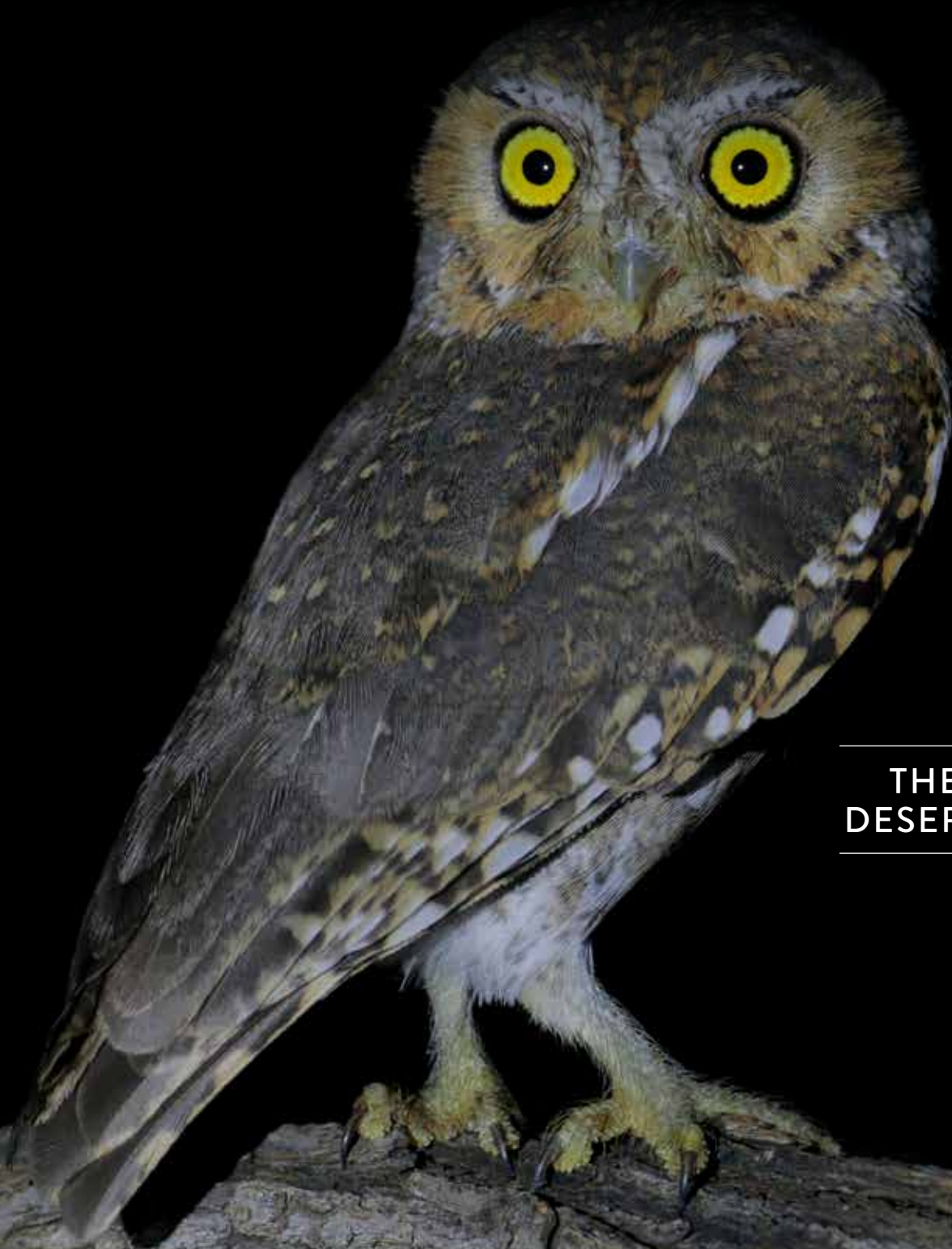


# VERMILION FLYCATCHER

TUCSON AUDUBON

Spring 2023 | Vol 68 No 2



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THE SONORAN  
DESERT AT NIGHT

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TUCSON  
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Tucson Audubon inspires people to enjoy and protect birds through recreation, education, conservation, and restoration of the environment upon which we all depend.

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ON THE COVER

Elf Owl by Greg Lavaty. Greg is a longtime bird photographer and overall lover of everything avian from Houston, Texas.

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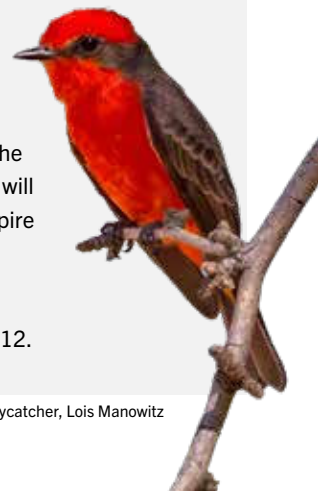
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Vermilion Flycatcher, Lois Manowitz



# TUCSON AUDUBON REMAINS DEDICATED TO OUR DESERT HOME

As birders, bird enthusiasts, and conservationists, we are attuned to the changing of the seasons. As many of our readers know, a few months ago, we found ourselves at a season change here at Tucson Audubon Society.

Just over a year ago, it was a huge win for our organization to welcome Michael McDonald as our executive director. His decades of experience in nonprofit management, his proven dedication to the environment, his eagerness to explore the world of birds, and most importantly, his gentle kindness to everyone he meets, we knew, would serve us well as an organization. Owing to changing circumstances in the health of the older members of his family, Michael was faced with having to downsize his public life. He has chosen to serve at a smaller conservation organization. The decision to step down as executive director of Tucson Audubon was not an easy one for him to make, and we honor his commitment to both his family's needs and his ongoing desire to make a difference in southern Arizona.

"It has been my great privilege to have learned from, worked alongside of, and supported the collective leadership of the talented and dedicated staff and board members of Tucson Audubon, one of the nation's premiere—and

most programmatically large and diverse—Audubon chapters. It is so very clear to me that this strong team will continue to achieve transformative results and mission-impact in the coming years!" —*Michael McDonald*

Tucson Audubon remains steadfast in our commitment to our wonderful community. Our board of directors is hard at work to identify and hire a new executive director. And our entire staff will continue to serve you, the greater community of Southeast Arizona, and the birds of our region, as we always have: with dedication, passion, science-based methodologies, and above all, with love for our desert home.

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Buffy Helmetcrest, Juan José Arango

# ALMANAC *of* BIRDS

## APRIL TO JUNE

I love birding by ear and utilizing this skill to help find hidden birds. During the day there are many distractions, including competing bird songs and calls, human sounds, and visible movements. Going out at night strips most of this away and you are left with using your ears to locate and identify birds through the sounds they make—and these are some cool sounds! It's always a little hair-raising (in a good way) to have the silence of a desert night broken by the call of a Western Screech-Owl or a Mexican Spotted Owl in a dark forest. It's then you realize, nighttime is not the domain of humans, and quite possibly, we are not in control. It's a great feeling!



Matt Griffiths  
*Communications Coordinator*  
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Mexican Spotted Owl, budgora



## MEXICAN WHIP-POOR-WILL

One of the first bird sounds I learned after moving to Southeast Arizona, the amazing call of the Mexican Whip-poor-will instantly reminds me of spring trips to Cave Creek Canyon in the Chiricahua Mountains. Recently split from Eastern Whip-poor-will as its own species (2010), this nightjar's range is mostly in central Mexico, but the northern populations migrate into northern Mexico, Arizona and New Mexico in April. It's at dusk and dawn that the oak and sycamore canyons reverberate with the loud *pur-ple-riip* calls of birds looking for mates or about to begin a night of foraging. And call they do! If you've camped in whip-poor-will territory, you know their penchant for ceaseless singing can lead to some sleep deprivation! Like all nightjars, the Mexican Whip-poor-will is an aerial insect eater, utilizing its huge mouth gape to capture prey such as moths and scarab beetles. The jury is still out on the function of the prominent facial rictal bristles that are modified hairlike feathers or whiskers—they may provide protection from prey when foraging, aid in foraging, or perform some sort of sensory detection. The species is a ground nester without a nest, laying its eggs directly in leaf litter on the forest floor. The Mexican Whip-poor-will is among the least-researched breeding birds in North America—the biology of this unique and deserving species is virtually unstudied.

Mexican Whip-poor-will, Ross Tsai  
Elf Owl, Doris Evans  
Common Poorwill, Dominic Sherony



## ELF OWL

Now that the desert is heating up, one of the most enjoyable nature activities is a walk in the dark. Not only do you avoid the sun, but you have a good chance at hearing the unmistakable laughing calls of an Elf Owl, one of the most unique sounds in the Sonoran Desert. Appropriately named, this owl is the smallest in the world, about the size of a sparrow! Elf Owls are secondary cavity-nesters—they rely on other species to carve out the holes they prefer to occupy. In Southeast Arizona, these owls can be found in the desert and also up in the pine/oak forests, primarily nesting in mature saguaros and sycamore respectively. Elf Owls are mostly insectivorous, and this may be one reason why they are migratory, a rare trait among owls. They leave Arizona in September for subtropical, thorn woodlands in Mexico where arthropod abundance is higher during winter. Elf Owl is listed as a species of conservation concern by the Arizona Game and Fish Department due to loss of nesting habitat from development and potential fires in the desert driven by buffelgrass. You have the chance to join us this spring on night surveys for Elf Owls in the desert. We'll be hiking along moonlit trails in Saguaro National Park, listening for the owls and periodically playing their calls to try and goad them into calling back to us. Learn more about the surveys at [AZIBA.ORG](http://AZIBA.ORG).



## COMMON POORWILL

The Common Poorwill is another nightjar that inhabits Southeast Arizona, but it deals with life very differently than the whip-poor-will. It is a bird of dry, open environments like the Sonoran Desert and the rolling plains and mountain foothills of the west. With a range that extends from western Canada down to northern Mexico, it has to deal with extreme heat and cold. When temperatures drop and insect food sources become scarce, the Common Poorwill is known to spend long periods completely inactive, a very rare ability in the bird world. It's been determined that they can lower their body temperature to 41° Fahrenheit and reduce their oxygen consumption by more than 90% for extended periods. This state of torpor saves energy until ambient conditions improve and can last for days or even weeks. In addition to dealing with cold, food-scarce conditions, Common Poorwills must also cope with the extreme heat of the arid west. When it's hot, they can release water through their skin like sweating and also open their mouths and flutter their neck muscles. This gular fluttering promotes heat loss and can be thought of as the avian form of panting. The Common Poorwill is a year-round resident in southern Arizona—listen for its meditative *poor-willip* calls at dusk and dawn in the foothills of our Sky Islands except in winter.

