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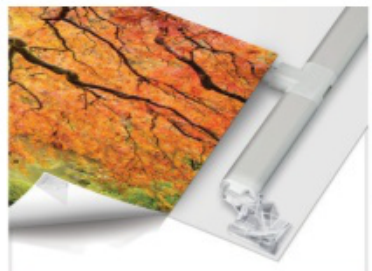

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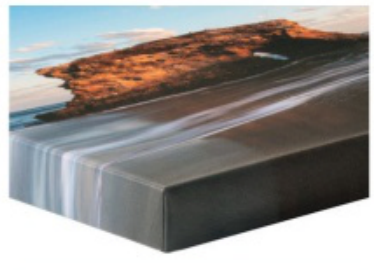

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PHOTOGRAPH BY DAVID THORENSON

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Outdoor Photographer

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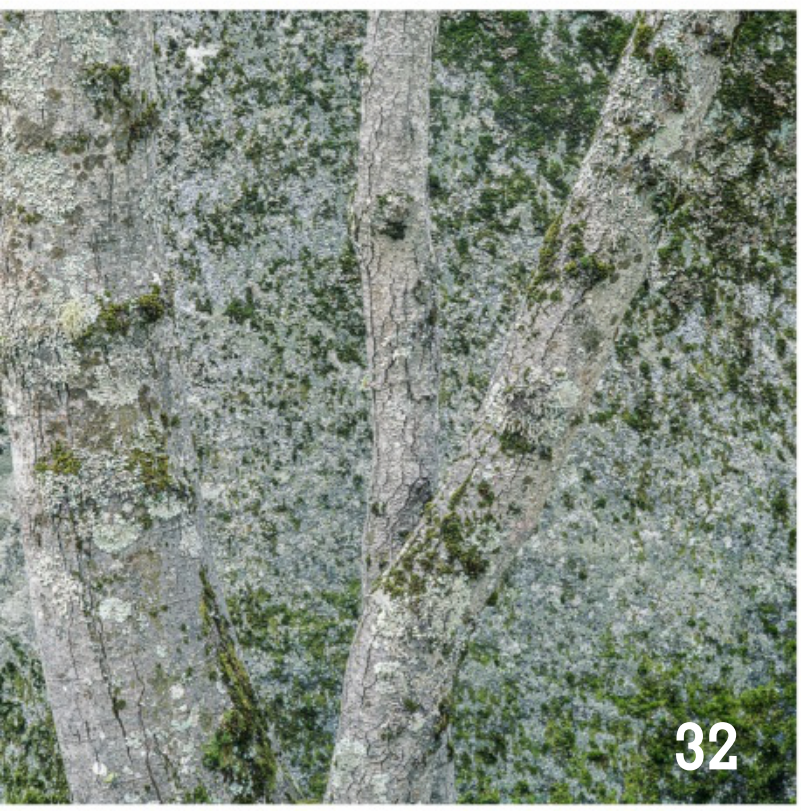

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TOP IMAGE: AMY GULICK; BOTTOM IMAGE: WILLIAM NEILL

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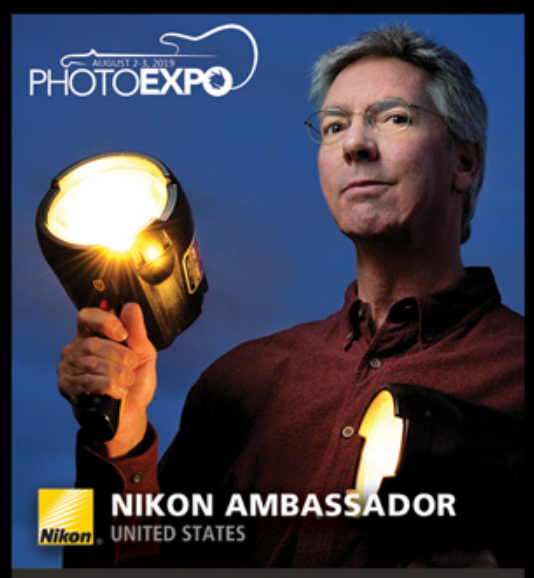


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# cover shot

**Photographer:** Mason Cummings
**Location:** Arctic National Wildlife Refuge, Alaska
**Equipment:** Nikon D850, AF-S NIKKOR 14-24mm F2.8G ED
**Situation:** Roughly the size of South Carolina, the Arctic National Wildlife Refuge is a vast wilderness in the truest sense of the word. There are no roads, no visitor centers, no trails, no tour buses, no commercial jets flying overhead, no signs of human existence for hundreds of miles in any direction. In a word, it's pristine.

Truly wild places like this are disappearing at an alarming rate—there are certainly none of them left in the lower 48. Even if it's someplace you never visit, it's reassuring just to know places like it still exist.

The drainage pictured here stages one of the largest land migrations on earth. Each year, the porcupine caribou herd travels through the rugged Brooks Range from its calving grounds on the coastal plain. Our objective was to intercept the herd and document its migration, but an unusually late season left us waiting.

In the herd's absence, I went on late-night hikes to catch the good light from high perspectives. This shot was taken at 2:30 a.m. on one of the last nights of our two-week backpacking trip through the refuge. The sun never truly set during our trip, so golden hour lasted most of the night. These are nights I'll remember for the rest of my life.

*–Mason Cummings*

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# in this issue


In this issue focused on wildlife photography, we begin with awe-inspiring images from one of the world's last great wild places. Encompassing over 19 million square acres, Arctic National Wildlife Refuge in Alaska is the largest U.S. refuge overall and includes roughly 8 million acres of land designated as wilderness. According to the refuge's website, it's home to "42 fish species, 37 land mammals, eight marine mammals, and more than 200 migratory and resident bird species." One of those land mammals is the porcupine caribou, which migrate to the refuge each spring to bear calves. The area is also home to the Gwich'in people, for whom the caribou have been an important source of sustenance "for the entirety of their cultural memory," as photographer **Peter Mather** eloquently puts it. In his article "Keep It Wild," Mather tells the story of an expedition organized with the International League of Conservation Photographers to document the caribou migration. As nature photographers well know, things don't always go according to plan, but Mather and his fellow photographers returned home with images that reveal the stunning vastness of this place, a prime destination for photography and a habitat worthy of protection for future generations of the Gwich'in people and visitors alike.

While destinations like the Arctic Refuge offer the chance to witness wildlife in truly magnificent environments, you don't have to travel far to find wildlife subjects. Whether you're a beginner or a pro, there are opportunities nearby, maybe in your own backyard. In his article "In The Neighborhood," **Don Mammoser** offers tips for improving your skills that you can practice in a local park or wild area. Though the wildlife may not be "exotic," depending on where you live, you may still return home with some portfolio-worthy images, and you'll be refining your technique so it will be second nature on your next trip to somewhere less familiar.

One of the surest ways to find wildlife is to scout near water sources. Using a blind is ideal in these situations, and as **Dave Welling** points out in his article "Where Wildlife Gathers," there are blinds already set up and waiting for you on both public and private lands. Welling has spent considerable time photographing from blinds on ranches in Texas, where the landowners have set them up near waterholes and charge a modest daily fee for access. "Most blinds are on the property of landowners who are either wildlife photographers themselves or work with wildlife photographers who help set up the blinds and offer guide services," he notes. "Some properties even offer lodging and meals so you can stay on site." In addition to resources for finding permanent blinds, Welling offers lens and gear recommendations and other insights to help you make the most of your experience.

No matter where you find your wildlife subjects, choosing the right camera settings can be the difference between an epic shot and a dud. With all of the advances in camera technology, you may be surprised to learn that **Aaron Baggenstos** relies heavily on manual camera operation. In "Shooting Modes For Wildlife Photography," he walks us through his typical settings. He also considers the advantages that mirrorless cameras—and, more specifically, the information available thanks to electronic viewfinders—provide for wildlife photographers.

*–Wes Pitts, Editor*

# contributors

**Don Mammoser** is a professional nature and travel photographer and author of a series of e-book guides to photograph iconic destinations around the world. He also leads workshops and photo tours to North American and international destinations. See more of his work at donmammoserphoto.com.

**Dave Welling** has been capturing evocative images of the natural world for over 25 years. He is a charter member of the North American Nature Photography Association and the author of Sanctuary, a book celebrating the work of Wildlife Waystation. See more of his work at strikingnatureimagesbydavewelling.com.

**Aaron Baggenstos** is an award-winning professional wildlife photographer, videographer and author in nature and wildlife. In addition to his own photography, Baggenstos leads small-group photo tours to some of the premier wildlife destinations on the planet. See more of his work at aaronstours.com.

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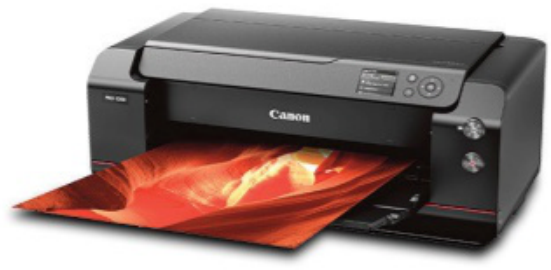


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## Family Love
## By Sue Cullumber

"In late spring in the Sonoran Desert, burrowing owls mate, and then in early summer there are often several groups of owlets. In the early morning or late afternoon, the owlets wait for their parents to bring them food. This was taken at dusk at a small park in Gilbert, Arizona, right after the smaller owlet (left) had been fed by its parent (right)."

Canon EOS 5D Mark III, Sigma 150-600mm f/5-6.3 DG OS HSM Sports at 600mm. Exposure: 1/1250 sec., *f*/6.3, ISO 500.

*See more of Sue Cullumber's work at sue-cullumber.pixels.com.*

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## Halfhearted
## By Douglas Croft

"A halfhearted breach by a humpback whale in Monterey Bay. It could be expected, since she had already leaped from the water roughly 20 times before this, and it takes a lot of energy when you weigh 40 tons. We watched this whale for an hour as she repeatedly did full breaches, chin slaps, half breaches and then more full breaches. It was an amazing show of strength and stamina."

➤ *Nikon D500, Tamron 18-400mm F/3.5-6.3 Di II VC HLD at 240mm. Exposure: 1/2000 sec., ƒ/11, ISO 400.*

*See more of Douglas Croft's work at douglascroftimages.com.*

## Red-Eyed Tree Frog
## By Brian Jarvis

"On a recent trip to Costa Rica, I spent many nights hiking in the Arenal Volcano National Park looking for wildlife. One evening after a rain storm, I hit the jackpot at a small pond just off the trail. I could hear the frogs singing, but finding them was another story. Searching through some dense vegetation, I found a red-eyed tree frog staring right at me. After adjusting my headlamp to properly illuminate the frog, I fired off a few frames and captured one of my favorite moments of the entire trip."

