird photos you will ever see, and describes how he made them.

BTW: Artie is a perfect example of what I repeat ad nauseam— “Love your

subject more than your camera.” Artie loves birds. Who else in his right mind would slam a \$6,000 lens into the mud just to get down on the level of his subject (Figure 8.1)?

Bird photography is hard work, but very rewarding as you begin to accomplish photos worthy of a print or contest entry. I found it to be my most enjoyable, interesting, absorbing, and educational—and working with some of the most beautiful subjects in nature. I became a bird photographer mostly because of my grandfather’s advice.

My grandfather often jokingly said, “If your pleasure interferes with your business, give up the business.” I understood that as a joke, but I also saw that it was what he did. He loved typography and printing as a hobby,



Figure 8.1 Artie Morris practicing “Love your subject . . .” Who else in his right mind would slam a \$6,000 lens into the mud just to get down on the level of his subject?

quit his day job, and started The Brooklyn Press, Inc., which became the Heiberg's family business. I spent the years of my youth working there with him, and saw how happy he was. He never retired, worked seven days a week in the shop, and died at age ninety—from an accident in the shop. That sent me a message! While I enjoyed working with my grandfather, the lure of birding and my talent as an amateur photographer led me to quit my day job, and become a nature photographer with a specialty in bird photography. I never looked back!

Preparation

With that, the bird photography challenges dropped into my lap. I thought I was good at bird photography until I had to do more than just a sitting bird portrait. The only books worth reading on bird photography were *I Went to the Woods* by Ron Austing, and *Art of Bird Photography* by Eric Hosking. But as good as they were, they are long outdated. Long lenses were clumsy to work with, and film was expensive. So being a bird photographer meant being self taught. And while the academics of birds were overwhelming, I found the best way to learn about bird behavior is to spend time watching them myself.

These days equipment is superb, and there are a multitude of books on bird behavior and bird photography. The one book on bird photography I have to recommend, is the very first completely comprehensible book ever written on the subject. That is Arthur Morris' *The Art of Bird Photography*. It has been called the Bible of bird photography—published in the 1990s, now in its second edition.

Study and Research

Know the birds. Birding is a popular hobby these days. If you are not a birder, then think about becoming



Figure 8.2 Author getting to know the birds. On assignment in Tiberias, Israel, my daughter Kim Ann (also my assistant) found this Palm Dove that had fallen out of the nest just outside of our location studio. She took this photo, and returned the bird to the nest.

one. At least hang out with someone who is. You do not have to be a diehard life-list keeper in competition with other birders. To me the competition part of birding always seemed a bit silly. Especially after seeing the *The Big Year* movie. A great film, but that kind of birder I am not!

The first thing you might want to do is get a good field guide. The oldest traditional guide is *Field Guide to the Birds* by Roger Tory Peterson. Original edition was 1933. The latest of many revisions is 2010 as of this printing. Another popular book is *The Sibley Guide to the Birds* by David Allen Sibley. Also, for a reference text is *The Sibley Guide to Bird Life and Behavior* by the same author.

But don't spend all of your time in the library. Put the field guide in your back pocket (It probably won't fit in that pocket—so buy cargo pants :-)), and get out in the field. If you hate cargo pants or carrying extra weight, I don't blame you, so get a bird ID app for your cell phone. I like National Audubon's *Audubon Birds Pro - A Field Guide to North American Birds*.

Get to really know the birds. And let the birds get to know you (Figures 8.2 & 8.3). What I found to be true is—if you have the patience and you are relaxed around birds, especially shorebirds, they will come closer. In fact, as I was taking the photos in Figures 8.4 through 8.6, some of the sandpipers and plovers were walking in front of the lens, and blurring the shots I was trying to get at a distance. One actually jumped on top of my lens to get past it.

Equipment

The challenge of equipment is its size, weight, learning curve, and expense. Bird feathers and features must be very sharp, and the best quality lenses are expensive. As mentioned earlier in this volume, buy the camera and



Figure 8.3 Let the birds get to know you. When this woman stepped out of her house with a jar of millet, this starling greeted her.

Behavioral



A Study in Animal Behavior—He scolds!