SCAN THIS CODE  
TO HEAR AND SEE  
THESE UNIQUE  
NIGHT BIRDS



# SONGS OF THE NIGHT

## BIRDING THE DESERT IN THE DARK



Some of my most memorable birding experiences have happened at night. Listening for owls and nightjars in the distance or having surprise encounters when one calls much closer than expected is fun and exciting. The dawn chorus of songbirds enthusiastically singing as the sun starts to rise is an iconic experience of birding. When camping out you can experience a similar, mirrored phenomenon as darkness falls and the nighttime animals wake up and begin to call. Like the dawn chorus, the “evening chorus” is very seasonal and tied to breeding. In southern Arizona, Great Horned Owls start calling in late winter but you are most likely to hear our smaller owls and the nightjars in the spring. Night birding can be a very different experience and definitely worth trying if you haven’t already.

Southeast Arizona is a hotspot of diversity for owl and nightjar species, making it even more rewarding to seek out night birds. Birding in the dark does come with challenges that can be mitigated with proper preparation.



OPPOSITE: Great Horned Owl, Peter Brannon  
Lesser Nighthawks, Dan Weisz; Elf Owl, Dominic Sherony

It’s important to carry sufficient light (headlamp or flashlight) so you can safely walk around, and I always bird at night with a buddy or group. If I’m part of a group of folks looking for night birds, I prefer a parking area or other flat walking surface to minimize the risk of injury. The days leading up to a full moon create some ambient light which makes moving about safer, and also increases your chances of glimpsing an owl or night bird if they fly above the horizon. It’s also important to have realistic expectations of what you will encounter. Simply hearing an owl or nightjar is the most likely. Seeing them is thrilling, but relatively rare. The number of species one can expect to encounter is also far fewer than in daytime birding. But these challenges make successful attempts all the more exciting and memorable.

**Here are just a few of the bird species that dominate the night that you can seek out in Southeast Arizona:**

#### GREAT HORNED OWL

Likely one of the most opportunistically encountered owls. Their booming calls and willingness to nest in urban areas makes them quite accessible. They begin calling and nesting in the winter and can be found in many habitats and elevations.

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#### SONORAN DESERT SUITE: LESSER NIGHTHAWK, WESTERN SCREECH-OWL, ELF OWL AND COMMON POORWILL

Lesser Nighthawk was formerly known as “Trilling Nighthawk” due to their characteristic, purring call. They are nimble flyers and are frequently seen chasing flying insects attracted to artificial light sources. You can expect to start seeing them return from migration in early April and they lay their eggs directly on the ground. Listen for their trill call in desert habitat, especially if the moon is visible. A moonlit night is also when you are likely to hear the *poor will* call of a Common Poorwill, from a cliff or other vertical rock structure at lower elevations.

Western Screech-Owls are resident in southern Arizona and have a distinctive “bouncing ball” call. A pair will frequently duet during the spring nesting season. They are cavity nesters and will often nest in woodpecker holes in saguaros or trees. They are also comfortable using nest boxes placed in good habitats. Elf Owls are also cavity nesters and can often be heard giving their laughing call in similar habitats in April and May, after they arrive from their central Mexico wintering grounds. One of my favorite locations to listen for these two owl species is Sweetwater Preserve Trailhead.



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NIGHT BIRDS



Whiskered Screech-Owl, Alan Schmierer; Buff-collared Nightjar, Julio Mulero

### SKY ISLAND MOUNTAIN HABITAT: WHISKERED SCREECH-OWL AND COMMON NIGHTHAWK

Whiskered Screech-Owl is a specialty bird of our Sky Island mountain ranges, only found within the US in extreme Southeast Arizona. They look remarkably similar to Western Screech-Owl but sound very different with a steady series of hoots and a duet call that sounds remarkably similar to Morse code. If they go quiet, watch the sky above and through the trees, for the silhouette of a small bird flying. This is an excellent way to locate owls and other night birds.

Common Nighthawks are also present in Southeast Arizona on migration, and in a few isolated nesting populations. Their loud *peent* call is given frequently in flight and they occasionally make a booming sound in a courtship dive. One can hear this when they migrate through our region, but you can also find them throughout the summer breeding season in grassland areas such as Las Cienegas and the foothills of the Huachuca Mountains.

### SPECIAL LOCATIONS: BUFF-COLLARED NIGHTJAR

Only found in a few rocky canyons in Southeast Arizona within the entire US, the Buff-collared Nightjar is a difficult bird to find. Their loud call is a series of rising and accelerating *tock tock* notes, leading to a sudden trill. During the spring and summer, they are famously found in California Gulch, a remote canyon in the Pajarito Wilderness west of Nogales. Several years ago a singing male delighted many birders by calling most evenings from a wash near the entrance to Madera Canyon. Hopefully one will be discovered at a similar location in the near future. See page 21 for more info on this species.

Jennie MacFarland,  
Bird Conservation Biologist  
jmacfarland@tucsonaudubon.org



## A LIGHT IN DARK PLACES



Seeing owls and other birds of the night is incredibly exciting, and such a rare occurrence for many of us. Sometimes we get lucky and spot a dozing owl during the day, but since these birds are active only at night, seeing them is likely to involve some kind of artificial light. Very little scientific study has been done on what, if any, intensities of light can damage the eyes of owls and other night birds. When it comes to using light to see owls, I use my best judgment and watch their behavior. I never shine a light directly at an owl but instead aim the pool of light so the outer edges shine on the bird. When lights or photography flashes get too bright, I have seen owls turn their heads or even turn around on a branch to get the light out of their eyes. If you are using artificial light to see or photograph nighttime birds, watch their behavior for discomfort and limit the duration and intensity of the light directed at the bird. If it's not a light I would want in my face, I don't do it to an owl or other nighttime species.

Great Horned Owl, David Quanrud



# INVITING CREATURES OF THE NIGHT TO YOUR YARD

## NIGHT-BLOOMING NATIVE PLANTS:

- Tufted evening primrose (*Oenothera caespitosa*)
- Sundrops (*Calylophus hartwegii*)
- Sacred datura (*Datura wrightii*)
- Night blooming cereus (*Peniocereus greggii*)

## INSECT SUPER ATTRACTORS:

- Velvet mesquite (*Prosopis velutina*)
- Desert willow (*Chilopsis linearis*)
- Desert hackberry (*Celtis pallida*)

## MOTH LARVAL HOST PLANTS:

- Palmer's Indian mallow (*Abutilon palmeri*)
- Wolfberry (*Lycium* species)
- Mimosa (*Mimosa* species)
- Desert globemallow (*Sphaeralcea ambigua*)

As the sun sets, the creatures of the night come alive. City street lights fog with flying insects, crickets chirp, and desert mammals scurry about. For nighthawks, owls, and bats, dinner is served, and these species are some of nature's best pest control. With a little planning, you can draw them into your own outdoor spaces.

Providing places to shelter during the day is one of the easiest ways to benefit nocturnal species. Homes with ample outdoor space can create habitat with pockets of dense vegetation with gaps interspersed to allow for clear night flight paths. To avoid predation, Lesser Nighthawks rely on their uncanny camouflage as they sit motionless on the desert floor. Heavily branched and thorny shrubs like desert hackberry (*Celtis pallida*) and graythorn (*Ziziphus obtusifolia*) are excellent for creating structural habitat with safe places to roost and nest under.

During the day, insectivorous bats in Tucson seek shelter in places with tight crevices like culverts, under bridges, behind the siding on buildings, in the skirts of palm trees, under eaves and porch awnings, and under exfoliating bark. Bats may also use a bat house with multiple chambers that provide different microclimates for them to choose from. You can build your own or purchase one from the Tucson Audubon Nature Shop.

Western Screech-Owls are well known for their tolerance of humans, adaptability to semi-urban landscapes, willingness to nest in boxes, and their role as rodent predators. Invite a pair to your yard by putting up a nestbox, also available at the Nature Shop.

There are many native plants that bloom at night and attract a lot of insects, providing nighthawks, bats, and owls with their prey items, or are moth larval host plants. Providing these important food sources can then entice them to eat other, more bothersome insects. Many of the species are also larval host plants for moths—potential food items but really cool insects too!

There are a few things you can do to protect the wildlife you attract to your outdoor spaces. Avoid using insecticides to ensure that there is enough insect prey for nocturnal insectivores. Remove non-native invasive plants. Bats need to eat lots of different insects to stay healthy. When invasive plants move in, they push out our native plants. Native plants support a huge variety of yummy insects, invasive plants don't. Keep cats indoors. Cat attacks are a common cause of death for birds and bats in urban environments.



Kim Matsushino  
Habitat at Home Coordinator  
kmatsushino@tucsonaudubon.org



Western Screech-Owl, Lois Manowitz  
Creatures of the Night Recipe Card  
Lesser Nighthawk with chick, Dan Weisz

# FLY BY NIGHT— EXPLORING NOCTURNAL MIGRATION

Thousands of waterfowl gathering during migration, Krista Lundgren, USFWS

On spring and fall nights, while most of us are tucked into bed, the skies above are a crowded highway of migrating birds. Many people are surprised to learn that the vast majority of birds migrate at night. Avian travelers on this complex network of nocturnal superhighways include songbirds (warblers, vireos, sparrows, orioles, tanagers, and flycatchers), wading birds (like herons and egrets), shorebirds, and waterfowl.

Scientists have several theories to explain why birds migrate at night. One of the more widely accepted of these is that the night is safer because there are fewer predators to contend with. Another hypothesis is that birds use the moon and stars (especially the North Star) for navigation. Perhaps the most popular theory is that the cooler night temperatures help prevent overheating caused by the bird's exercise heartbeat, which can reach five hundred beats per minute. Birds also expend less energy at night because the night air is usually less turbulent.

Birds that migrate at night usually begin their journey roughly 30–45 minutes after sunset. Typically, they will fly for a few hours and then rest, though some birds will fly all night. In the morning they will again take

flight for a few hours, then land and begin refueling for the next leg of their journey, which could be undertaken the following night or up to several nights later.