➤ *Nikon D850, AF-S NIKKOR 70-200mm f/2.8G ED VR II, Kirk Photo BH3 ball-head, Giottos monopod. Exposure: 1/60 sec., ƒ/2.8, ISO 1000.*

*See more of Brian Jarvis' work at digi-scapes.com.*

# Accessories For Wildlife Photography

In addition to your super-tele lens, here are a few accessories that will help you be more successful and comfortable in the field

## WATERPROOF BOOTS

Footwear that provides waterproof protection and support for long hikes and mucky conditions is essential gear for tracking wildlife. **LOWA**'s **Tibet GTX boots**, available in both men's and women's styles, are an excellent option with their sturdy, durable construction and breathable, waterproof GORE-TEX lining. X-pattern lacing above the ankle makes them easy to put on and take off. The men's version is available in both medium and wide widths. List price: $395. **Contact:** LOWA, lowaboots.com.


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# wildlife photography gear

## VEHICLE SUPPORT

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## GEAR CAMO

Many wildlife photographers wear camouflage clothing or even military-style ghillie suits. If you want to conceal your camera and lens as well, **LensCoat** offers a variety of camo covers for your camera and lenses like the **RainCoat 2 Pro**, which provides protection for your camera and lens from wet conditions without obstructing access to your camera and lens controls. It comes with an included hood extension sleeve for super-telephoto lenses. List price: $124. **Contact:** LensCoat, lenscoat.com.

## COMPACT BINOCULAR

Spotting wildlife through your telephoto lens can be difficult due to the lens' narrow field of view. An 8x42 binocular like the **ZEISS 8x42 Conquest HD** is an ideal balance between magnification and light gathering for wildlife spotting. A top-of-the-range binocular can cost upwards of $2,000, making this high-quality option a good value at half of that price. It can focus as close as 6.58 feet, is waterproof to 13 feet and tested to withstand shock and extreme temperatures. Estimated street price: $999. **Contact:** ZEISS, zeiss.com.

## CAMERA TRAP

One way to photograph animals that typically avoid humans is to employ a camera trap near animal trails and water sources. **Hähnel's Captur Module - Pro** is a versatile solution for wildlife photography that can be used as a wireless remote shutter release from up to 100 meters, has built-in light, sound and motion sensors, and also includes the **Module – IR** that can be mounted to a tree, for example, creating an invisible beam that, when crossed, will trigger your camera's shutter. Estimated street price: $99. **Contact:** Hähnel (RTS, Inc.), rtsphoto.com.



# wildlife photography gear

## BALANCED CAMERA AND LENS SUPPORT

While a sturdy ballhead can manage a super-tele lens, a gimbal head like the **Eagle Series E-6H** from **Fotopro** provides superior support with a balanced center of gravity and allows for smooth movements as you track your subject. The head is available separately or included with the Eagle Series EGL-94 (four-section, 63-inch max. height) and EGL-65 (five-section, 55-inch max. height) carbon fiber tripods. List prices: $1,399 (EGL-94 tripod and E-6H head); $1,099 (EGL-65 tripod and E-6H head); $449 (E-6H head only). **Contact:** Fotopro, fotoprousa.com.



## LONG-LENS CAMERA BAG

Super-tele lenses are typically heavy and very expensive. Protect yours with a bag specifically designed for the purpose. The **Lowepro Lens Trekker 600 AW III** allows you to carry a 600mm prime lens with your camera attached or an 800mm lens detached from the camera. The customizable padded interior includes a lens collar to support and secure your lens. To shield your system from wet conditions, the bag also includes a built-in All Weather (AW) cover. List price: $329. **Contact:** Lowepro, lowepro.com.

## HEADLAMP AND NIGHT LIGHT ACCESSORY

Wildlife photography often means being in the field to scout your location before dawn. A headlamp like the **Petzl ACTIK CORE** provides hands-free illumination for enhanced safety and visibility. It's powered by a battery that's rechargeable via USB but is also removable if you need to use AAA batteries as a backup when away from charging sources. It offers selectable multi-beam output for wide-area illumination or distant spotlighting, as well as a red light option to preserve night vision. The ACTIK CORE is also compatible with the Ptetzl **NOCTILIGHT,** an accessory that serves as a protective case and also diffuses the headlamp output for use as a small camp lantern. List prices: $69 (ACTIK CORE); $19 (NOCTILIGHT). **Contact:** Petzl, petzl.com.


# new gear & tech


## MAJOR SONY A9 FIRMWARE UPDATE, PLUS NEW APPS

Sony has released a significant update to the firmware of its flagship a9 camera. The **Sony a9 firmware version 5.0** brings what Sony calls AI-driven Real-time Tracking capabilities to the camera, as well as Real-time Eye AF.

The system uses AI object recognition to help the camera identify moving subjects and follow them throughout the frame. First introduced in Sony's a6400 earlier this year, Real-time Tracking keeps your selected subject in focus using a combination of image data, including color, distance and face recognition, as well as pattern and eye detection. The system works by first identifying the subject's general outline as an object. If the subject is a

## RUGGED MIRRORLESS & MATCHED LENS

**Panasonic** has introduced a new Micro Four Thirds mirrorless camera with a "rugged" design, along with a zoom lens that matches the camera's dust- and splash-proof construction. The **LUMIX G95**, successor to the G85, is a 20.3-megapixel camera and incorporates Panasonic's second-generation image stabilization system, 5-axis Dual I.S. 2, which employs both body- and lens-based stabilization for up to 5 stops of correction when composing handheld.

The LUMIX G95 is capable of shooting at speeds up to 9 fps with the focus locked on the first exposure, or 6 fps with continuous AF. The camera's DFD (Depth From Defocus) technology enables it to acquire focus in as little as 0.07 sec. and can follow


person, face recognition narrows the AF target, and once an eye is identified, the focus point is narrowed even further to ensure that the eye is the primary AF target. If the subject turns away or the eye is otherwise obscured, the system falls back to face recognition if possible or defaults to more generalized object recognition until the eye can again be identified.

As you're photographing, the camera displays changing icons to let you know where it's focusing. When Real-time Tracking has identified your subject, you'll see an icon that's a square with two vertical lines on either side. Once the system has found a face, it will be enclosed in a green box that follows the face as it moves throughout the scene, and when an eye is detected, that box shrinks further and stays with the eye. This information overlay allows you to know instantly what the AF system is targeting.

Real-time Eye AF in Firmware Version 5.0 is limited to human subjects, but Sony is working on enhancements to the technology that also will allow the system to track animal eyes, potentially an incredible tool for wildlife photography. That technology is planned for Firmware Version 6.0, currently due to be released this summer. That update will also reportedly add interval timer capability to the a9.

For now, a9 Firmware Version 5.0 is available as a free download for all a9 users. In addition to the autofocus system enhancements, it also includes a touch-to-focus capability via the LCD screen when shooting in electronic shutter mode, new flexibility for customizing control dials and changes to the camera's image processing to improve rendering of subtle tonal transitions.

Along with the a9 firmware update, Sony also debuted new **Imaging Edge mobile applications** for iOS and Android. Imaging Edge replaces the Sony PlayMemories app and offers an experience and controls better suited to pros and serious enthusiast photographers. **Contact:** Sony, sony.com.

moving subjects with adjustable tracking sensitivity. The AF system also offers Face / Eye Detection AF for use with human subjects.

As to the rugged construction designed for "heavy field use," the LUMIX G95 has a magnesium alloy front frame and thorough sealing at all entry points to keep out dust and moisture.

The lens introduced along with the LUMIX G95—the **LUMIX G VARIO 14-140mm F3.5-5.6 II ASPH POWER O.I.S.**—is a wide-to-tele zoom that incorporates extensive sealing to match the camera. It provides a field of view equivalent to a 28 to 280mm, an excellent general-purpose range for landscape and travel photography. List prices: $1,199 (LUMIX G95 with 12-60mm F3.5-5.6 kit lens); $599 (LUMIX G VARIO 14-140mm II). **Contact:** Panasonic, shop.panasonic.com.

## USER-FRIENDLY PREMIUM FILTER SYSTEM

The **LEE100 Filter System** from **LEE Filters**, an update to its LEE 100mm System, incorporates multiple ease-of-use improvements while retaining compatibility with all current LEE 100mm filters, as well as its polarizer filters via an optional adapter.

The design allows you to slide in up to three LEE 100mm filters and features a new locking dial with three settings allowing full movement, a half-locked position that allows rotation but keeps the filter holders in place and a fully locked position that also prevents rotation. Modular filter-guide blocks, which snap onto the holder, are available in one-, two- and three-slot configurations.

In addition to slide-in filters, the LEE100 Polarizer can be added to any filter configuration, snapping on to the front of the filter-guide block. Previous LEE 100mm polarizers can be adapted to the system with an optional ring screw-mount ring that's compatible with the snap-in feature.

The core of the system, the LEE100 filter holder, is available for $96. The new LEE100 Polarizer is $267, and the adapter ring for earlier 100mm polarizers is $48. There are also kits available that bundle the LEE100 filter holder and filters. **Contact:** LEE Filters, leefilters.com.



## NEW PRIMES FOR MIRRORLESS

**Rokinon** has introduced three prime lenses for mirrorless cameras. Two are manual focus primes and the first lenses from Rokinon designed for use with Canon's full-frame EOS R system, the **RF 14mm F2.8** and **RF 85mm F1.4**. The 14mm F2.8 is an ultra-wide rectilinear lens with an angle of view useful for landscape work as well as astrophotography. It can focus on objects as close as 11 inches. The 85mm F1.4 has a minimum focusing distance of 3.6 feet and, with its *f*/1.4 maximum aperture and short telephoto focal length, is well-suited for portraiture. List prices: $499 (14mm F2.8); $399 (85mm F1.4).

The third new Rokinon prime is the **AF 85mm F1.4**, an autofocus model for Sony E-mount mirrorless cameras. Its close-focusing capability is slightly better than that of the Canon 85mm model at 2.95 feet, and the lens' aluminum body is weather sealed to be dust- and splash-proof. List price: $799. **Contact:** Rokinon (Elite Brands), elitebrands.com.

## SLEEK MESSENGER-STYLE BAGS

The **Vision Shoulder Bag Series** from **Think Tank** is offered in three sizes with customizable padded dividers for the right fit to accommodate your camera system. The Vision 10 has room for a camera body and 3 to 4 lenses, plus a 10-inch tablet. The larger Vision 13 and Vision 15 can carry four to five lenses depending on make and model, a 10-inch tablet plus a 13-inch (Vision 13) or 15-inch laptop (Vision 15). All three variants include straps to attach a tripod to the bottom of the bag, as well as a luggage handle pass-through to allow them to slip onto a rolling case. The bags also feature water-repellant exteriors and a waterproof bottom and include a rain cover. List prices: $109 (Vision 10); $129 (Vision 13); $139 (Vision 15). **Contact:** Think Tank Photo, thinktankphoto.com.