Bald Eagle *Haliaeetus leucocephalus*

If you think marital problems are a strictly a human dilemma, then spend some time bird watching. I had no idea what they said to each other, but it couldn't be much different from the last encounter with your spouse. The time stamps on my exposure files counted 3 hours and 10 minutes beginning at sunrise. For the full photo essay of this "X" rated event, go to:

<http://www.miltonheiberg.com/WEB-SLIDE-SHOWS/Bald-Eagles-Mating/index.html>

Canon EOS 7D, Canon 500mm f/4 AF IS lens, f/8, 1/350 sec. +1.5, ISO 200, Gitzo 548 tripod w/Wimberly head

She retaliates!



She wins!



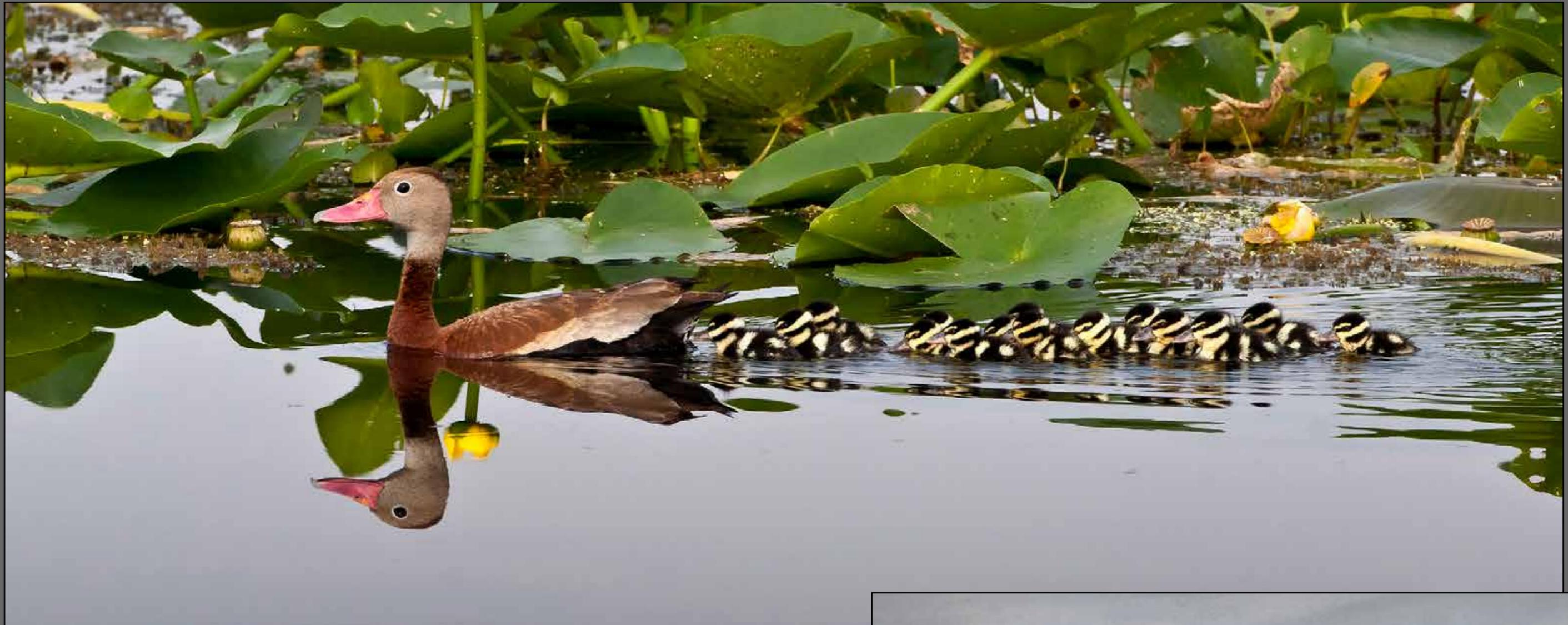


Eye Contact

Osprey Pandion haliaetus

If the viewer of your photography is a human, as I expect the case to be, then that human will probably not escape the pair of eyes staring at him or her. It's human nature. Or better yet, it is animal nature. Ospreys are good at this. They have a habit of staring back at you, even while they are just flying by. They, more than most other raptors, have a very intimidating stare—and I have a hunch that they know it.