The greatest danger to nocturnal migrants is human-made. The construction of communication and radio towers, tall buildings with lights left on at night, and wind turbines kill thousands of migrant songbirds each season. When the skies are foggy, some migrants become confused and will circle tall lighted buildings, resulting in many fatal strikes. National Audubon Society's Lights Out campaign addresses this problem by convincing building owners to turn off excess lighting during peak migration months. Locally, Tucson Audubon's Bird Safe Buildings program aims to make our cityscape safer for birds.

Birders can get a better appreciation of the sheer number of birds migrating at night by visiting the BirdCast website ([BIRDCAST.INFO](http://BIRDCAST.INFO)). The BirdCast migration dashboard began as a collaborative effort of the Cornell Lab of Ornithology, the University of Massachusetts Amherst, Colorado State University and Oregon State University. It provides nightly migration



It can be exhilarating to see migrating birds such as these geese cross a full moon, David Quanrud



Building lights can disorient birds that migrate at night, Thomas Hawk

forecast maps and live migration maps for North America using doppler radar, the same radar used to monitor weather patterns. The website is a lot of fun to explore and a great way to find out what migration intensity is predicted for your local area or to observe real-time migration patterns.

Birders can also use “old-fashioned” methods to detect local migration. There is nothing quite as magical as sitting outside and listening to the variety of night flight calls. It can be fun to challenge yourself to imagine the number and types of species passing overhead by identifying their calls.

Another way to enjoy night migration is simply to sit outside during a full or near-full moon with binoculars or a scope and watch the birds as they pass across the face of the moon. It is extremely difficult to accurately identify specific species this way, but it is possible to place the birds into a genus. If you are lucky and happen to be watching on a night with a heavy flight, you should be able to differentiate the smaller warblers and sparrows from the larger thrushes, and seeing a flock of shorebirds or waterfowl is thrilling. When watching the moon, a rule of thumb is that the closer the birds, the faster they cross your field of vision. The birds that are farther away will provide you with a longer look.

In recent years, the interest in night flight calls has grown steadily. Night migration enthusiasts will often gather in lighted shopping center parking lots to listen and possibly get a look at some of the lower flying migrants.

Postings of their recordings spark enthusiastic and lively identification discussions on the internet.

Here in southern Arizona, the night calls of species such as Black-headed Grosbeak, tanagers, and Hermit and Swainson’s Thrush are quite distinctive. That being said, identifying other migrants by their calls at night can be a formidable task even for seasoned observers.

Ever-improving recording technology is facilitating the identification of previously unidentifiable migrants. New birdsong software apps make it possible to upload night recordings and have them translated into sonograms that enable you to “see” what bird songs and calls “look like”.

Observing nocturnal bird migration is both rewarding and challenging, and it can add a whole new dimension to your birdwatching experiences.



Nick Pulcinella started birding in Pennsylvania at eight years old and developed serious interests in the identification, migration, and status of birds. He served on both the Pennsylvania and Delaware Records Committees, and was editor of *Pennsylvania Birds* and former regional editor for ABA’s *North American Birds*. He now lives in Green Valley.



Some birds can still be seen migrating during the early morning hours before they land to refuel. Blue Grosbeak, Vesper Sparrow, Western Kingbird, all photos by Adam Dudley

# INTO THAT DARK NIGHT: IN SEARCH OF SCALES, TAILS, AND FANGS, OH MY!

In a 1931 monograph on the snakes of southern California, the esteemed herpetologist Laurence M. Klauber was the first to espouse the scientific virtues of nocturnal road-cruising for finding snakes. Suddenly, serpents once thought to be quite rare, such as the Shovel-nosed and Leaf-nosed snakes, were found to be quite common. I have, many times, seen more than 15 snakes in a few hours of nocturnal road-cruising. My personal best was 34. Snakes are easier to see on pavement, but unpaved roads can be productive, too. Ruby Road in Santa Cruz County is infamous for the southern rarities seen on both its paved and unpaved surfaces. Most snake activity occurs in the first few hours after dark, although some species become active again before dawn, and of course, many species are active by day, particularly before the heat of summer descends on southern Arizona. Full moons likely deter snake activity because of increased predation risk.

Busy, paved roads are a hazard for snakes and other animals, too. Many animals are killed on roads, and dead zones can form around such roads, reducing the likelihood of seeing many snakes. In Organ Pipe Cactus National Monument, the Three-lined Boa used to be found on Highway 85 but has been all but eliminated from the highway corridor as a result of road mortality.

Low-traffic, paved or unpaved roads through nice habitat can also be productive for Gila Monsters, Banded Geckos, toads, spadefoots, and even the occasional Tiger Salamander. Typically diurnal lizards, such as Side-blotched Lizards and Desert Iguanas, may be found sleeping on roadways at night, or may even be active on particularly hot nights.

Of course, walking trails after dark through the desert can also produce observations of nocturnal herpetofauna, and finding a rattlesnake or Gila Monster along a trail by flashlight is quite rewarding. You are also more likely to observe interesting behavior or glean understanding of a species' microhabitats than if you found an animal on a road. But it takes a lot more work to find snakes or other herps along trails.

In the Sonoran Desert, the summer monsoon season is most productive for finding nocturnal herpetofauna, although a few species (e.g. Shovel-nosed Snakes, Banded Sandsnakes) are more likely to be found before the summer rains begin. Gila Monsters are most active in April and May, and then again during the monsoon season. In the Sky Island region, nights often don't warm up much until June, suppressing nocturnal activity.

Hunting snakes requires a license from the Arizona Game and Fish Department and collection is illegal without special permits in National Park lands, tribal lands, and some other areas. Above all, stay safe out there! Stopping for snakes can create hazardous situations. Watch where you step on those night trails and when exiting a vehicle. Now go into that dark night, gentle naturalists, and have fun!

Jim Rorabaugh has worked in Arizona and Sonora as a herpetologist for the last few decades. He is also an avid bird watcher, nature nut, and conservation advocate



Río Fuerte Beaded Lizard on a paved road near Álamos, Sonora; Jim Rorabaugh



A cratered Sidewinder by flashlight during a night walk in the Yuma Desert, Jim Rorabaugh

# LUMINESCENCE ON THE SANTA CRUZ

Julius Schlosburg

When meeting people who live along rivers in Southern Arizona, I have started asking an odd question: “Do you ever see fireflies?” Usually the answer is a puzzled “no,” followed by, “I don’t think there are fireflies in Arizona.” Which, I tell them, is exactly what I thought before I found myself alone, knee-deep in the Santa Cruz River, in the middle of the night, surrounded by clouds of fireflies.

I first learned about Arizona fireflies from entomologist Joe Cicero in one of Sky Island Alliance’s “Coffee Break” webinars, a series they have been running since early in the pandemic. Intrigued, I re-watched the episode multiple times and was excited to see if I could find fireflies when the monsoon season arrived. As Cicero describes, most fireflies in the United States perform what’s known as a “flash-answer” routine—the dance some of us grew up watching on the East Coast in which the female beetle remains on low vegetation while the males fly and flash overhead. If a male passes over a female of the same species, she may blink back to invite him down; the two can locate each other and, you know, go on a date.

Through a series of chance meetings and conversations, I learned of a firefly hotspot off the Anza Trail, along the banks of the Santa Cruz River near Tumacacori. I decided to give it a look one evening with my partner. We walked the trail through the bosque as the blue hour descended, with no sign of fireflies. As twilight set in we began walking back along the trail, happy for a nice walk but disappointed that we hadn’t see any fireflies, when there it was, one little flash. Then three flashes! Within a few minutes we saw them in every direction.

The species we saw, the Southwest synchronous firefly, or *Photinus knulli*, has an even more interesting dance, although conditions were not ideal in the area where they had gathered for us to observe their full behavior. Cicero notes in a groundbreaking paper he authored that, among several flashing communication channels and flash behaviors, including multiple types of ground-to-air and ground-to-ground flashing, groups of males (known as a “lek”) on the ground will wait in darkness for a period of time. Spontaneously, one male will begin a flash sequence—three green flashes in quick succession. Any male that sees this will quickly reply with its own flash sequence, and this carries outward through groups of as many as sixty males. As the initiating firefly repeats his sequence, responders are able to shift their flashing to match the initiator’s, and by the third round every participant in the light show flashes in synchrony. Cicero describes the observation of this incredible phenomenon as akin to watching green lightning streak along the ground as the flashes ripple out in synchrony from an initiating lek member. He hopes to further document this behavior during the coming firefly season.

I actually met Cicero in person on the first of many nights I went out to photograph the fireflies, purely by happenstance. He was taking a group of firefly fans out to see the light show on that very same trail. If you’re interested in joining him on one of these outings, send him an email at [arizonafireflies@gmail.com](mailto:arizonafireflies@gmail.com). *Photinus knulli* season in Arizona begins alongside the monsoon rains.

—Julius Schlosburg, community photographer based in Tucson, AZ, and Joe Cicero, entomologist

# MASTERS of the NIGHT



Bats are fantastic nocturnal creatures that thrive at night and are the major predator of night-flying insects. Bats pretty much own the night because they don't have to compete with diurnal birds. The desert is full of night-loving insects and bat-pollinated plants that can be taken advantage of by bats, which have unique adaptations to their anatomy and vocalizations that make them very successful.

Arizona is fortunate to have 28 species of bats of which 26 are carnivorous and 2 are nectarivorous. Arizona's carnivorous bats forage on a variety of insects and arthropods such as flying ants, beetles, mosquitoes, katydids, moths, crickets, grasshoppers, scorpions, and others. The two nectar bat species forage on columnar plants like saguaro, agave, organ pipe cacti, and yuccas. The plants provide bats with nectar, pollen, fruit, and insects.

Insect-eating bats rely on sophisticated echolocation to find and capture prey, avoid obstacles, and navigate by producing ultrasonic sounds. Pulses are emitted from the larynx, bounce off the object, and return to the bat's ears in seconds. The returning echoes provide the bat with information about its environment and prey. Bats see with their ears and most of these high-frequency sounds are above human hearing. Bats capture insects in their mouths, and if on the ground, they can use their wings and tail membranes to scoop up their prey. Contrary to popular thought, bats are not blind and their black-and-white vision works well in the low lighting at night.

Nectarivorous bats primarily utilize their large eyes to locate their plant food. These bats have a reduced number of teeth, long snouts, and long, slender tongues for lapping up nectar. They also have long wings that enable them to hover as they forage at plants. Young bats can fly within four to five weeks after birth and will follow their mother to nectar sources. If you find your hummingbird feeders are emptied overnight, you were likely visited by nectar bats that regularly utilize feeders during late summer. Both nectar bat species are migratory. Roosts include caves and mines and some colonies number in the thousands.