RF 14mm F2.8

RF 85mm F1.4

AF 85mm F1.4

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MUENCH WORKSHOPS

# Bear River Migratory Bird Refuge

## Box Elder County, Utah

Text & Photography By Mia McPherson

### Location

With nearly 80,000 acres of freshwater and brackish marshes, open water, alkali mudflats, uplands and river delta, the Bear River Migratory Bird Refuge is an oasis in the desert of northern Utah for birds, animals, insects, plants and people. The refuge is on the western edge of the Central Flyway and the eastern edge of the Pacific Flyway. It provides critical habitat for more than 200 migrating species of birds that use the area for resting and refueling as well as nesting areas for more than 60 species. From the 12-mile self-guided auto tour route, there are grand sweeping views of the Wasatch and the Promontory mountain ranges to the east and west. To the south, on clear days, Antelope Island can easily be seen.

Bear River Migratory Bird Refuge is about 60 miles north of Salt Lake City and is near the town of Brigham City. The James V. Hansen Wildlife Education Center and refuge headquarters are about a quarter mile from Interstate 15 at exit 363, while the self-guided auto tour route is another 12 miles west from there on a paved road. Total distance to and from, including traveling the auto tour route, is 36 miles.

### Weather

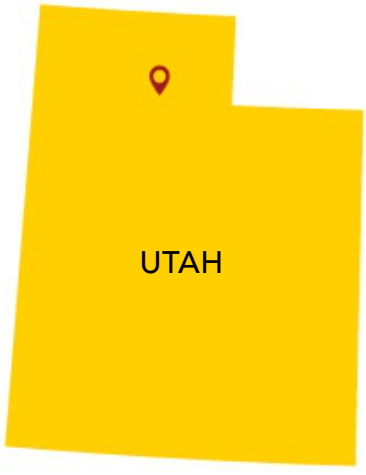
The weather at Bear River Migratory Bird Refuge varies with the seasons. Winter can be cold, snowy and windy, so dressing for the weather is critical. Summers can be quite warm, while spring and fall are pleasant. Caution is advised on the gravel auto tour route during winter because of snow and ice. During other seasons, when there has been rain, the road can become muddy. During the spring snowmelt, the Bear River can rise and make the paved road out to the auto tour route impassable, so checking the refuge website for road conditions is advisable.

### Photo Experience

As a bird photographer, I visit Bear River Migratory Bird Refuge often throughout the year for the birds, wildlife, scenic views and the peace and quiet found at the refuge. During the winter, the sounds of thousands of tundra swans echo over the marshes. In spring, migrant wading and shorebirds arrive by the tens of thousands and stay until fall migration. Even though birds are my primary subjects, I can't resist taking images of the mammals, insects, flora and surrounding landscape I see while traveling the auto tour route.

I used an AF-S DX NIKKOR 18-200mm f/3.5-5.6G ED VR II lens mounted on a Nikon D810 to create this image of the marsh at the refuge from the auto tour route in early autumn, with clouds, birds scattering across the water and the Promontory mountain range in the background. **OP**

See more of Mia McPherson's photography at onthewingphotography.com.




**Best Times**

While I love the solitude of visiting the Bear River Migratory Bird Refuge marshes during the winter to photograph the tundra swans, bald eagles, barn owls and overwintering rough-legged hawks, I also enjoy spring at the refuge because it becomes noisier with bird songs when the migrants return and resident birds are singing on their breeding territories. Summer and fall are also great times to visit the refuge—summer because of the thousands of young birds that can be seen and photographed, and fall because of the migrants that come to the refuge to refuel on their way to warmer climates. I can't think of a bad time to head to this jewel of an oasis in the desert!

**Contact:** U.S. Fish & Wildlife Service, fws.gov/refuge/bear_river_migratory_bird_refuge.

# Becoming Creative

## Every person has a unique perspective—practice finding yours

Text & Photography By William Neill

Recently, a friend and fellow photographer asked a penetrating question. He expressed how he's struggling with how to become a creative artist: "Is my voice original at all, and does it matter?" I think we all battle with this question, so let me try to answer him here, and hopefully it will help you, too.

Do your images—or mine—matter? That depends on why you're doing your photography and for whom. I like to think that most of us make photographs for ourselves, for the enjoyment of experiencing nature and exploring the landscape, and not to please someone else. The less concerned we are with who will like or approve of our images, and more concerned we are with the process of creating art, the better. A great read on this subject is the classic "Art & Fear" by Ted Orland and David Bayles. Here's one quote I like especially:

"To make art is to sing with the human voice. To do this, you must first learn that the only voice you need is the voice you already have."

This seems obvious, but it's good for each of us to remember that great art is made from the heart and soul of the artist, not for the approval of others.

Once we realize that the drive to create needs to come from within us, what next? What makes for a creative, original landscape photograph? When we see an inspirational image, our first response will usually be emotional. After the "wow factor" wears off, we can be more analytical. Does the photo have great light or a captivating graphic design, a unique perspective, or all of the above? Are the techniques applied invisible, or do you notice that a particular filter was used, or excessive color saturation or unnatural HDR applied? Whatever the technical qualities we might subscribe to such inspirational images, most importantly there's a sense of freshness, of innovation.

Having a sense of the history of landscape photography is a valuable tool in the process of becoming creative and developing what I call visual literacy. This skill can be defined as the understanding of essential elements of visual design, technique and aesthetic qualities of an image. It's also the knowledge or memory of photos you've seen and recognition of what makes images succeed or fail. We all have looked at thousands of photographs. It's this history stored in our brains, that of our favorite photographs made by our favorite photographers, that form our "customized" visual literacy and that influence our compositions.

For example, if I set up my camera in front of Half Dome in Yosemite and try some compositions, my mind is subconsciously referencing my visual library, my memory of Half Dome images, and I tend to skip over compositions that seem too familiar. If I'm editing and discover an image that's very derivative of others, I'll disqualify it for most uses.

Here's a photograph of an alder tree trunk in Yosemite. The combination of lichen-covered tree and rock, along with the ambiguity of depth between the two, has brought me back often over the years. The first image I made there was in 1984, and I felt it represented my own unique and creative viewpoint. A few years later, I discovered two well-known photographers had previously made very similar images. I hadn't seen their versions, so I was very disappointed.

Well, life goes on, and I returned to this tree over many years to enjoy the magical scene and see how I might rework the subject. I have enjoyed the process of standing there again, with my updated visual history in mind, while I try out new ideas on a location with limited compositional options. I kept trying, and I believed that an image, unique to me, waited to be made of this tree and rock.

Twenty years later, I made the photograph shown here. Maybe I succeeded, maybe not; but it's not "win or lose" to me, rather part of the ongoing process of striving to improve, striving for excellence. This experience taught me a valuable lesson. If one's goal is to create unique images, it helps to know what has been done already.

I was fortunate to have known Ansel Adams, and I learned from him the importance of being true to one's vision. I believe that every person has a unique perspective, and the first step to realizing that potential is to believe this is true, that it applies to you.

So back to the original question: "Is my voice original at all, and does it matter?" I readily admit that I'm always asking myself this question and have accepted these doubts as part of the artistic process. Enjoy the ride. **OP**

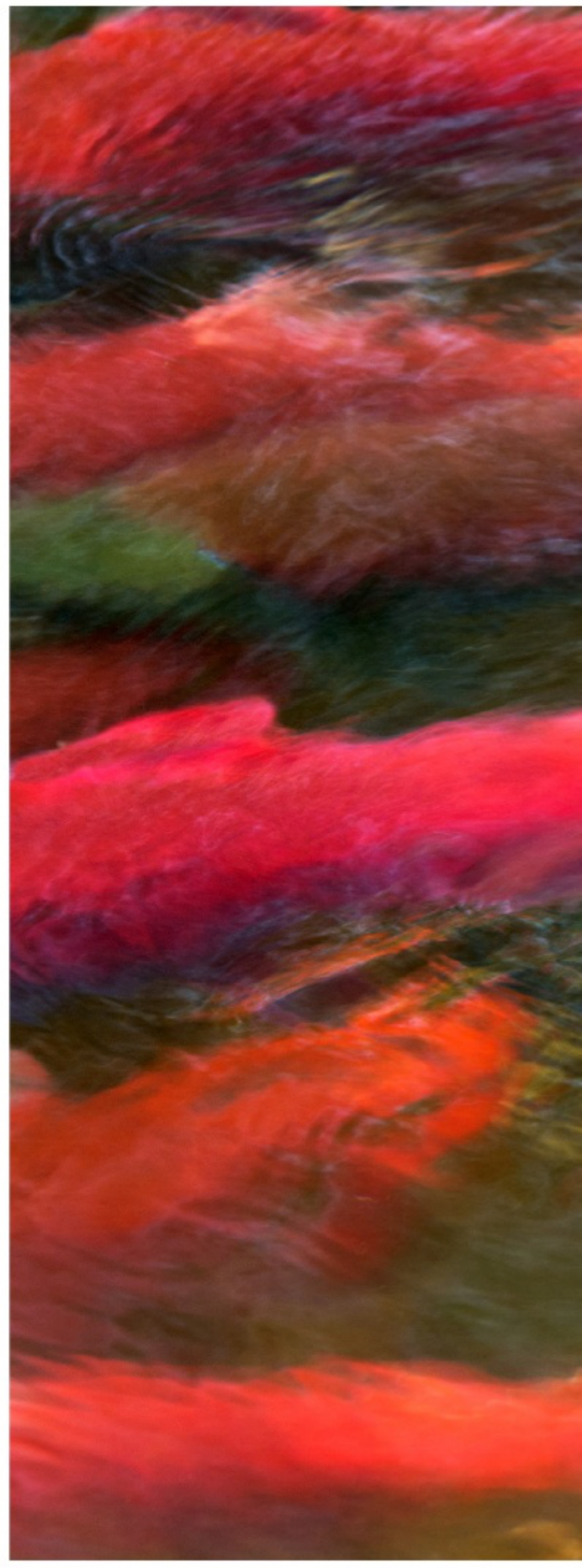
For information about "William Neill – Photographer, A Retrospective," private workshops and to connect via social media, visit WilliamNeill.com.

Lichen-covered tree and rock, Yosemite. Wista 4x5 field camera, Fujichrome 100.

# The Salmon Way

## Honoring the connections among salmon and people in Alaska

Text & Photography By Amy Gulick



Three decades ago, I hiked along a stream in Alaska far from any significant human civilization. Deep in the wet forest, the water tumbled over rocks and raced toward somewhere unseen. But something was strange. The water was bleeding. Blurry red streaks just beneath the white riffles. Only instead of flowing downstream with the water, the red mass was pulsing upstream. Sockeye salmon, in their crimson spawning colors, were fighting against the current. The opposing flows of water and fish were confusing yet hypnotizing. The salmon seemed to be on a liquid treadmill, swimming hard and not going anywhere. But by some sleight of hand, or fin, the fish magically inched forward, one step closer to home. I stood for a long while watching the salmon, soaking in the moist air and the earthy smell of the forest, listening to the rushing water and the croaks of ravens. My life was forever changed.

On that day, immersed for the first time in the land of wild salmon, witnessing a phenomenon that predates human beings, something in me awoke—that part deep inside all of us that's connected to the animals, plants, land and water of this earth. Wild salmon show all who encounter them that life is a dance of rhythms, balance and strength. Through twists and turns, ups and downs, we learn to trust the unseen and bow with grace for the time we are here.