Canon EOS 7D Mark II, Canon 7D, Canon EF100-400mm f/4.5-5.6L IS II USM lens at 400mm, f/5.6, 1/1000 sec. +1.5, ISO 400, handheld



Precocial Birds

Black-bellied Whistling-Duck *Dendrocygna autumnalis*

Top: Most Anatidae (Ducks, Geese, and Swans) are able to swim and feed themselves almost immediately at birth. They instinctively follow their mother into the water, and follow her everywhere. They reproduce in large numbers—a safety feature due to the high mortality rate from underwater predators such as large fish, snakes, turtles, and alligators. The brood in these photos show fourteen ducklings.

Right: An example of seize the moment. Precocial birds seem to know who the leader is, right out of the eggshell. This happens, but not that often in front of my camera.

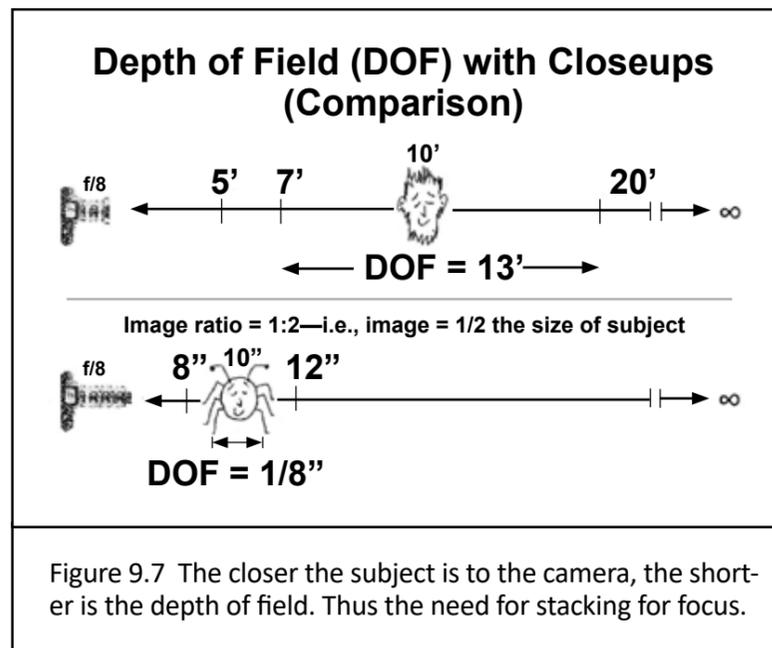
Top: Canon EOS 10D, Canon EF500mm f/4L IS USM lens, f/11, 1/750sec., ISO 800, Gitzo 548 tripod w/Wimberly head
Right: Canon EOS 10D, Canon EF500mm f/4L IS USM lens, f/11, 1/125 sec., ISO 200, Gitzo 548 tripod w/Wimberly head



to accomplish this is to fix the lens-to-focal plane distance and move the whole camera-bellows-lens assembly back and forth on a focusing rail.