During the summer, insect bats can be observed around streetlights, ponds, and pools chasing their prey. A fun activity is to watch these bats fly out from under local bridges and on to their feeding grounds just before dusk. A great location is the Broadway Blvd. bridge over the Pantano Wash where clouds of bats emerge every evening. Have a wonderful time observing bats!



Karen Krebbs is a lecturer, author, and Conservation Biologist studying bats and birds—her bat research project in Southeast Arizona is in its 23rd year. She also trains National Park Service employees on the proper protocol for handling and studying bats. Tucson Audubon oversees the NPS reporting and financial requirements for this grant.

# MAMMALS OF THE DESERT NIGHT

When the moon is a crescent and the stars sparkle in the sky, the desert's own mammal stars venture out. There are so many amazing creatures—badgers, foxes, skunks, bats—each with different strategies and tactics for thriving in the Sonoran Desert, but ringtails and kangaroo rats are truly outstanding.

Ringtails are gorgeous squirrel-sized creatures weighing only 2.5 pounds, but they pack a big personality. They have huge eyes and large ears, set in a little foxlike face. But that sweet and endearing face hides the pilfering tendencies of a buccaneer. Normally shy and reclusive, once they determine people are harmless and a possible source of goodies, they can become quite bold. They wait in the best camp spots in canyons for unwary hikers to bring dinner. Their Latin name, *Bassariscus astutus*, means “clever little fox,” and indeed, ringtails are smart, adaptable, feisty and amazingly acrobatic. Related to raccoons and coatis, ringtails wear the banded tail common to that clan. But the ringtail's fluffy black and white tail is its crowning glory and follows it around like a feather boa. A ringtail depends on its tail for balance while it leaps and gracefully negotiates rock ledges or tree branches as it searches for meals of rodents, lizards, baby birds, fruit and insects. Ringtails can rotate their hind feet 180 degrees, allowing them to descend trees or cliffs face first, and semi-retractable claws help with anchoring, so they can hang by their rear feet as they explore. On a ledge too narrow to turn around on, these acrobats can reverse direction by doing a handstand or cartwheel!

Ringtails may be little, but they don't know it. They have a zest for living and take life on their own terms. The world is theirs to plunder. In Mexico, ringtails are called “cacomistle,” which in the native Nahuatl language means, “half mountain lion.” That's about right.

Kangaroo rats are inordinately cute and appealing with their large, lustrous eyes, silky fur, showy tail and big feet. Their lifestyles and intricate adaptations to a life without free water are truly amazing.

Hopping bipedally allows kangaroo rats to cover lots of ground while foraging, as well as to make speedy getaways from predators. With their powerful back legs, they can jump six to nine feet, aided by their strong back muscles, large feet, and a strengthened pelvis that absorbs shock. All this comes in handy when a foraging kangaroo rat passes too close to a waiting sidewinder. As the snake strikes, the kangaroo rat leaps straight up with lightning reflexes. The snakes have learned about these jumping rodents (hoppy meals?) and may stretch up and try to strike again. The kangaroo rat can fling its long tail around with enough momentum to change directions mid-air and kick the snake with both feet, forcefully enough to send it reeling!

Kangaroo rats' main claim to fame is their ability to thrive in arid environments, using a variety of techniques for conserving water. They reabsorb moisture from their breath in the nasal passages as they exhale. Strong kidneys concentrate their urine into a thick, viscous consistency and their droppings are very dry. Even the mother's milk is only 50% water. While out foraging, kangaroo rats can shovel paw-loads of seeds into their external fur-lined cheek pouches, without losing moisture by continually opening their mouth. But adding insects like juicy caterpillars and green vegetation to their primarily dry seed diet is critical for them in maintaining a water balance in these dry environments.

Kangaroo rats are superlative rodents. Little tough guys, they courageously fight off snakes and thrive in intense heat and aridity. Among all the fascinating animals in Arizona, kangaroo rats stand out for their charismatic charm, pulchritude and panache.

Get out there and explore the desert at night, and here's to hoping you find a ringtail or kangaroo rat, both extraordinary mammals.



Pinau Merlin is a nationally known speaker, naturalist, and writer. She is the author of several books and over 80 articles about the wildlife, natural history, and ecology of the Desert Southwest.



Ringtail, Doug Backlund



Banner-tailed Kangaroo Rat, Doug Backlund

# MOTHS of SOUTHEAST ARIZONA

As readers of the *Vermilion Flycatcher* are well aware, Southeast Arizona is incredibly diverse biologically. This holds true for a rather unlikely form of watchable wildlife: moths.

Moths and butterflies make up the order *Lepidoptera*, which in Latin means 'scale wing,' referring to the shingle-like scales that give the wings of these delicate creatures their colors and patterns. Moths and butterflies share a liquid diet of nectar, sap, fruit juices, and the like, though there are some moths that do not feed as adults.

Distinguishing between moths and butterflies requires care. Some moths visit flowers in sunlight alongside their butterfly cousins. And many stunningly beautiful moths are more eye-catching than some butterflies. So, one can't distinguish a moth from a butterfly based on the time it is active or the relative flamboyance of its appearance.

The single best way to separate a moth from a butterfly is to look at the antennae, which detect airborne scents to locate flowers, caterpillar food plants, and potential mates. In moths, the antennae look like a thread or a feather. In butterflies, they look like a Q-tip.

The true number of moth species is unknown, but the current tally is approximately 160,000 and counting. New moth species are being discovered at a fast pace, including several from Arizona in the past few years. As a comparison, there are about 18,000 butterfly species. Another

measure of moth diversity is the number of families in which they are placed. All butterflies are placed in six families. Moths, on the other hand, are currently placed in about 127 families. Several moth families have more species than the total number of bird species on Earth!

Moth-ers come from around the country to observe southern Arizona's moth diversity, and monsoon season is an especially productive time. Moths are active all months of the year in the region, though diversity is lowest during January and February. If you are so inclined, the best way to start mothing is simply by turning on your patio light in the evening. Most types of bulb will bring in some moths, although blacklight bulbs work especially well and are available online and in most hardware stores. Flip the switch at dusk and come back periodically to see what has been lured in. It's that simple! But remember to turn the light off when you go to bed, as birds quickly learn about the buffet you have created.

Moths are often characterized as crop and garden pests or sweater-munching scourges. While some species have bad habits, the vast majority are benign to human enterprise. They are abundant, wonderfully diverse, and beautifully patterned insects that offer a lifetime of discovery!

Currently there are no field guides for the moths of Southeast Arizona. However, websites such as BugGuide, iNaturalist, and Moth Photographers Group are very useful for identification.

Jeff Babson is bananas about nature, operates Sky Island Tours, and is Wildlife Viewing Program Specialist for Pima County Department of Natural Resources, Parks, and Recreation



Northern Giant Flag Moth, Lynne and Jim Weber; all others by Jeff Babson





**WHITE-LINED SPHINX MOTH**  
(Wingspan to 3.5 in.):  
The most common and widespread sphinx moth in Southeast Arizona. Adults can be found all year, but are most frequent from April to October. Hind wings are pink and black. Caterpillars feed on a wide variety of plants.



**VEINED CTENUCHA**  
(Wingspan to 1.25 in.):  
One of the moths that visit flowers during the day, this species will also show up at lights at night. The forewings have a glossy bluish purple iridescence. Adults can be found from spring to fall.



**RUSTIC SPHINX MOTH**  
(Wingspan to 5 in.):  
The contrasting white markings on the dark forewings reliably identify this species. Adults are usually found from April to November. Desert willow, yellow bells, and Cape honeysuckle are fed on by the caterpillars.



**PHOENICOPROCTA HAMPSONI**  
(Wingspan to 1.3 in.):  
Like most moths, this striking wasp mimic does not have a common name. It is found in the U.S. only in Southeast Arizona. Adults fly from July to September.



**WESTERN IMPERIAL MOTH**  
(Wingspan up to 5.5 in.):  
Found mostly during the monsoon season in oak woodlands of the Sky Island ranges. Females are larger than males. Late fliers, these moths often don't show up at lights until after midnight.



**PHOENIX EMERALD**  
(Wingspan to 1.2 in.):  
The striking green color makes this moth well camouflaged on leaves. It is a common visitor to lights in the desert. There appear to be two generations per year, one in spring, the other from summer to fall.



**OCULEA SILKMOTH**  
(Wingspan to > 6 in.):  
One of the larger moths in Southeast Arizona, it occurs in oak woodlands. Larvae feed on foliage of oaks and walnuts. Main flight period is during monsoon season.



**CREOSOTE MOTH**  
(Wingspan to 1.2 in.):  
Definitely a moth-ers moth, this species makes up for its lack of bright colors with extreme variability. It seems that no two individuals look exactly the same. It is named after the caterpillar food plant and adults fly all year.



**HUBBARD'S SMALL SILKMOTH**  
(Wingspan to 3.5 in.):  
The most common silkmoth of desert valleys. Caterpillars feed on mesquite and acacias. Adults are on the wing from April to October but are most frequently seen during the monsoon. Red hind wings are usually hidden at rest.



**LINEOSTRIASTIRIA HACHITA**  
(Wingspan to 1 in.):  
The striking coloration of this moth makes it unmistakable when it comes to lights. Adults fly from July to September and in Arizona appear to be restricted to Pima, Santa Cruz, and Cochise Counties.



**APANTESIS INCORRUPTA**  
(Wingspan to 1.5 in.):  
One of the tiger moths, which could be called the butterflies of the moth world due to the bright colors of many species. Caterpillars manufacture toxins from precursors in their food plants. Adults fly from March to October.



**APOTOLYPE BREVICRISTA**  
(Wingspan to 2 in.):  
Rests with the long forelegs splayed out in front of the body and the abdomen extended past the wingtips. Adults are on the wing most of the year. Caterpillars feed on mesquite.

# SOUTHEAST ARIZONA BIRDING FESTIVAL



**AUGUST 9-13, 2023**

**Registration opens Tuesday, April 25**

See the schedule of field trips and events and register at:  
[TUCSONAUDUBON.ORG/FESTIVAL](https://TUCSONAUDUBON.ORG/FESTIVAL)

PRESENTED BY



Violet-Crowned Hummingbird,  
Mick Thompson

## Held at the DoubleTree by Hilton Hotel at Reid Park

Join us this August as we celebrate the diversity of bird life in Southeast Arizona. Explore new and favorite locations with expert field trip leaders, share a drink with other birders from around the globe, and make connections between the birds we love and the conservation work being done to preserve them.