In today's world, many of us have lost our connection to wild places and thus our true nature. We've forgotten what it means to live among fantastic creatures, jaw-dropping beauty and real danger. We've forgotten that a community extends beyond our relationships with other human beings. But the salmon people of Alaska haven't forgotten. They know that they're a part of a community of fish, rivers, oceans, forests and tundra. They share the salmon with bears, eagles, seals, beluga whales and each other. They show gratitude to the fish that have seen them through times of plenty and times of scarcity.

Intrigued that Alaska is one of the last places in the world where the lives of people and wild salmon are linked, I set out to explore the web of human relationships that revolve around these remarkable fish. My journey resulted in my book, "The Salmon Way: An Alaska State of Mind." Everywhere I went, from remote villages to urban cities, whether I met with people for 10 minutes or 10 days, I left with salmon in my hands—dry strips in a zip-close bag, frozen fillets in a vacuum-sealed pouch or smoked chunks in a glass jar. A stranger in their land, I was struck by the generosity that the salmon people showed me.

Salmon are a gift—to the land, water, animals, plants and people. And when you're on the receiving end of a gift, you give back. It's the salmon way. This gift culture goes beyond just sharing salmon; it includes sharing firewood, laughter, sweat and tears. This generosity of spirit forges relationships, and relationships create communities. In Alaska, there are many different kinds of salmon communities: Native and non-Native cultures, and commercial, sport, subsistence and personal-use fishing. Whether people fish for their food, livelihood, fun or all of the above, they're connected in some

way through salmon.

That wild salmon endure in Alaska in the 21st century, when they've declined elsewhere in both the Pacific and Atlantic oceans, is a testament to their resilience and their habitat remaining largely intact. It's also a testament to a different way of thinking—and living—that respects the relationships between salmon and people. Alaska is one of the few places left in the world where salmon people live connected to a home stream with an appreciation for what nourishes both body and spirit. Where salmon continue to build communities. Where the salmon way is still a way of life. **OP**

Amy Gulick is a founding Fellow of the International League of Conservation Photographers. Her new book is "The Salmon Way: An Alaska State of Mind." Learn more at thesalmonway.org.

Flying into the Arctic National Wildlife Refuge by bush plane takes one directly over the impressive Brooks Range and majestic Canning River valley. Photo by David Thoreson.

# KEEP IT WILD

Photographing the epic porcupine caribou migration to highlight the singularity of—and importance of protecting—the Arctic National Wildlife Refuge

By Peter Mather

Stomachs churned as our tiny plane jerked up, then left, right and back down. I glanced up and saw Nathaniel vomiting into a Ziploc bag. We passed a mere 100 feet over a jagged ridge and were once again thrown around like rag dolls. Beneath us, mountain ranges were sliced open by the blue and white waters of a wide braided river. We had been flying for an hour and hadn't seen a road, trail or any sign of human touch.

A series of 20,000-year-old caribou trails emerged on a mountainside. The Gwich'in people, who have lived on this land with the caribou for the entirety of their cultural memory, say that the caribou trails in the mountains of the refuge are like the lines in an elder's face.

Our team headed into Alaska's Arctic National Wildlife Refuge, home of wolverines, grizzlies, snowy owls and a herd of 200,000 caribou. This was the first in a series of expeditions organized by the International League of Conservation Photographers to document the incredible landscapes, wildlife and people that depend on the refuge. Our small but strong team of four—Nathaniel Wilder, Bethany Pacquette, Katie Schuler and myself—hoped our images and stories would be part of a groundswell of voices calling for the refuge's protection.

As we approached our landing strip, I saw the white face of the flat coastal plain and Arctic Ocean over the last mountain range. The coastal plain is the heartbeat of the refuge. In summer, it's a lush field of flowers and grasses and is abuzz with wildlife and bugs. Hundreds of thousands of migrating birds come to nest, rear and feed in the small lakes and ponds that mark the landscape. Grizzly bears roam the open plains in search of young caribou, but it's the caribou bringing the landscape to life.

The 200,000-strong porcupine caribou herd complete the longest known mammal migration on the coastal plain, where they give birth to 40,000 calves in the first week of June every year. We were here to photograph and film this exceptional event, but nature lobbed us a surprise this year. An extremely late spring saw the coastal plain covered in snow and ice, which is no place for caribou calves or their paparazzi.

In efforts to avoid the icy and snowy traditional calving grounds, most of the caribou birthed in the foothills east of us in Canada, where the food is less plentiful and predators run rampant. Surprisingly, the biggest predator of newborn caribou calves are golden eagles and rough-legged hawks, who live in the mountains and foothills just off the coastal plain.

Our best chance of seeing the caribou was to camp in the foothills of the Arctic Refuge, hoping that the coastal plains melted and the caribou passed through our view on their way to their calving grounds. Unfortunately, this meant boarding another rickety plane. Our aircraft dipped beneath the mountains, into the foothills and came to a stuttering stop alongside the Kongakut River. We landed on what could loosely be called a boulder field but somehow passed as an airstrip up here.

Over the next three days, we hunkered down on the Kongakut River and watched

Caribou calves move west with their mothers through the Clarence River watershed, just miles from the Canadian border during the annual coastal plain migration in the Arctic National Wildlife Refuge. Calves must stick close to their moms during the first months of their lives in order to receive enough protein and fatty-rich milk to strengthen them, allowing for hundreds of miles of travel with the herd in the first year of their lives. Photo by Nathaniel Wilder.

Aerial view of mountains with a river flowing through the coastal plains of the Arctic National Wildlife Refuge. Photo by Mason Cummings.

small groups of 10 to 20 caribou passing by. The caribou we saw were barren cows, yearlings and young bulls. They left the vast bulk of pregnant cows and newborns back in Canada since those weren't yet ready to travel. On our third day, we spotted our first calf. Only days old, it already could outrun a grizzly bear. It followed the mother, full of energy, determination and a panicked desire not to get left behind.

Frustrated by the lack of caribou calves, we decided to hike east out to the coastal plain in hopes of intercepting the herd. The two-day hike was a lesson in misery; snowdrifts, snowstorms, snowfall, frozen tussocks, frozen swamps and more snow. The glue that held our group together was Anchorage-based photographer Nathaniel. His infectious enthusiasm almost made the first day's hike through the tundra a fun jaunt. His continued optimism, when the second day turned into 12 hours of slush mucking, made me want to punch him in the stomach so that I could enjoy my anger and misery in peace. Luckily I didn't, as he probably would have cheerfully beat me to a pulp.

When we arrived at our destination, where the coastal plain meets the foothill mountains, the weather turned, and we got a chance to explore. To our delight, we were no longer walking on snow and frozen tussocks but solid ground. A 2-mile stroll suddenly took an hour and required little energy. Our enthusiasm was quickly compressed into stress knots when we spotted our first grizzly bear. Four hours and five grizzlies later, and our nerves were really frayed. Grizzly bears out here are much wilder than down south. In more southern regions, a curious grizzly is often a dead grizzly. Up here, curiosity is usually rewarded with food, so the bears tend to be more aggressive with everything they see, including what could be viewed as colorful caribou that walk upright but are actually four nervous photographers hoping not to become dinner.

In the five days that we straddled the edges of the still-frozen coastal plain, we encountered eight grizzlies, eight wolves

and dozens of birds of prey. This was the predator gauntlet that the caribou had to run, one of many reasons that they rely on the lands designated in Section 1002 of the Alaska National Interest Lands Conservation Act passed by Congress in 1980—land that recently has been opened to the fossil fuel industry. The vulnerable land provides caribou with an abundance of high-protein food, protection from wolves and golden eagles who stick to the mountains to raise their young, protection from grizzlies that are easy to spot on the open plains, and relief from the hordes of mosquitoes that can drive any living being crazy.

The cows and calves didn't make it to us in the foothills. We stayed as long as we could, but we ran out of food and had to return to our base camp at the Kongakut River and eventually back home. It was weeks before the caribou and calves finally made it to their core calving and nursing habitat. It was a very hard year for the caribou. I hoped this wasn't a portent of their future. I believed we could band together to make an impact. Our team hoped that the stories we told and the photographs and videos we produced gave a glimpse of

Dark clouds shadow the mountains of the Arctic National Wildlife Refuge. Photo by Mason Cummings.

the beauty, the biodiversity and the need for this incredible refuge to be protected.

The calving grounds expedition was tough, but we certainly didn't have the toughest luck of the eight iLCP expeditions to the area. We saw hundreds of cow caribou and calves in small groups, had some epic grizzly encounters and a grand adventure. Two weeks after our expedition, a 12-person team embarked on a 12-day hike through the steep mountains in the center of the Arctic National Wildlife Refuge. They spent countless hours trampling up and down mountainsides on caribou trails over 20,000 years old. The objective of the expedition was to experience and capture photos and footage of the porcupine caribou herd as they aggregated into tightly packed groups of 50,000 animals migrating east

through the mountains to their summer range in Canada. Envious that I wasn't on the trip, I imagined myself as a rock in the middle of a flowing river of caribou. I envisioned the wonder of seeing them as one big organism moving in unison.

Unfortunately, that team had worse luck than us. After 11 days without seeing a single caribou, it embarked on a grueling 30-mile, 18-hour desperation hike based on tales of thousands of caribou to the north. As the group flew out the next day, they passed over 10,000 animals heading straight to their abandoned camp—a lesson that no matter how much you plan, nature is unpredictable and sovereign.