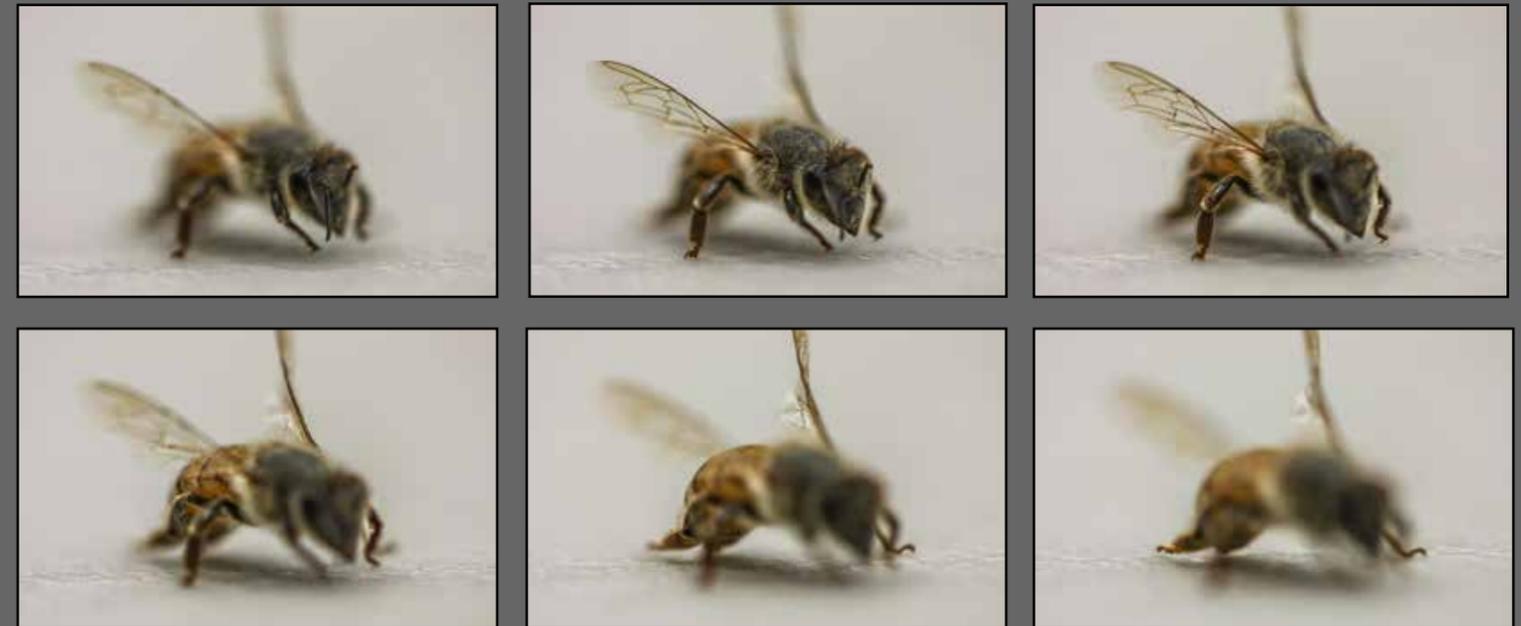
- First, establish the image size with the lens-to-focal-plane distance.
- Then, move the camera-lens assembly back and forth until the subject is in perfect focus.

Until you get the knack of this arrangement, you may have to keep adjusting the lens-to-focal plane distance as you move the whole camera assembly back and forth to balance the right size and distance in the viewfinder. Once the right size is attained, perfect focus may be attained with significantly little change in image size (Figure 9.6).



Stacking for Focus (see steps on following page)

This technique involves taking a series of frames of a closeup subject at sequential points along the depth of the subject. Because the depth of field of a closeup subject is so short, we are only able to get a small portion of the subject in perfect focus in one shot (Figure 9.7). So, we simply take a bunch of shots and sew them together in Photoshop. That's the simple explanation. After one or two experiments you will get the knack of it. The steps may be long, but the results are fantastic. Here are the steps:



Figures 9.8–9.14 Each of the top six exposures were made at sequential focal points along the subject. The final product here was blended in Photoshop, tweaked with color, density, and sharpening as would be with any normal photo.



Flying Insects

Honey Bee *Alpinia zerumbet*
Shell Ginger *Zingiberaceae alpinia*

This is one of over one-thousand exposures made during this take. It is one of five that is actually presentable. The way to insure getting good results of flying insects is to spend the time (persistence). And shoot at 10 frames per second when you see the bee coming near your chosen flower (anticipation).

Canon EOS 7D Mark II, Canon EF100-400mm f/4.5-5.6L IS II USM lens, f/5.6, 1/500sec. -1, ISO 800, handheld

Insects in Your Face

Gulf Fritillary *Agraulis vanillae*

A flat overhead view of butterfly wings may best describe the decorative beauty of a butterfly. But my favorite view is head-on, in-your-face eye contact. It's much more personal and intimate.

Canon EOS 20D, Canon EF100-400mm f/4.5-5.6L IS USM lens, f/5.6, 1/400sec., ISO 400, handheld



Ice on Wild Aster Pods

Smooth White Aster *Symphyotrichum racemosum*

When a soft warm rain falls on frozen subjects and the ice forms around the subject, lightly smoothing the crusty ice with warm fingers creates a glass-like surface around the subject.

This photo was made with the apparatus described earlier in this chapter under *The Self-Compensating Flash Method*.

Nikon F, Schacht 100mm short mount lens on bellows attachment, f/16, 1/60 sec., Kodachrome 64, Mighty-lite flash, handheld