- Explore the relationship between habitats and birds with specialized Tucson Audubon field staff and Habitats of the World co-author, Phil Chaon.
- Learn about Purple Martins of the Sonoran Desert and then watch the new film *Purple Haze* with director Zach Steinhauser on Friday night.
- Bird with Arjan Dwarshuis, the world record holder for most birds seen in the world in one year: 6,852!
- Feed your curiosity about the mysterious Eared Quetzals that sometimes visit us in SEAZ by joining Peg Abbott of Naturalist Journeys during her Friday presentation.
- Want to meet other birders? Visit the daily Nature Expo and talk with new “birdy” friends and join the party at one of our evening socials around town.



Phil Chaon



Zach Steinhauser



Arjan Dwarshuis



Peg Abbott

# TUCSON AUDUBON 2022 ANNUAL REPORT

*Inspiring people to enjoy and protect birds*

## WHAT YOU ACCOMPLISHED IN 2022



EXAMPLES OF THE WIDE-RANGING AND EVER-EXPANDING WORK THAT IS REFLECTED IN TUCSON AUDUBON SOCIETY'S 2022 ANNUAL REPORT.

- An all-new, bird-centric school curriculum in English and Spanish will be available soon to foster our next generation of bird lovers.
- Advocacy and civic engagement spanned local, state, and national issues.
- Community science projects on Elegant Trogon, Desert Purple Martin, Gilded Flicker, and Chestnut-collared Longspur helped determine what these special birds most need to thrive.
- By removing acre upon acre of buffelgrass, stinknet, salt cedar, and other invasive plants that threaten saguaro habitat and degrade riparian areas, our highly skilled teams working on public lands enabled native ecosystems to better flourish.
- Saguaro seedlings—14,000 of them—nurtured enthusiastic partnerships for protecting this iconic desert condominium and learning how to replenish fire-damaged landscapes.
- Dozens of volunteer leaders and staff introduced best-loved bird hotspots and favorite secluded locations to hundreds of field trip participants.
- A new website with a wealth of resources connected people with birds and community.
- Opportunities for funding habitat enhancement, community engagement, climate justice, and more were expertly pursued by our grant specialist.
- Habitat at Home promoted connectivity by creating new habitat patches in private patios and yards.
- Scores of nestboxes for Lucy's Warblers, owls, flycatchers, and kestrels introduced many to the art and science of habitat enhancement.

**Your invaluable support makes this work possible.**  
**With thanks from the entire Tucson Audubon Society community.**

Linda McNulty  
*Board President*



Desert Purple Martin, Ned Harris



## RESEARCH AND BIRD SURVEYS

- Initial Lucy's Warbler and Desert Purple Martin research included **first-ever in-house mist netting, banding, and tagging** of birds
- Eight Desert Martins tagged with trackers to determine **first-ever information on their migration patterns**
- **Banded 12 Lucy's Warbler nestlings** to determine natal area fidelity
- Cross-boundary (US/MX) bird conservation and research partnership launched for breeding Desert Martins
- **Pollinator Ecology manuscript published** with Prudic Lab at UA
- Elegant Trogon survey results: **121 trogons**, 101 surveyors covering 94 routes, five Sky Island ranges
- Elf Owl survey results: **187 owls**, 67 surveyors covering 34 routes
- Launched an **international nestbox design contest** to replicate saguaro cavities for Desert Martins and other saguaro-nesters to use
- **Paton Center Motus station goes live**; Tucson Audubon actively engaged in Arizona Motus Network
- Coordinating with Bird Conservancy of the Rockies to improve joint survey efforts for Chestnut-collared Longspurs



## CONSERVATION CAPACITY

- Hired a **Mitigation Program Manager and Restoration Project Manager** to accelerate long-term, large-scale projects
- The **Invasive Plants department doubled in size** to 17 people
- Began hiring a specific **Urban Habitats crew** with two members
- All field staff received **Wilderness First Aid and chainsaw training**
- Purchased one new truck, a large spray rig, a tractor, and a wood chipper to facilitate effective work at a large scale
- Upgraded to electric chainsaws that are quieter, run off solar-recharged batteries, and have a reduced risk of spills while working in sensitive areas

All field staff are now trained in safe chainsaw handling, Jay Snowdon

## URBAN CONSERVATION

- Secured multi-year GSI Maintenance contract with City of Tucson's Storm-to-Shade program and helped them develop appropriate city-wide standards.
- Secured grant and private funding of \$110,000 to launch the **Habitat on Wheels mobile habitat and community engagement unit** in 2023.
- **63 new Habitat at Home registrants**, sold 423 plants during seasonal sales, completed five home habitat evaluations, two Habitat at Home consultations, and four habitat installs.
- **Three new water-harvesting pollinator gardens installed in Green Valley** as part of the Gardens on the Greens project.
- Distributed **535 bird nestboxes** into the region, benefiting Lucy's Warblers, barn and screech-owls, flycatchers, and kestrels
- **Bird Safe Buildings**: Consulted with Sonoran Audubon, Desert Rivers Audubon, and Maricopa Audubon in their effort to monitor Phoenix high-rise buildings for window strikes
- Partnered with Nature's Notebook to create the **Lucy Tree Project**, aimed at involving community scientists in submitting observations of Lucy's Warbler nesting and mesquite tree phenology
- Nestbox program featured on *Arizona Illustrated* on PBSTV
- The "**Corazon Sin Fuego**" riparian hazardous fuels project has nearly wrapped up: ten of 13 firebreaks completed; 40 of 50 acres of invasives treated twice; 20 of 27 acres of tamarisk trees felled
- Started National Forest Foundation contract work to reduce fire risk in the Catalina Foothills, **21.5 acres of intense infestation treated**
- Controlling and mapping invasive plants in five partner HOAs

## WILDLAND CONSERVATION

- Launched **Save our Sonoran Saguaros**, garnering national-level media coverage; **11,000 saguaros being grown** by partners for future planting
- The **Federal Invasive Plant Strike Team** worked at seven National Parks and Monuments and ten Wildlife Refuges
- **Five shade ramadas built in the Paton Center Cuckoo Corridor** to provide shaded respite while birding along the interpretive trail
- **Secured multi-year grant of \$179,000 from State Forestry** to treat invasive trees and plants along the Sonoita Creek from Hwy 82 bridge to downstream end of the Patagonia-Sonoita Creek Preserve
- Completed year two of a five-year treatment regime for USFS to treat invasive plants near their Mansfield Canyon mine reclamation site
- **Treated 34 acres of invasive grass yellow bluestem** on National Audubon's Appleton-Whittell Research Ranch
- Working with Borderlands Restoration Network, treated invasive plants threatening the Wild Chili Botanical Area in the Atascosa Mountains, the primary reserve for chiltepinos in the US

## BIRDS + COMMUNITY

### OUTREACH

- Led **260 field trips** (74% increase), served almost **1,200 unique individuals**, trained **16 new trip leaders** (70% increase), recorded **1,342 volunteer leader hours** (224% increase), and **logged 294 bird species** on more than **600 eBird checklists**
- Impacted **1,430 young people** and **1,096 adults** through the youth education program's 24 classroom lessons, eight field trips and events, two presentations, and eight tabling events
- **766 registrants, 113 volunteers, 40 exhibitors, and 22 sponsors** enjoyed the **12th annual Southeast Arizona Birding Festival** through 127 field trips, 26 presentations, and eight celebration events while finding 241 bird species
- Welcomed 4,248 participants at 50 virtual and 423 participants at 12 in-person events
- **50 teams of 158 people** participated in **Birdathon**, raising \$104,925 to support Tucson Audubon's work
- Partnered with Bawker Bawker for popular Birds 'n' Bingo events

### VOLUNTEER WORK

- **365 volunteers contributed 9,328 hours.** According to the Independent Sector, that is the equivalent of \$279,374.

### PATON CENTER

- **20 dedicated volunteers contributed 2,183 hours** of daily operations and visitor services
- **199 bird species** seen (eBird)

### ADVOCACY

- Doubled the size of our Conservation Advocacy Department by hiring isaiah kortright as Tucson Audubon's first **Community Organizing Coordinator!**
- Sent out **27 action alerts**, mobilizing our community to advocate for birds, conservation, the environment, fighting climate change, and voting, at the local, state, and national level
- **Partnered with Environmental Voter Project and 50 volunteers** for nonpartisan, voter-turnout efforts in the lead-up to the 2022 elections: two "Birding and Phone-banking" events and four of the world's first "Birding and Canvassing" events.

### NATURE SHOP

- ***Finding Birds in Southeast Arizona***: 631 copies sold and \$14,290 in sales
- **In-person shop visitors: 2766**
- Offsite Shop Presence: **five new pop-up events, \$1,428 in sales**
- Online shop: **17,110 visitors generated 801 orders and \$44,432 in sales**
- Overall sales: **10,036 items sold and \$337,295 in sales**

### MEMBERSHIP, DONORS, DIGITAL COMMUNICATIONS

- Membership held steady, representing roughly **3090 individuals**
- Received contributions from **1514 donors**
- Educated and informed members and the public through a brand new website, four magazine issues, and 50 weekly eblasts (list increase of 17%)
- Increased our **social media following to 27,600**, an increase of 12%