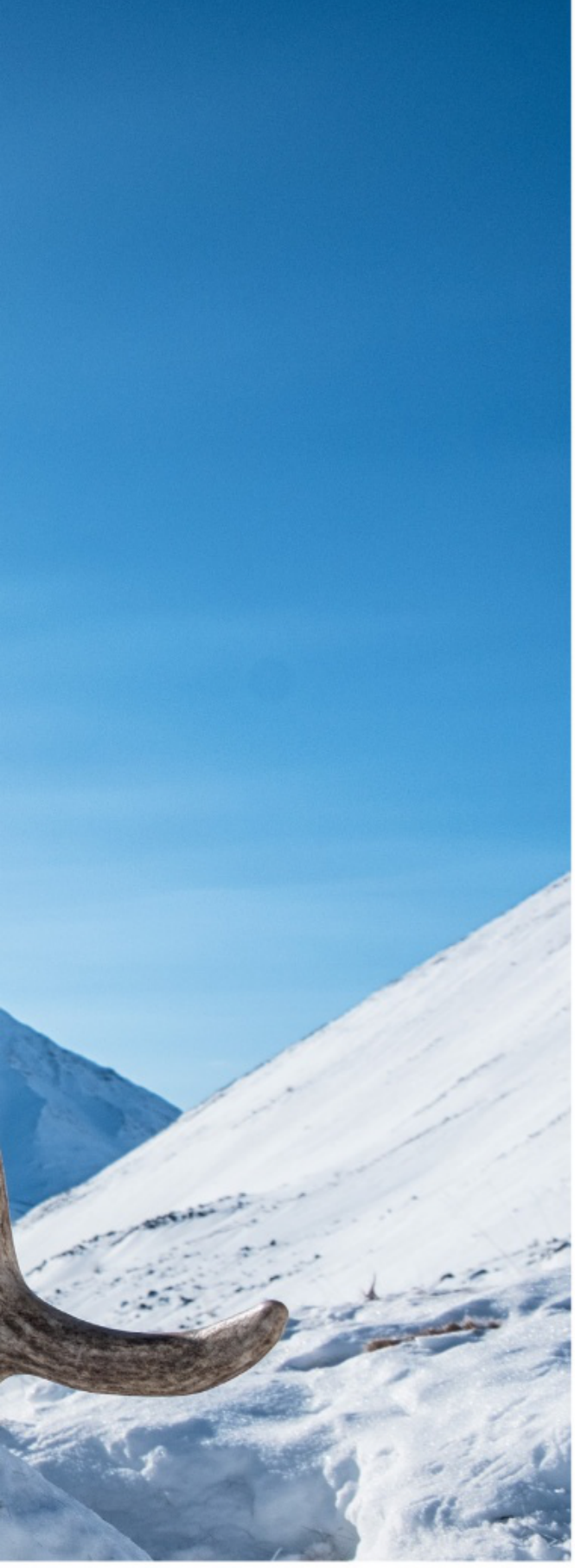
Later in the summer, I was in the Gwich'in community of Arctic Village, on the southern edges of the refuge, with photographers Mark Kelly and Justin Taus. Once again, we were waiting for the caribou to pass through. The small village is nestled in a flat valley protected by a series of gargoyle mountains cut with a ribbon of twisting dull green water. It was late August, and the land was painted brilliant red, green and yellow. The bugs died with the first cold snap, and the air was sharp and intoxicating. We came to document the reciprocal relationship of the Gwich'in and caribou.

Community matriarch Sarah James' hunting camp was nestled in a little dip valley on the mountain plateau on the outskirts of town. We spent days on the mountain with her and a few young hunters. We didn't have the patience of the Gwich'in, who have spent years of their lives waiting for the caribou.

We wondered, "When will they come?"

"They will come, they always come," replied Sarah assuredly. "The caribou are our life. Healthy caribou means healthy Gwich'in. They must come."

We flew home the next day, yet again missing the elusive caribou. The late spring altered the patterns of the caribou and threw our best-laid plans to waste. Every expedition seemed to miss the elusive ungulates by days. It's amazing how




hard it can be to find 200,000 caribou in this massive landscape.

We were sad and frustrated when we missed the caribou, but there are no tangible consequences for us, simply some missed photo opportunities and disappointed editors. If the people of the Arctic Village miss the caribou, they struggle to feed themselves. If development occurs in the calving grounds, then what would they eat? How would that affect their culture and community? It is no wonder they have been laser-focused on protecting the caribou and their calving grounds for decades.

These expeditions served more than their intended purpose. Our team faced many challenges, physically, emotionally and with our photography and filmmaking. We had to make snap decisions in efforts to produce results, and we encountered frustration and disappointments. But we were fueled by our passion for the Arctic National Wildlife Refuge and our aim to tell some of the fascinating stories within this stunning region. **OP**

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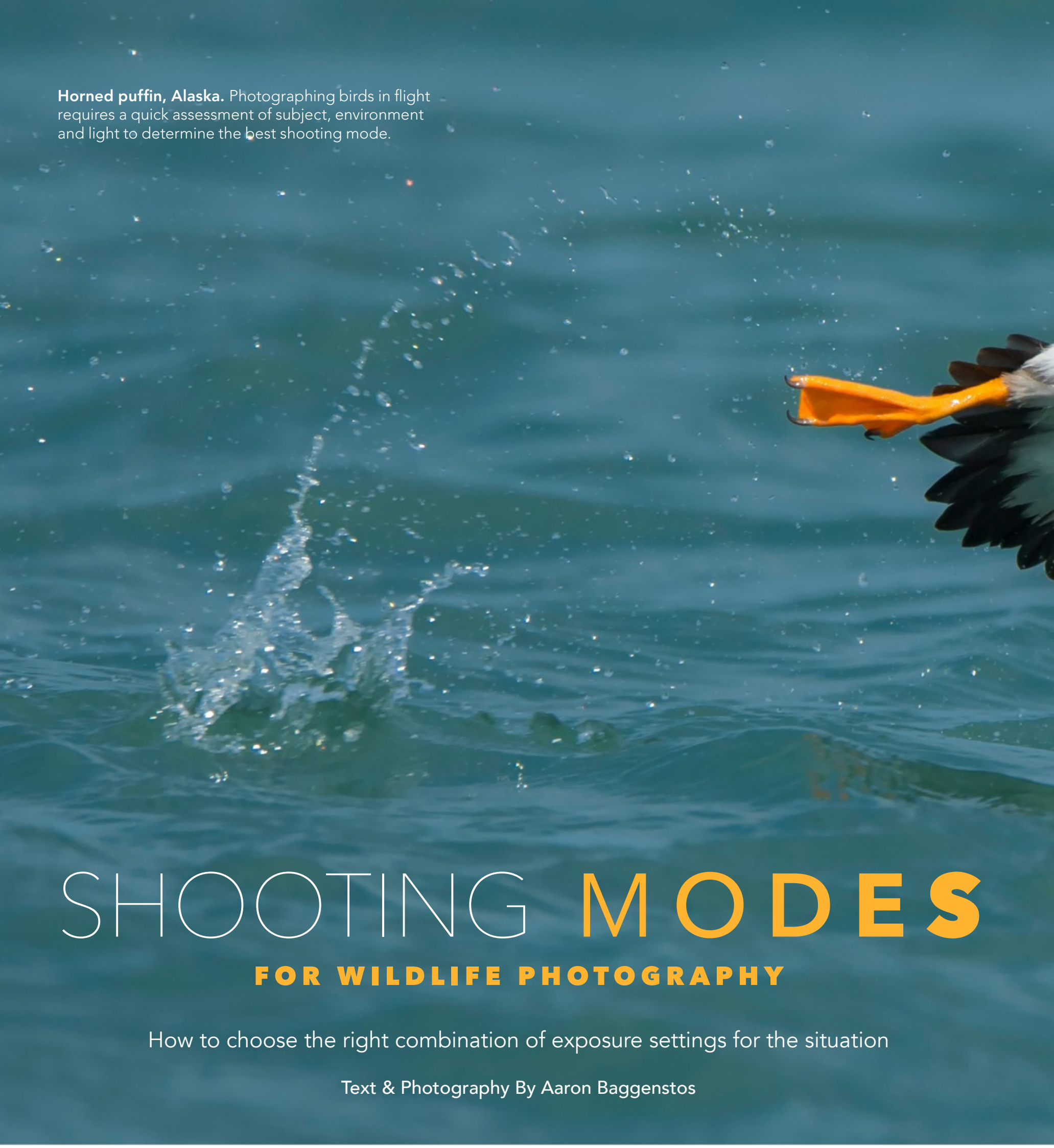
See more of Peter Mather's work at petermather.com. Learn more about the International League of Conservation Photographers at conservationphotographers.org.

An arctic fox feeds on caribou remains in the Arctic National Wildlife Refuge. Photo by Peter Mather.

The porcupine caribou herd number around 200,000 and each summer migrate north to the Arctic Ocean on the longest mammal-based migration route on the planet. Their birthing grounds are referred to as "the sacred place where life begins." Photo by David Thoreson.

Two Gwich'in hunters take a break after a successful porcupine caribou hunt near Arctic Village, Alaska. Photo by Justin Taus.



**Horned puffin, Alaska.** Photographing birds in flight requires a quick assessment of subject, environment and light to determine the best shooting mode.

# SHOOTING MODES

## FOR WILDLIFE PHOTOGRAPHY

How to choose the right combination of exposure settings for the situation

Text & Photography By Aaron Baggenstos

Cameras typically have four main shooting modes—Program, Aperture Priority, Shutter Priority and Manual—represented by the letters P, A, S and M. My photo tour clients frequently ask which shooting mode is best for wildlife. "Is shutter priority a good choice?" Or, "Do I always need to use manual?" Since choosing the right shooting mode can mean the difference between capturing a compelling wildlife image and missing the shot entirely, it's important to know the options.

I choose my shooting mode based on my subject and environment, how quickly the light is changing and my personal preferences. There's no one right answer, but if

you check my cameras, you'll find them in either manual mode with Auto ISO enabled or full manual most of the time.

My best results come from being able to adapt to fast-moving subjects and changing weather and light quickly while retaining the control I need to make the image I'm envisioning. To do that, I rely mostly on manual with Auto ISO, adding exposure compensation when needed. I switch to full manual for specific scenarios where I want or need full control of my camera. Here's why I prefer the manual modes for most of my encounters with wildlife around the world.

## Manual Mode With Auto ISO

Not every camera offers a manual mode with Auto ISO and exposure compensation, but most of the newer bodies do. I estimate that in 70 percent of the scenarios I encounter, manual mode with Auto ISO is my preference. It lets me control the two parameters that have the biggest impact on the look and feel of the final image—shutter speed and aperture—while still allowing the camera to handle some of the work.

As a wildlife photographer, I typically think first about shutter speed. I can choose a shutter speed fast enough to freeze a breaching orca in the San Juan Islands (around 1/2000 sec.) or slow enough to produce a clean, low-noise portrait of a mountain gorilla in the low-light jungles of Rwanda. I can do this rapidly with just one finger on the command dial for shutter speed, and the ISO will automatically follow to maintain proper exposure. I also use this technique for birds, lowering the shutter speed for a portrait of a perched bird and then quickly increasing to catch the bird in flight.

Next, I think about aperture. Wildlife photographers don't drag huge *f*/4 telephoto lenses through the jungle only to stop them down to *f*/11. We use those lenses because we're dealing with low-light situations during the golden hour or in the deep shade of the forest where we need to shoot with the largest aperture possible. When I have more light, I might choose to open the aperture to get background separation or bokeh, or close it down to maximize depth of field for an environmental shot. I want to be the one making the aperture decision in all of those scenarios.

Having chosen shutter speed and aperture, I'm left with ISO, and in this mode, the camera decides for me instantaneously. Of course, a photographer's experience and judgment are still required to properly expose the image, and that's where exposure compensation comes in. After I've selected my shutter speed and aperture, and my camera has set the ISO, I evaluate the scene and decide if I need to adjust. If I have a bright sky behind a dark subject, I can quickly add a stop or two of positive exposure compensation to ensure the subject isn't underexposed. Conversely, if I have a white bird in direct sunlight, I can set negative compensation to avoid blowing out highlights and losing beautiful feather detail.

My clients often fear shooting at high ISOs and sometimes ask if they should set a max ISO limit in their camera. While lower ISO is always preferable, modern cameras have remarkable high-ISO performance, and post-processing offers additional noise reduction options. There are no options for fixing camera shake or insufficient depth of field after the fact—yet another reason to take control of the shutter speed and aperture. I recommend against setting an ISO limit. If you hit the max ISO, you can underexpose significantly, and you risk an unrecoverable shot.