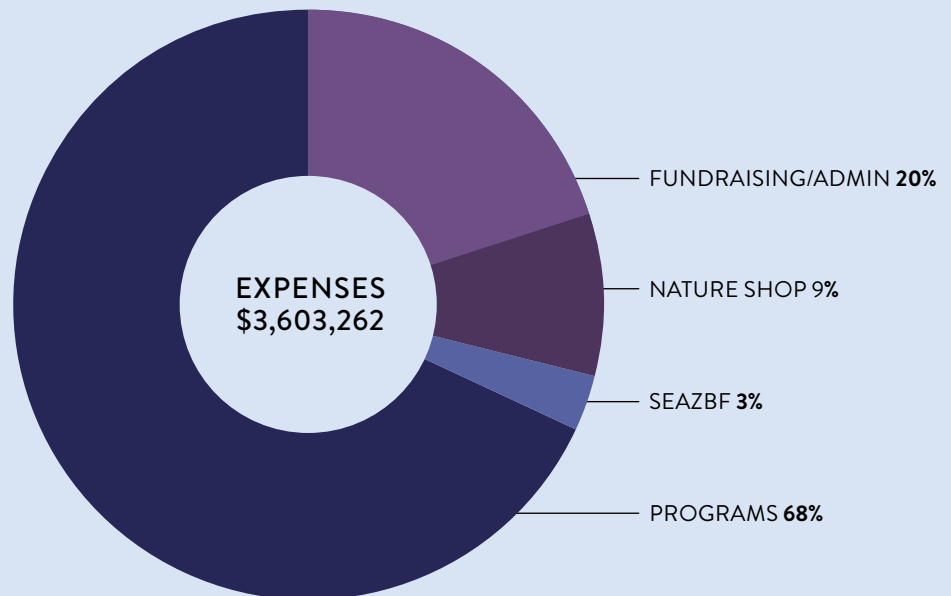
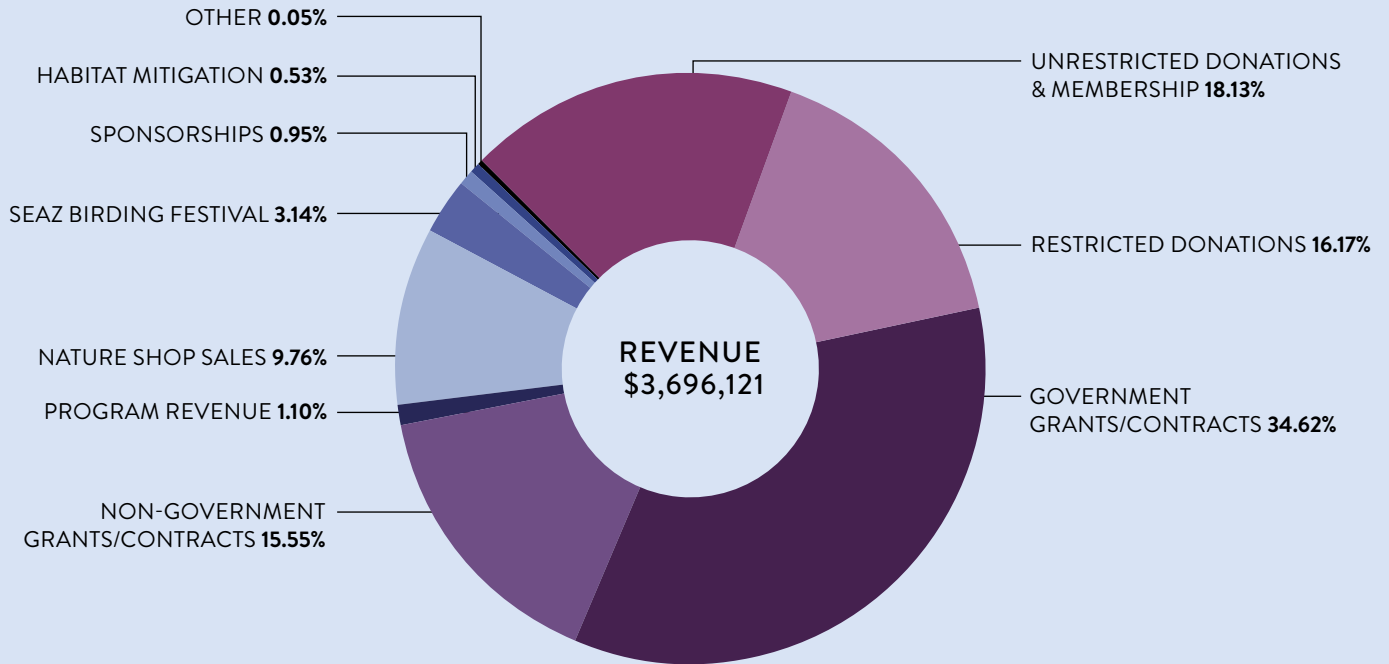


One of five new shade ramadas in the Cuckoo Corridor, Dan Lehman



Many youth and adults were impacted by educational tabling events, Taylor Rubin

# 2022 FINANCIALS



# THE BUFF-COLLARED NIGHTJAR IN ARIZONA



The first record of the Buff-collared Nightjar in Arizona was of a bird collected in remote Guadalupe Canyon on May 12, 1960, by Seymour Levy. Until the late 1970s, this was the only known US location for this “Mexican” species that frequents riparian habitat bordered mainly by thornscrub. Allan Phillips, Gale Monson, and Joe Marshall gave this common, widespread Sonoran nightjar the name “Preste-Me-Tu-Chuchillo,” an onomatopoeia. It wasn’t until 1978 that it was found away from Guadalupe Canyon, surprisingly, in a wash on the west side of the Santa Catalinas near Catalina State Park. Even more amazingly, it was then found in 1980 in the western portion of Aravaipa Canyon, well north of the border and previous U.S. records.

In June of 1981, birders started to realize that Buff-collared Nightjars were likely more widespread in Arizona, and a concerted effort to find them began. G. Scott Mills organized searches in many of the remote canyons around southern Arizona, and not surprisingly, they were found in several additional remote sites, such as Brown Canyon on the east side of the Boboquivaris, Chino Canyon in the Santa Ritas, and California Gulch. Still, Buff-collared Nightjar was very difficult to find, with most of the locations being remote and hard to visit, until in 1985, at least one pair was found in McCleary Wash on the way into Madera Canyon. For many years, into at least the mid 1990’s, there

was a staked-out pair, and it was easy to stand at the edge of a bluff overlooking the wash and hear their distinctive calls from May through July. In the early 2000’s, more nightjars were discovered near there (around Proctor Road), and around Oro Blanco Mine on the way into California Gulch, and they persisted there for several years. Today, the most reliable location is the confluence of California Gulch and Warsaw Canyons, where several individuals have been present each spring and summer for more than a decade.

Buff-collared Nightjar remains a much sought-after species in the United States, as all of the known locations remain remote, and actually seeing more than the bright orange reflections of the nightjar’s eyes in a light, is a great challenge. Its true status in Arizona is unknown, but like many other Mexican species that just barely make it into the US, the Buff-collared Nightjar is probably more widespread than we realize!

Gary Rosenberg is Secretary of the Arizona Bird Committee and co-author of the season bar graphs section of *Finding Birds in Southeast Arizona*.



Buff-collared Nightjar, Tyler Pockette

# BIRDING THE BORDER

With an abundance of birds and other wildlife, the Arizona/Mexico border is one of the most beautiful and biodiverse places in the world. It's also one of the deadliest.

Birding along much of the border occurs with an imposing wall of steel as a backdrop, a reminder that even as we immerse ourselves in the joys of nature, it's difficult to ignore the environmental and humanitarian crisis happening in our own backyard.

In terms of the environment, the wall has caused erosion, disrupted waterways, and produced man-made canyons through natural mountain barriers. The border wall interferes with migration patterns of about one-third of borderlands wildlife, restricting the ability of animals to find food, water, and mates. Using a provision of the REAL ID Act (passed by Congress in 2005), the Department of Homeland Security waived all federal, state, and local laws it deemed impediments to building the border wall, including the Endangered Species Act, the Clean Air and Clean Water Acts, and the National Environmental Policy Act. Along the border, saguaros have been toppled, riparian areas have been disturbed, and endangered and threatened species have been forced to struggle even harder to survive.

As for the humanitarian impact, in the last two decades almost 4,000 migrants—men, women, and children—have perished in the Arizona desert. While some migrants seek a better life, to be reunited with loved

ones, or to work in a country with a shortage of workers, many are fleeing for their lives. They embark on a perilous journey across unfamiliar territory to escape war, cartel and gang violence, extreme poverty, and natural disasters.

Before and during their journey, migrants may be told that it's "just a short hike" or that "help is just ahead." Many travelers find themselves without sufficient water, food, footwear, clothing, or medical supplies to come through the journey unharmed—or to come through it at all. A member of the group may twist an ankle or struggle to keep up. If abandoned by stronger members of the group, those who remain find themselves lost and delirious from exposure and lack of food and water. Many lie down or slump against a tree and simply give up. Some remains are never identified; many of the missing are never found.

In light of this humanitarian and environmental crisis, Tucson Audubon Society has launched a series of "Birding the Border" field trips, under the umbrella of our popular "Birding with a Purpose" program. The first one took place on Sunday, March 12th. Tucson Audubon Society's Conservation Biologist Jennie MacFarland and Director of Conservation Advocacy David Robinson guided 17 participants to the Buenos Aires National Wildlife Refuge (BANWR) near Sasabe, Arizona—a spectacular 117,000-acre area that includes threatened and endangered plants and animals. Managed by the U.S. Fish and Wildlife Service, BANWR is a well-known hotspot for hundreds of species of birds, including



Birding the Border participants, Laurie Cantillo



Crested Caracara nest, Scott Olmstead



subtropical species, not to mention mammals, reptiles, amphibians, and more. Jaguars have even been recorded wandering through Brown Canyon, in the higher elevation of the preserve.

After a morning of birding in the Arivaca Cienega portion of the reserve—which included such treats as a Green-tailed Towhee, a Red-naped Sapsucker, and a very active pair of American Kestrels—the group heard two presentations over lunch at the BANWR Visitor Center. Dora Rodriguez, Board Chair of Humane Borders, and a survivor of the 1980 tragedy at Organ Pipe Cactus National Monument that resulted in 13 deaths (including three minors), spoke about the humanitarian aspects of the border crisis. The field-trip participants then heard from Myles Traphagen, Borderlands Program Coordinator for Wildlands Network, about the ecological impacts of the border wall in Southeast Arizona, including the recent installation and then removal of shipping containers along the border and current plans to fill in many gaps along the wall.

From the refuge, the group then traveled south to the border, to see the wall itself (a first for many participants) and to observe first-hand some of its environmental impacts. Tucson Audubon member Kathy Ellwood calls it an “unforgettable experience” that she has since shared with others. She adds, “I felt a variety of emotions when I first saw the wall that ranged from helplessness to anger to ‘what can I do to bring about change?’”

The participants then headed back to Tucson, stopping off on the way to see a Crested Caracara on its massive nest, wedged in among the arms of a saguaro a mere twenty yards or so from the highway, with its mate perched atop another saguaro further in the distance. Pausing to appreciate these striking birds preparing to raise another generation allowed the group to end the day on a hopeful note, with a joyful connection to birds, nature, and renewed life.