Instead, I recommend simply keeping an eye on the ISO in your viewfinder. If it goes higher than you'd like, open your aperture and/or slow your shutter speed if the situation allows it, and the camera will reduce ISO accordingly. For example, every time you cut your shutter speed in half, your ISO will decrease by a factor of two as well. Try shooting at shutter speeds as low as 1/10 sec. for non-moving subjects in low-light scenarios. If that's not possible, I'm in favor of letting the ISO go as high as necessary. If a leopard steps into the open while on safari in Kenya at twilight, I'll take a noisy image over no image at all any day of the week.

Manual mode with Auto ISO gets my exposure close to perfect most of the time. With that head start, I can fine-tune using exposure compensation. By shooting this way, I have control of the image but less to think about and fewer steps. That translates into quicker reaction time to capture the decisive moment—an essential ingredient for wildlife photography.

**Breaching orca, San Juan Islands.** Manual mode with Auto ISO allows you to quickly increase your shutter speed to capture the action when it starts. In this mode, you can maintain proper exposure in one step instead of two.

**Mountain gorilla, Rwanda.** Manual mode with Auto ISO allows you to quickly reduce your shutter speed while maintaining your exposure with one adjustment instead of two for clean portraits of wildlife in low light.

**PRO TIP:** Manual with Auto ISO and exposure compensation shines in those situations where your subjects are erratic and can start and stop unpredictably. I also choose it where light levels are constantly changing. Rather than adjusting ISO for each frame, Auto ISO does the adjustment for you and does it faster.

**Hummingbird photographed with multi-flash, Costa Rica.** Take full control of your camera in manual mode when photographing with flash. You'll produce more consistent results.

**Red fox in snow, Yellowstone.** The resting fox gave me time to assess the subject, environment and light, and meter off the snow, taking total control of my exposure in full manual mode.

**PRO TIP:** Full manual mode is my preferred choice for situations involving flash photography for birds, macro and fast-moving subjects with backgrounds that change quickly.

## Full Manual Mode

While manual with Auto ISO meets my needs most of the time, there are situations where I prefer to take full control of my exposure settings in manual mode, ISO included.

One such scenario involves birds in flight. When birds fly in front of a changing background, Auto ISO can cause inconsistent exposure. For example, a puffin might take off from calm teal water, fly over an area of waves with bright reflections, then past a dark island background as you pan to follow it. In that situation, Auto ISO will result in several different exposures of the subject. The bird will be underexposed against bright water and properly exposed or even overexposed with the island in the background, depending on the bird's tonal value and the light. Instead of trying to hold an exposure lock button (which is one solution), switching to full manual simplifies this equation. You can expose for the bird in manual mode to ensure a consistent exposure for the subject against the varying background.

I also use full manual mode in situations where I have more time to plan, and when I can meter off a consistent tonal value, like a snow-covered landscape. I used this technique to capture a red fox curled up, sleeping on the snow on a recent winter trip to Yellowstone National Park.

Finally, I use full manual mode for macro and flash photography for birds where I'm controlling—or at least partially controlling—the light with strobes. Although it's possible to use Auto ISO with flash, it introduces complexity and often gives unpredictable results. If you have time to stop and think, a consistent environment and light, or when you use flash, take full control of your camera with manual mode.

## A Note On Mirrorless Cameras

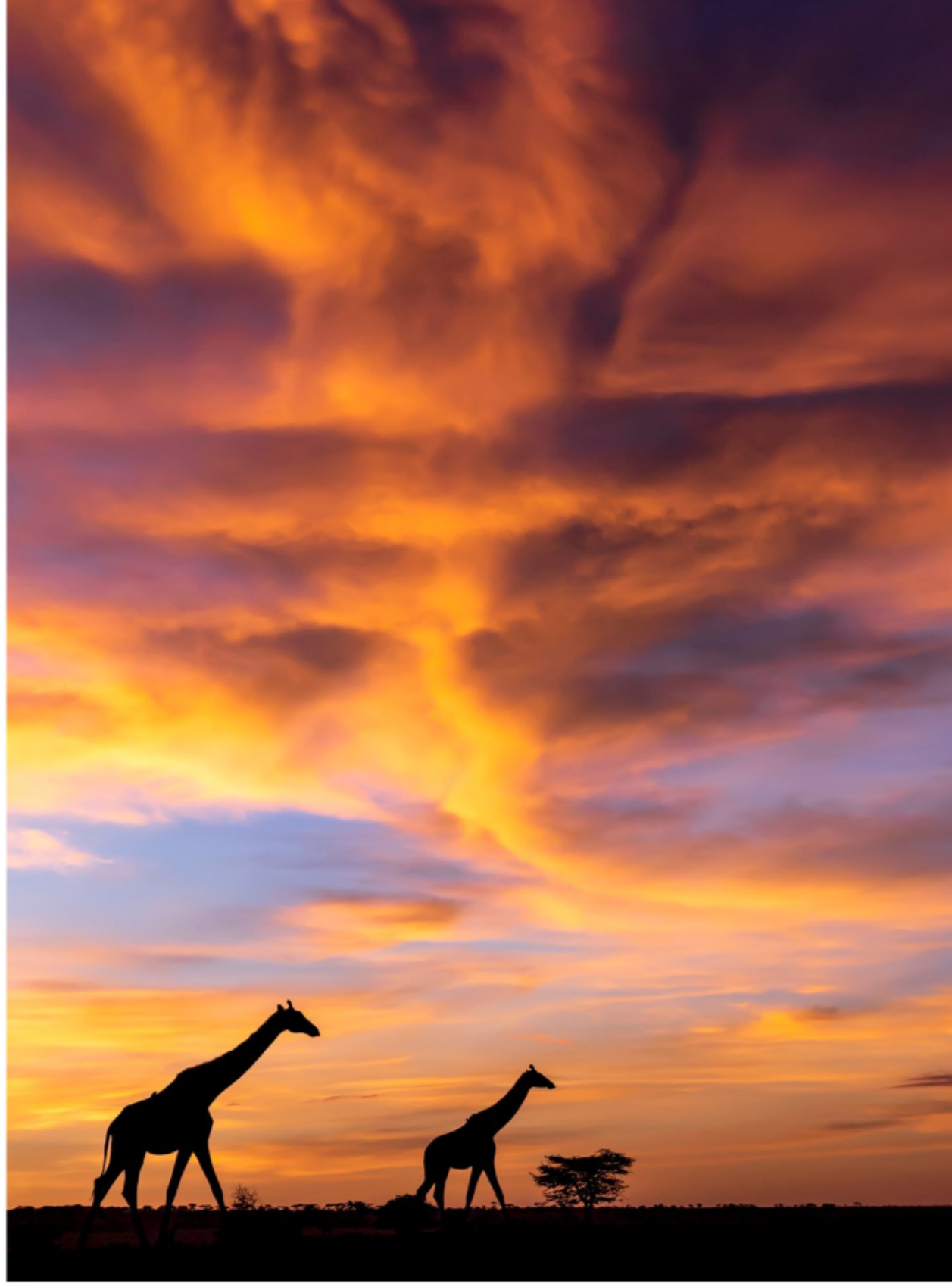
Mirrorless cameras are providing us with exciting and significant advantages that will change how we shoot. Electronic viewfinders (EVFs) can display a live histogram and a real-time "what you see is what you get" image as you're shooting.

With that technology, even beginners can easily shoot in complex lighting scenarios without having to guess about exposure compensation or learn complex metering techniques. Mirrorless cameras make exposing difficult scenes—like my image of giraffes against a magical sunrise—a breeze.

I've shot extensively with many of the latest flagship mirrorless cameras, including the Nikon Z 7 and Sony a9. I'm excited

**Giraffe silhouettes.** This image of giraffes silhouetted against an orange funnel sky was shot with the Nikon Z 7 and NIKKOR Z 35mm f/1.8 S.

**Grizzly bears running forward, Alaska.** The lightning-fast AF of the Sony a9 tracks the fastest of wildlife subjects, even those coming right at you. Shot with the a9 and Sony FE 100-400mm f/4.5-5.6 GM OSS lens.



**PRO TIP:** Mirrorless cameras make exposing otherwise difficult scenes easy even for a beginner. The live histogram and "what you see is what you get" electronic viewfinders create significant advantages.

about the possibilities and technology that each has to offer. Advancements in mirrorless auto-focus and a rapidly growing line of native telephoto lenses, in combination with the advantages of an EVF, have more wildlife photographers making the switch every day.

Regardless of the technology or the exposure mode we choose, core photographic principles like light, composition and storytelling still apply. Our cameras are the tools we use to capture our creative vision. The better we understand those tools, the more we can focus on our experiences with wildlife and the art form that we all love. **OP**

See more of Aaron Baggenstos' work at aaronstours.com.

# In The Neighborhood

Find accessible wildlife photo opportunities near your home

Text & Photography By Don Mammoser

**Spring officially arrived** at my home in Parker, Colorado, the other day. I knew this because I heard my first house wren of the year. This tiny bird, with its wonderful, melodious and happy bubbling song, is a true harbinger of spring where I live. The bird, a male, sat in my garden and trilled a happy good morning for all to hear. I grabbed my camera and telephoto zoom and decided to start the new season out with some photography.

The wren was just the kick-start I needed to simply take a walk with my camera. I don't usually need much motivation to go outside and take photos. I'm a passionate and motivated professional nature photographer, and I simply love outdoor shoots. But even so, office work, emails, marketing calls and image keywording often greet me each day.

Sometimes the prospect of going somewhere new gets us excited about photography. The anticipation and preparation for a trip to a far-off destination is part of the enjoyment and perhaps partly why many of us become photographers in the first place—but how about simply walking out your door and capturing familiar, community critters?

The day that the house wren arrived was a bright Tuesday morning, and as soon as I heard the singing, I needed to get outside. I wasn't overly concerned about my timing with the light, I was just pumped to go for a walk. After photographing the wren right in my garden, I walked along the creek that runs through the open space near our home. That day, several other songbirds were singing happy spring tunes, a squirrel chattered from a pine tree and some prairie dogs barked a quick hello as I passed by. I had a wonderful morning pointing my camera at all of them even though I had seen such animals many times before.

The most positive thing about your neighborhood wildlife is that it's accessible at any time. As the seasons and days change, you can get outside and work with familiar animals. Frequent visits are a good thing. With careful observation, you'll know where the wildlife can be seen, where birds might nest in the spring or roost in the evening. You might discover a local fox den or where the egrets go fishing every morning. This knowledge is half the key to good shots.

The lens that I've been using for all my wildlife photography lately is the Tamron 150-600mm G2 F/5-6.3 Di VC USD. Most often I've been using this lens on my full-frame Canon EOS 5D Mark IV but have also used it on "cropped sensor" (APS-C format) Canon EOS 70D and EOS 7D cameras. The Tamron lens offers a good range of convenient zoom power in a package of reasonable size and weight. The autofocus is quick and accurate, the VC (vibration compensation) feature allows for sharp images handheld, and this lens has a price tag that doesn't require a second mortgage. Similar zooms for DSLRs are available from Sigma, in addition to those from the camera makers, and there are tele-zoom options for mirrorless systems as well. Any telephoto zoom can yield good results for your neighborhood photography jaunts.