At the unanimous urging of the participants, Tucson Audubon will organize further Birding the Border field trips this year; two are already planned for this summer’s Southeast Arizona Birding Festival in August. Says Robinson, “While we love birding, sometimes we need to widen our gaze and look beyond the binoculars.”



Laurie Cantillo is a Tucson-based writer, nature lover, and volunteer at the Paton Center for Hummingbirds.



Border wall east of Sasabe, Laurie Cantillo



Birding at Arivaca Cienega, Jennie MacFarland



Birding at Buenos Aires National Wildlife Refuge, Laurie Cantillo

# SPRING CLEANING ON SONOITA CREEK

Things will look a little different the next time you visit the Paton Center for Hummingbirds, or any of the other great birding locations along the creek in Patagonia. The riparian forest will be a bit more sparse, some of the dense lush-looking understory missing. It might almost seem a bit more park-like. Don't fret! We and our local partners working to make the Sonoita Creek Corridor a fantastic place for birds and wildlife haven't lost our minds or our values. What you're seeing is the very necessary, and somewhat destructive, first stage paving the way for substantial improvements to the true habitat value of this couple miles of creekside. A suite of projects will reinvigorate this stretch of Sonoita Creek.

All the missing plants are non-native and invasive, plants that do little to directly or indirectly support the region's birds and other wildlife. Some of them play a limited role—the Siberian elms occasionally host sapsuckers drilling their wells, and sparrows will eat some of the Johnsongrass seeds. Others, like the vinca or periwinkle vines, look nice but have no value at all. Our Conservation team is following a phased approach to strategically address each species in the best manner possible to maintain habitat throughout the process. For some, like the Siberian elms, that means that

not all of them will be removed immediately—those that are largest or are providing canopy structure with nothing else close by get a temporary stay until their replacements are established. Others, like Arundo or giant reed, tree of heaven, Johnsongrass, and periwinkle, will be removed primarily working toward the creek and downstream within a season to minimize the chances of upstream and uphill populations recolonizing the areas that have just been cleared.

Future work among the variety of projects in the corridor will include planting cottonwood and other native canopy trees, sacaton and large-seeded native bunchgrasses, many types of flowering forbs that support pollinators and the insects that birds feed their young, and other key species of plants that support specific birds, such as wood sorrel and tepary beans for Montezuma Quail. There will be plenty of opportunities to help along the way! Whether you prefer to plant, pull, collect or spread seed, help maintain staged plants while they await the prime planting times, or monitor to see how well the plants are doing season-to-season, there are key roles for you to join us in making Sonoita Creek a wildlife paradise long into the future.



Dusty Rowen high-stumps an invasive Siberian elm tree with one of Tucson Audubon's new electric chainsaws.



All the invasive trees to be removed were marked in advance for crews to clear; Brian Staley stacks logs that are too large to run through the 12" chipper. All photos by Jay Snowdon



Jonathan Horst  
Director of Conservation & Research  
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# A LITTLE NIGHT MUSIC



Northern Mockingbird, Francis Morgan

When we think of “nocturnal birds” our minds jump to owls and nightjars, but many birds we see during the day don’t necessarily spend all of the nighttime hours sleeping. Anyone who’s been awakened in the wee hours of the morning by the jarring song of a Northern Mockingbird can attest to this!

This brings to mind the time that a person seeking the identity of a bird that woke them up at night by singing loudly right outside their bedroom window decided to call Tucson Audubon’s rare bird hotline and let the bird leave a message on the answering machine. While not quite the intended use of this service, Tucson Audubon staff and volunteers are used to fielding a variety of bird-related questions, so why not this one? The unconventional message was left in 1995, and what the person didn’t realize was that their call wasn’t going to the unoccupied Tucson Audubon office, but to the home phone of the bird hotline volunteer at the time, who happened to be the author of this piece. You can imagine my puzzlement when I answered a 3:00 a.m. phone call and heard a mockingbird singing on the other end!

I reside now at the Paton Center for Hummingbirds where Northern Mockingbirds are only occasional visitors, though the related Curve-billed Thrashers are regular residents in the yard. Their song is more melodic, and they don’t have quite the penchant for singing at night as mockingbirds. Through the winter they sometimes sing a low-volume whispering version of

the song, which I discovered when I once searched for such a singer in the distance before realizing that it was only twenty feet away, its beak barely opening, the song almost inaudible, thereby sounding distant.

The bird at the Paton Center that rivals the Northern Mockingbird for night-singing and incorporating both harsh, unharmonious notes and mimicry of other species into its song is the Yellow-breasted Chat. They spend the summer in shrubby riparian habitats, arriving in the Patagonia area by late April. By mid-May they are surprisingly common along Sonoita Creek, though they can be difficult to see, even when loudly singing their odd, disjointed songs. Sometimes, though, they launch into an open patch of sky and sing while engaging in a display flight characterized by exaggerated slow flapping, with yellow throats fluffed out and legs dangling. The Paton Center is one of the best places to get more than a fleeting glimpse of this normally secretive bird where they will sometimes come out into the open to feed on suet and oranges provided by Tucson Audubon and put out by our legion of volunteers.

Louie Dombroski  
*Paton Center Birder-In-Residence*





# BIRDATHON 2023

## APRIL 7–MAY 7

**CONNECT WITH  
BIRDS**  
**CONNECT WITH  
FRIENDS**

**THE 2023 BIRDATHON** is your chance to enjoy birds while raising critical funds to support the mission of Tucson Audubon. It's fun and easy to participate—visit [TUCSONAUDUBON.ORG/BIRDATHON](https://TUCSONAUDUBON.ORG/BIRDATHON) to get started or contact Luke Safford at [lsafford@tucsonaudubon.org](mailto:lsafford@tucsonaudubon.org).

**YOU STILL HAVE TIME TO JOIN BIRDATHON. START YOUR TEAM TODAY!**

---

**WHO?** You! Absolutely anybody can participate in this tradition begun in 1987. You can: Form Your Own Team • Donate to a Team

**WHEN?** April 7 to May 7. You make the call: Take 24 hours, half a day, a week, or the whole month!

**WHERE?** Take your birding anywhere on the planet you like.

**PRIZES?** Yes! We're continuing our **COMPETITION CATEGORIES** and introducing new ways to win!

**WHY?** Birdathon is a great way to have fun with friends and family, spotting birds while helping with this community fundraiser to support Tucson Audubon.

**WRAP UP PARTY** Join us to celebrate your successful Birdathon. Details coming soon!

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**[TUCSONAUDUBON.ORG/BIRDATHON](https://TUCSONAUDUBON.ORG/BIRDATHON)**



# TUFTED EVENING PRIMROSE FOR THE MOONLIGHT GARDEN



Photos by Lynn Hassler

Lynn Hassler  
Green Gardeners Volunteer Captain  
Historic Y



Thanks to warm evenings and a favorable climate, we live in an ideal environment for savoring the out-of-doors at night. Moon gardens, landscapes meant to be enjoyed by the light of the moon and stars, are just the ticket here since night-blooming plants are a specialty of arid gardens. Many of these flowers are white or pale-colored, popping out in the dark, particularly when bathed in moonlight. And many of the night bloomers have alluring aromas that entice important pollinators such as moths and bats. Some familiar examples include saguaro, sacred datura, night-blooming cereus, and various species of yucca. But in my mind, one of the showiest is tufted evening primrose (*Oenothera caespitosa*).

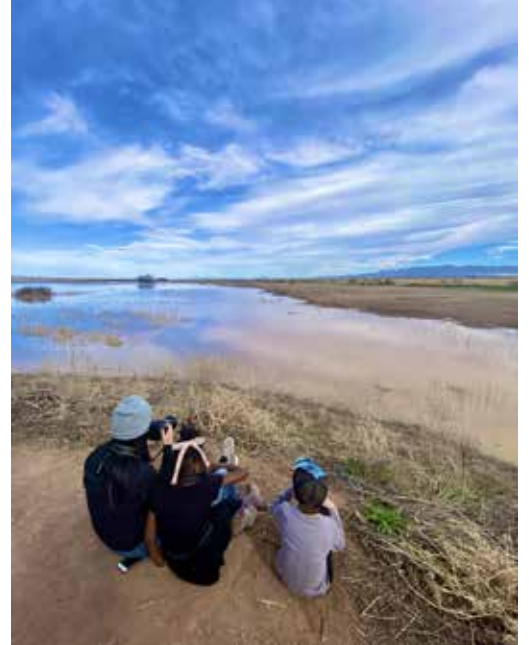
Native to rocky slopes between 4000' and 7500' throughout much of the western United States and northern Mexico, tufted evening primrose is a clumping perennial that grows quickly to 1' high and 2' wide. Fragrant 3–4" white flowers emerge in the evening atop dark green mounds of foliage. Heaviest bloom is in the spring, but with extra water plants may flower spring through fall. Although many night insects may visit the flowers, sphinx moths are the primary pollinators. The flowers only bloom once; by mid-morning on the following day they fade to pink.

Plant tufted evening primrose in soil with good drainage in full or filtered sun where blooms can be easily viewed at night—around a patio, deck, porch, or entry courtyard. Plants “clump” along to make an effective ground cover, providing bold drifts of white flowers; divide clumps to make additional plants.

## HINTS FOR CREATING A MOONLIGHT GARDEN

Choose an area where the plants will be exposed to the light of the moon; this may require spending a few nights tracking the moon's path to see where and when it shines on your landscape. Plant fragrant, night-blooming flowers in white or pale colors and in masses for maximum impact. In addition to flowers, plants with gray or silvery foliage are also effective. Brittlebush is one of my favorites on this score. For accents, try some of the straw-colored, densely spined chollas which also radiate a glow. Subtle lighting or tiny spotlights on specimen plants can enhance the luminous mood, and don't forget a water feature—birdbaths or a small pond—for capturing moonbeams. Also consider adding some decorative gazing balls that can reflect celestial bodies both day and night.

# THE IMPORTANCE OF HELPING STUDENTS FIND THEIR “WHY”



Students in the CATS program enjoyed a day at Sweetwater Wetlands and learned about our mission of protecting birds through recreation and restoration.

Young birders and their families experienced birding through photography and exploration at the latest Wings Over Willcox festival.

Working in environmental education is no walk in the park (okay, maybe it is literally, but not metaphorically!). Getting students to care about our environment is not a one-size-fits-all lesson and success isn't based purely on memorizing information and achieving high grades. After all, how successful can an incentive like high grades be if this reward means little to a student? Instead, our measure of success is helping students form personal connections to our environment. In other words, helping them find their why. Why birds matter. Why our shared environment matters. Why our actions matter. We've been busy over the last few months collaborating on many opportunities aimed at helping foster that personal connection to our environment in the young people in our community.