Most of us live within a short drive or even walking distance from a greenbelt, some open space, a shoreline trail or a city park. These are wonderful places to take a break and just go "see what you see." A visit to a local park can re-energize your photographic spirit, and you can get out there tomorrow with ease.

The following are my suggestions to make your images better as you go locally and capture some neighborhood wildlife with your camera.

## Watch the light

Even though you can go to your neighborhood wildlife spot anytime, the light quality is still important. Front light provides the easiest light to work in and is best for stopping the action of birds

**Watch The Light.** Western meadowlark singing, Parker, Colorado. I've photographed many, many meadowlarks and wanted something a bit different, so I shot into the sun to get the nice rim lighting on the bird. Canon EOS 70D, Tamron 150-600mm G2 F/5-6.3 Di VC USD lens at 428mm. Exposure: 1/500 sec., *ƒ*/8, ISO 400.

**Show Some Environment.** White-tailed deer environmental portrait, city park, Denver, Colorado. This image was taken at my favorite local park, where the Rocky Mountains of Colorado rise in the background. Canon EOS 5D Mark IV, Tamron 150-600mm G2 F/5-6.3 Di VC USD lens at 200mm. Exposure: 1/800 sec., *ƒ*/9, ISO 800.

or quick-moving mammals. Backlight is much more dramatic, though, and can create magic out of even commonly photographed species.

## Fill the frame, then show some environment, too

All of the lightweight telephoto zoom lenses that I mentioned above have the inherent ability to capture both close-up portraits and wider environmental shots because of their zoom range. We all want tight portraits of colorful birds or expressive mammals. Zoom in when you find a "friendly" subject and get those tight shots. Then, just to change it up—or when your animal is a bit shy—zoom out and show where it lives as well.

## Composition is still important

Many of the best outdoor photographers are fond of saying, "Composition rules are made to be broken," and I agree. Still, you should at least consider some of the normal artistic guidelines when capturing your backyard or neighborhood wildlife. Offset the bird, place the deer's head at a "rule of thirds" power point, use leading lines if appropriate and give space in front of the implied (or actual) motion of your wildlife subject.

## Manage your background

This is a tip that needs repeating and should be considered essential, even when going for a walk to your city park. The background is of utmost importance to the success of most wildlife images. A clean, non-distracting background helps the subject stand out and allows the viewers of your image to see exactly what it is you want them to see. Really bright or very dark elements behind (or in front of) the subject should be eliminated. How to do this? The further away your subject is from the background, the easier the background is to control. Longer focal length lenses have a narrow angle of view. This is a good thing and allows you more flexibility to choose the best background than you have with a wider lens. Sometimes moving just a few inches can make or break a good background. Improve your backgrounds, and your images will follow suit.

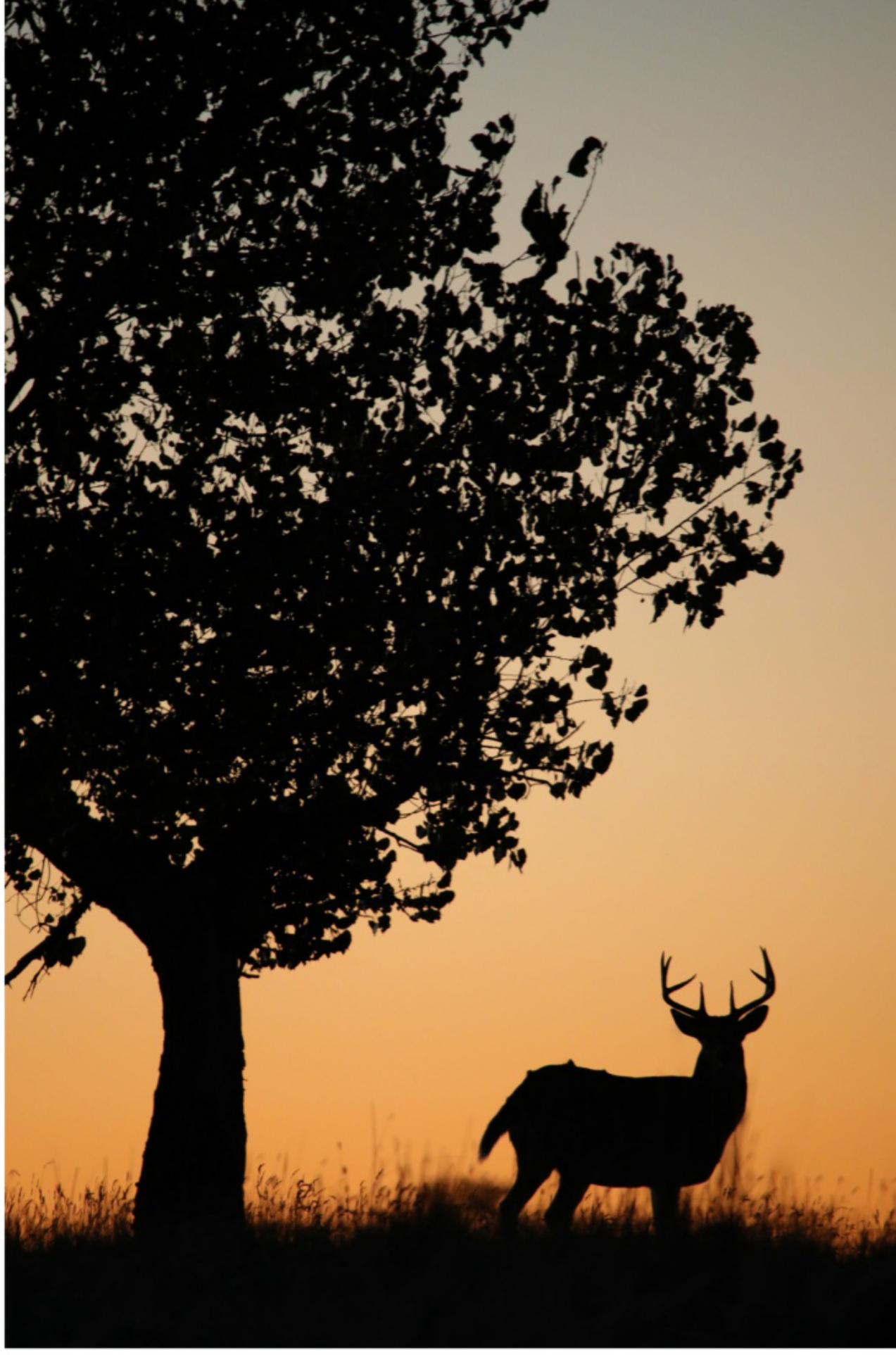
## Get out there early

I've always been a morning person, and nature photography is perfect for me in that regard. I'm up, awake and ready to go most mornings even before the sun is up. Motivate yourself to get to your local park for sunrise. Mornings are usually cooler, and animals are more active as they start their day working to find a

**Composition Is Still Important.** Mountain bluebird, open space park, Parker, Colorado. The diagonals of the branch are good leading lines, and the bird is placed on a "power point" in the composition, looking into the open space of the frame. Canon EOS 5D Mark IV, Tamron 150-600mm G2 F/5-6.3 Di VC USD lens at 600mm. Exposure: 1/1250 sec., ƒ/6.3, ISO 800.

**Manage Your Background.** Chipmunk eating a wild raspberry in an open-space park, Golden, Colorado. With a clean background, the animal really pops out in this image. Canon EOS 70D, Tamron 150-600mm G2 F/5-6.3 Di VC USD lens at 600mm. Exposure: 1/500 sec., ƒ/6.3, ISO 1600.

**Get Out There Early.** White-tailed deer, city park, Denver, Colorado. I know this particular city park very well from years of visiting. I know where the sun will rise, and I know where the deer hang out. The morning I got this image, everything came together perfectly. The horizon was an orange glow, and the deer was separated from the tree enough for my silhouettes to make sense. Canon EOS 5D Mark IV, Tamron 150-600mm G2 F/5-6.3 Di VC USD lens at 600mm. Exposure: 1/20 sec., ƒ/6.3, ISO 3200.



meal. The crowds of other visitors or even distracting joggers or bikers aren't out yet during early hours, and you'll often have the wildlife to yourself, even at popular city parks.

## See them eye-to-eye

The No. 1 way to capture more compelling neighborhood wildlife shots is to get down to the subject's eye level. This isn't always the easiest thing to do, but it is the best way to get more interesting shots.

With large subjects such as local deer, this is fairly easy as they aren't that much smaller, in most cases, than we are, and you can just shoot from your normal height or maybe from down on one knee. Take a chipmunk, a rabbit or a songbird flitting around on the ground, however, and getting to its eye level is more of a challenge. In some cases, lying in the prone position might be necessary, such as at the local beach or shoreline trail when photographing shorebirds. In other cases, if you can find small animals that are up higher, it will make things easier while trying to capture an eye-to-eye image.

## Luck favors the prepared

Sometimes when you find a nice, cooperative subject at your local park or even in your own backyard, you might just get lucky with an action, a behavior or a unique expression. Oftentimes certain animals will telegraph what they are about to do, and careful observation can pay off with a fast action shot (many birds will poop just before taking off). If the action of some quick-moving subject can be predicted or anticipated, excellent images can result. Being prepared, shooting a lot and then getting "lucky" does happen.

## Watch for behavior

Simple portraits of cute or colorful local wildlife are nice, and I recommend taking as many as possible, especially when you do find a friendly subject who tolerates your presence. But most of the animals at neighborhood places are fairly common and have been shown in photos thousands of times before. In order to get your particular shots to stand out from the crowd, you need to capture behavior.

**See Them Eye-To-Eye.** American avocet eating insects, city park, Denver, Colorado. This image was taken while sitting in a very low position to get down to the subject's eye level. Canon EOS 5D Mark IV, Tamron 150-600mm G2 F/5-6.3 Di VC USD lens at 600mm. Exposure: 1/2500 sec., ƒ/8, ISO 640.

**Luck Favors The Prepared.** Coyote shaking off after a soaking rain, city park, Denver, Colorado. During a photo outing it rained hard, but I was dry under a big poncho. This coyote stopped and shook itself off to get dry. Canon EOS 5D Mark IV, Tamron 150-600mm G2 F/5-6.3 Di VC USD lens at 600mm. Exposure: 1/640 sec., ƒ/6.3, ISO 1600.

**Watch For Behavior.** White-tailed deer, city park, Denver, Colorado. Any interaction of two animals can make for nice behavior shots. Canon EOS 5D Mark IV, Tamron 150-600mm G2 F/5-6.3 Di VC USD lens at 600mm. Exposure: 1/100 sec., ƒ/8, ISO 1600.

Behavior can be something as simple as a bird or mammal eating, yawning, preening, stretching, jumping or any gesture that shows that the animal does more than just sit there. Interaction among more than one animal is also great, such as a mother feeding its young or babies playing together. Good behavior shots are certainly more difficult to capture, but by returning to your familiar wildlife place again and again, you have a good chance of getting animal behavior images.

The house wren I spoke of earlier has taken up residence in the nesting box I provide, and it seems as if he's attracted a female. Hopefully they'll successfully raise a few chicks. Every morning, his marvelous song floats up to my ears through my open office windows and reminds me that anytime I need a photo "fix," all I need to do is step outside and go for a walk. I don't need to drive in traffic or stress out today. When I decide to go, I'll simply grab my camera and head outside to my local green belt or even to my own backyard—surely something good awaits me there. **OP**

See more of Don Mammoser's work at DonMammoserPhoto.com.

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Coatis on a ranch in northern Mexico.

# Where Wildlife Gathers

## Using a blind near a water source will provide excellent opportunities for capturing animal behavior

Text & Photography By Dave Welling

It's a quiet morning in my photo blind at a waterhole on a ranch in Mexico. Suddenly, a troop of coatis wander down for their morning drink. Quickly, I'm composing, focusing and firing away. Coatis, especially in a group, are not a common sight. The coatis leave and the calm returns. Welcome to the quiet valleys and the panicked peaks of wildlife photography.

You can improve your success rate for photographing unique wildlife species like coatis by using photo blinds near water sources. Wildlife, from insects to mammals, need water, so setting up an inconspicuous photo blind at a water source can greatly improve your chances to photograph portraits, behavior and interaction of animals when they come to drink.

To set up your own blind, first research the area. Make sure you have legal access, and certainly don't interfere with the animals' ability to reach water. Done responsibly, your photo rewards can be outstanding.

Setting up blinds takes forethought and work. Scout your locations for light direction and background clutter. Avoid wildlife access points to the water, make the design compatible with the surroundings and provide plenty of room. Allow for easy viewing and setting up your gear. Also be sure to account for the weather.

To capture great images, especially with smaller animals, arrange your blind to photograph at eye level. This may mean laying in a bag blind (not fun for several hours at a stretch) or digging a trench to lower your viewpoint.

An easier route is to find a location offering established blinds. Several private ranch owners in south Texas, for example, have specially designed photo blinds at waterholes on their properties and offer wildlife photographers the opportunity to capture spectacular images. Most blinds are on the property of landowners who are either wildlife photographers themselves or work with wildlife photographers who help set up the blinds and offer guide services. Some properties even offer lodging and meals so you can stay on site, minimizing travel time and other inconveniences. I've visited many of these ranches. The blinds are well-established, and the wildlife is acclimated to their presence.

Ranch owners charge daily fees for the blinds but offer many benefits for photographers. The blinds are oriented for best light. Backgrounds are clean and devoid of hotspots. You may not have the ability to get these conditions with your own setup. Backgrounds are also typically set back from the plane of the subject, allowing images that isolate the animal with a more pleasing backdrop.

Blinds are usually designed with plenty of room for large lenses on tripods with

A photo blind at a private ranch in the Rio Grande Valley of south Texas.

A covey of northern bobwhites drinking at a pond on a private ranch in south Texas.

A pregnant female Mexican ground squirrel feeds on berries at Santa Clara Ranch.

flash for fill if needed. You can create frame-filling songbird images with 500mm to 600mm lenses or behavior images of mammals with smaller zoom lenses. I prefer the newer 80-400mm or 200-500mm zoom lenses, possibly with a teleconverter. These lenses have tremendous flexibility. One day a single bobwhite came to drink. My lens at 500mm isolated the bird. Suddenly, a covey of bobwhite arrived. Quickly zooming back to 200mm, I captured a great group behavior image.

Wildlife in south Texas needs extra water due to the heat, so most blinds are at waterholes. Animals visit often to drink, and birds bathe throughout the day. Native berry and food plants are planted at many of the waterholes. Wildlife becomes acclimated to these blinds and the food sources, offering opportunities to capture behavior of species not normally visible during the day like squirrels, field mice and opossums. A pregnant Mexican ground squirrel visited for berries one day and made a great subject.

These ranches offer opportunities to photograph reptiles to large mammals, and you may get lucky—one of the key elements of wildlife photography—and capture interaction or unique behavior. From blinds like these, I've photographed everything from javelina mothers and their babies to one of the most unique animal interaction images I have ever taken, a diamondback rattlesnake striking a green jay. One morning I was photographing green jays drinking at a pond when suddenly one started screaming. Looking up, I saw a western diamondback rattler with its fangs stuck in the neck of the jay. I photographed this life-and-death action from the strike to the diamondback swallowing the jay, one of the most interesting animal interactions I've ever witnessed. Amazingly, I was standing right where the diamondback wasn't 10 minutes before. He must have seen me and, thankfully, ignored me.

If possible, work from a blind near a small tree, a great perch for birds coming to drink and bathe. I photographed 40 different species, like a windblown long-billed thrasher that used one tree near my blind. Note that many birds are migratory in Texas, so research when to go for best results.

While I've spent a lot of time in Texas, similar opportunities can be found around the country. Other sources for photo blinds at water sources include many national wildlife refuges and state wildlife areas that provide blinds free of charge. Regulations govern their use and most require advance reservations. The North American Nature Photography Association (NANPA) has installed photo blinds at over 35 national wildlife refuges in 27 states. Contact NANPA or

A western diamondback rattlesnake strikes a green jay, one of the most interesting animal interactions I have ever witnessed.

Mother and baby javelinas at Martin Refuge, south Texas.

a specific refuge for information. Most national wildlife refuges protect migrating waterfowl but also allow hunting during migration, so be adaptable.

While some refuges offer permanent blinds, all allow movable blinds: your car. Working from your car is often the best option for migratory waterfowl photography. The refuges typically have a one-way driving loop to reduce auto traffic. The birds are accustomed to cars, and you can photograph from your driver-side window. You need telephoto lenses to isolate birds for portraits or individual behavior, and using a bean bag or window tripod mount helps stabilize your equipment.

Migratory waterfowl visit national wildlife refuges during migration. For most refuges on the Central or Pacific Flyways, October through December is a great time to visit. Bosque del Apache, near Socorro in New Mexico, is a waterfowl photographer's dream. Tour route roads are wide enough to pull off to photograph and not block other vehicles. Waterfowl and songbird populations can explode during late fall and winter with huge sandhill crane populations (and a whooping crane or two). The cottonwoods can also be spectacular at this time, offering a landscape photo break.

The Sacramento NWR complex near Willow, California, is a major stopover point on the Pacific Flyway for Canadian, greater white-front and snow geese, and various duck species. A photo blind is available by reservation. Using your car as a blind on the auto tour routes can be very rewarding.

East Coast photographers should check out J.N. Ding Darling NWR near Fort Myers, Florida. There is an excellent auto tour route for car blind photography. You can also walk the dike roads looking for subjects. Many of the birds are year-round residents, with many tropical species. Nesting is common at the refuge, and great blue herons are often seen with young and can easily be photographed from your car.

Don't overlook state and local wildlife areas. South Padre Island on the Texas coast has a Birding and Nature Center with boardwalks over the tidal flats and native plant areas surrounding water sources. South Padre is a major stopover point for migrating warblers

A great egret, a brown pelican and a double-crested cormorant perch on a small sandbar in a large estuary in the Ding Darling National Wildlife Refuge in Florida.

A family of nutria—an introduced species—rest on a floating mass of duckweed in a swampy pond on nature conservancy property in Louisiana.

from Central and South America. Usually mid-April to early May has the greatest population of these beautiful songbirds. You can photograph from the boardwalks, which shield you from the birds to some extent. Reddish egrets are popular, colorful subjects.

In addition to using a blind, you can always set up on the ground near a waterhole and use your "pretend to be invisible" blind. Stay quiet and minimize your movement, and you'll be amazed by what flies in.

Whether you find an established photo blind, pack your own or shoot from your car, enjoy the congregations that water sources offer for wildlife photography. **OP**

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To see more of Dave Welling's work, visit strikingnatureimagesbydavewelling.com.

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# Spin Cycle

## Bull moose in Baxter State Park, Maine

By Michael Despines

When I moved to Vermont, I had for the first time the opportunity to photograph a New England icon—the eastern moose. My photo project began with "desk research." I scoured the internet for moose images to get a sense of what was possible. The best images I found included moose in water or standing in the woods surrounded by fall colors. I imagined my "ideal" shot—I wanted an image of a bull moose standing in a lake with the water cascading off his massive antlers with a mountain forest covered in glorious autumn colors as a backdrop.

I learned from my reading that Maine has the largest number of moose in the Northeast, so I reached out to potential guides. One guide explained the life cycle of the moose and helped me realize that my "ideal" shot was just about impossible.

Bull moose grow antlers in the spring that reach maximum size in the fall—just in time to battle other bulls for the right to mate with cows. With the arrival of winter, the bulls are exhausted from the rut, and they shed the heavy antlers to conserve energy to help them survive the long Maine winters. During the summer, moose wade into ponds or lakes to feast on lilies or pondweed, which are rich in sodium.

I then understood that summer would offer one type of shot (moose with smaller antlers in water) while fall would offer a different image (moose with a large rack among autumn colors).

Having found a guide that I liked, I began visiting Maine each year. Some years I'd visit in the summer and work on finding the "water shot." In other years, I'd visit later in the season for the "colorful" moose shot. One of my favorite places to visit was Sandy Stream Pond in Baxter State Park. I'd sit by the lake from sunrise to sunset over a few days photographing the wildlife and birds as they visited this idyllic spot.

On this occasion, a young male moose appeared from the woods around noon and waded into the pond. He began to dunk his head under the surface of the water to feed on the plants below. His antlers weren't very big, so I wasn't interested at first. However, after about three "dives" under the water's surface, he shook his head from side to side to clear the water from his antlers. In the bright light, the spiraling water glistened and created a real show. Instantly, I realized that a very special image might be possible. Frustratingly, though, the moose stood perpendicular to me so I couldn't capture the full effect. So, I waited and waited. Finally, after about 45 minutes, the moose turned and faced me and began to shake his head. As I held down the shutter button, I could see that I had captured the "spin cycle" in all its glory. **OP**

See more of Michael Despines's work at despines.com.

➤ Nikon D300S, AF-S NIKKOR 600mm f/4G ED VR, Gitzo G1548 tripod, Wimberley gimbal head. Exposure: 1/500 sec., ƒ/4, ISO 400.

## Cool Cat

"I was photographing a pride of lions one afternoon at Mfuwe Lodge in Zambia's South Luangwa National Park," says South African photographer Isak Pretorius. "They were sleeping off a buffalo meal they had the night before when one of the females got up and walked off. Anticipating that she might be going to have a drink, I positioned myself across the nearest seasonal pan of water. She appeared through the long green grass and then hunched down to quench her thirst. While she was drinking, she was occasionally looking up or to the side. I had to get my timing just right to catch her with her tongue out while looking in my direction."

➤ *Canon EOS-1D X Mark II, Canon EF 600mm f/4L IS USM. Exposure: 1/400 sec., ƒ/4, ISO 1600.*

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**See more of Isak Pretorius' work at theafricanphotographer.com.**

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