Our Education Team is elated by how many Tucson-area schools have been willing to collaborate with us to create some really fun experiences in environmental education for their students! We've worked directly with schools in many ways, from science festivals to classroom lessons, to field trips and nestbox building workshops led by our fantastic Applied Conservation Project Manager, Olya Weekley. We appreciate the connections we've made with teachers and look forward to partnerships we have yet to make.

In January, we were fortunate to take part in Wings Over Willcox, a festival that welcomed visitors both young and young at heart. We were able to enjoy a family day of birding and our young birders were able to spot over 30 bird species and learn some of their Spanish names! Festival organizer Homer Hansen, the organizing committee, and our volunteers brought a wealth of knowledge and enthusiasm to our birding day, making it an excellent start to 2023.

We've also been collaborating with Pima County's Natural Resources, Parks, and Recreation department to host the recurring Mañana en el Parque, fun-filled family events every second Saturday of the month at Desert Haven Natural Resource Park. This park is a hidden gem and provides us with the perfect setting to introduce families to accessible urban birding in all of our neighborhoods. The park is equipped with a pollinator garden and Lucy's Warbler nestboxes constructed by the students at Wakefield Middle School (special shout out to you!). Come check out the soon-to-bloom flowers and the park's resident Vermilion Flycatcher that has greeted us every second Saturday!

Engaging students in environmental education takes a village. The community support we've received from formal and informal educators so far this year has been energizing for our Education Team, and reinforces the idea that young people learn about our environment in many ways, both inside and outside of the classroom. Diversifying voices in education and sharing our own, unique connections to the natural world with students is also critically important. Recognizing that we are all environmental educators, whether or not we are teaching in a classroom, will help our Tucson community inspire and guide students in their own individual journeys towards finding their why. We're excited to continue on this journey with all of you!

Bea Mendivil  
Education Coordinator  
bmendivil@tucsonaudubon.org



# TWENTY-TWO YEARS LATER, VOLUNTEERS KEEP THE TUCSON BIRD COUNT RUNNING

## TUCSON · BIRD · COUNT



### Bringing Birds Home

The Tucson Bird Count (TBC) is one of our longest, continuously run volunteer projects. The TBC is a community science program coordinated by Tucson Audubon in partnership with the University of Arizona where volunteers

survey birds in our city during spring each year. The goal is to determine how different areas of Tucson are utilized by native birds, allowing us to help make Tucson a more productive urban habitat.

The count has been run by our conservation biologist, Jennie MacFarland, since 2012, and would not be possible without a community of dedicated volunteers—280 to date! In 2001, 52 volunteers stepped up to help with something unknown. Amazingly, two of these volunteers are still active in the count: Melissa Halpern and John Higgins. John is the reason I am writing this piece, as he opened my eyes to the incredible dedication of some long-serving volunteers. There are five who started in 2002 (Brian Nicolas, Larry Norris, Mark Stevenson, Scott Richardson, and Norma Miller), and three who started in 2003 (Michael Sotak, Diane Videtti, and Richard Carlson). Some other notable, long-serving volunteers on the TBC are Sandy Doumas (2005), Lois Manowitz, Gay Gilbert, Deb Vath, Brett and Peg Wilmore, Jenise Porter, and Marjanne Magana (2010).

In order to understand more about what kept these dedicated surveyors coming back year after year, I went straight to the source: the volunteers! The answer was simple: they stayed because they recognized its

importance. As Richard Carlson noted, “local longitudinal data is vital to understanding bird population dynamics. The TBC is one of the few local surveys that provides local data.”

I also wanted to know about changes these volunteers have observed over the years, both with the count itself and with the birds in Tucson. Another common theme emerged: technology! It’s hard now to remember a world without eBird, but it launched in 2002—one year after the TBC—and it didn’t gain widespread popularity for many years after that. Also, 2001 was a time where everyone wasn’t walking around with a computer and a camera in their pockets at all times. Further, as an anonymous volunteer commented, “technology has helped improve the survey since I first started: cameras, data entry, web and app ID help.” Higgins added that “the biggest change in the TBC process was going from filling out paper forms to now entering the data directly into the computer.” Although some volunteers might prefer the paper system, there’s full agreement that technology has changed the count immensely.

As for the birds, a couple of volunteers anecdotally noted some declines, especially in sparrows, flycatchers, and hummingbirds and most notably after the drought in 2020. That said, it remains to be seen if the long-term trends for these species indicate a true decline. Thanks to the TBC and to the volunteers who make it possible, we may soon have enough data to answer that question.

Taylor Rubin  
Volunteer & Education Manager  
trubin@tucsonaudubon.org



Long-time counter Brian Nicholas and count coordinator Jennie MacFarland, Jennie MacFarland



Birders on count, Jennie MacFarland

We’d love to welcome more people to the Tucson Audubon volunteer team! Visit [TUCSONAUDUBON.ORG/VOLUNTEER](https://TUCSONAUDUBON.ORG/VOLUNTEER) to learn more.



# branch out



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Wednesday, April 12, 11am–12pm, Virtual  
**DIGISCOPING 101 with Hunt's Photo & Bill Graham**  
 Bill Graham, a Field Naturalist with ZEISS Consumer Products, will introduce participants to digiscoping (and phonescoping). We'll discuss the equipment required, use of that gear, and important techniques that will help produce the best possible images.

Saturday, April 15 & Sunday, April 16  
**SPRING PLANT FEST!**  
 It's Not Just a Sale! The Native Plant Sale is going big this spring. In addition to the plant sale on both days, we're celebrating Habitat at Home with bird walks, garden tours, kids' activities, nestbox building, and more!

Thursday, April 20, 11am–12pm, Virtual  
**SAVING OUR SAGUAROS with Aya Pickett**  
 Join Tucson Audubon's Restoration Project Manager, Aya Pickett, to learn about our massive, 3-year effort to replant 14,000 saguaros. Aya will give a brief presentation about saguaros, the project, its goals, and how you can get involved in upcoming planting events.

Thursday, April 27, 1pm–2pm, Virtual  
**WHAT I'VE LEARNED FROM 8 YEARS OF SWEETWATER with Luke Safford**  
 After eight years (and 460 eBird checklists) of leading weekly bird walks at Sweetwater, Luke has learned quite a few things about birding and the birders of Southeast Arizona. Whether you've joined him on a bird walk there or not, you'll enjoy this talk.

Thursday, May 18, 11am–12pm, Virtual  
**THREATS TO BIRDS ON WILDLAND AND URBAN LANDSCAPES with Olya Weekley**

Thursday, May 18, 5:30–8:30pm, In-person  
**BIRDS N BEER with the Feminist Bird Club of Tucson**  
 Join us for an evening of birds, beer, and fun with other birders, as we bird Fort Lowell Park followed by a drink at the Tucson Hop Shop!

Tuesday, May 23, 11am–12pm, Virtual  
**MOths: DIVERSE, FANTASTIC, AND CONVENIENT with Naturalist Jeff Babson**  
 Moths are sometimes considered to be the lackluster cousins of butterflies. In fact, moths are incredibly diverse insects, many of which are beautiful. They are also ridiculously easy to attract to your yard, no matter where your yard may be located. *This event will be accompanied by a Mothing outing led by Jeff Babson on Saturday, May 27.*



Snowy Egret, Mick Thompson

Thursday, May 25, 11am–12pm, Virtual  
**BIRDING THE CALENDAR, WHERE TO GO BIRDING THIS SUMMER with Luke Safford**  
 Summer provides fantastic opportunities for a wide variety of bird species—we'll dig in a bit deeper into where to go looking.

Monday, May 29, 7–8pm, Virtual  
**BIRDS 'N' BEER- RARE & INTERESTING BIRDS IN SE ARIZONA with Luke Safford**

Tuesday, June 6, 11am–12pm, Virtual  
**INTO THAT DARK NIGHT: IN SEARCH OF SCALES AND TAILS AND FANGS, OH MY! with Herpetologist Jim Rorabaugh**

Tuesday, June 13, 11am–12pm, Virtual  
**THE NIGHT LIFE OF DESERT MAMMALS with Naturalist & Author Pinau Merlin**

Thursday, June 22, 11am–12pm, Virtual  
**ARIZONA FIREFLIES AND RELATED GROUPS with Entomologist Joe Cicero and Photographer Julius Schlosburg**

Monday, June 26, 7–8pm, Virtual  
**BIRDS 'N' BEER- RARE & INTERESTING BIRDS IN SE ARIZONA with Luke Safford**

# WOO HOOT!

## BIRDY NEWS BITES WORTH CELEBRATING

### BYE BYE VINCA!

Arizona Conservation Corps crews wrapped up their Spring Training by helping The Nature Conservancy and Tucson Audubon Society with some invasive plant removal along Sonoita Creek in Patagonia, AZ. Crews removed invasive Vinca (commonly known as Greater Periwinkle), a common ornamental plant in many gardens that has escaped into the wild landscapes surrounding Sonoita Creek. Vinca provides little or no value to native birds or pollinators and aggressively takes over the understory of riparian forests and blocks out sunlight, preventing native vegetation from growing and providing food and shelter to the many birds and animals that call these special places home. Thanks to the efforts of AZCC, we have cleared over an acre of Vinca and will start planting native vegetation in its place soon!



Jay Snowdon

## GIFTS IN HONOR OR MEMORY OF

- In honor of Barbara Croft from Helen Holliday & John Baffert
- In honor of Bud Droegemeier from Sarah Droegemeier
- In memory of Collin Forbes from Cheryl Schrader-Gerken
- In honor of Deb Vath from Jill & Fred Vath
- In memory of Dena Greenwood from Tina Whitley
- In memory of Elaine & Robert Goldman from Amy & Howard Cantor
- In memory of Gisela Jernigan from Earl Jernigan
- In memory of James Sullivan from Laura Sullivan
- In honor of Janel & Scott Feierabend from Bale Worsley
- In honor of Jennie MacFarland from Mary Hillmon
- In honor of Jim Hoagland from Laurie McCoy & Thomas Campbell
- In memory of John Gilmore from Kay Henshaw
- In memory of Josh Skattum from Sandra Skattum
- In honor of Karen Howe from Nancy Howe
- In memory of Kathryn Walker from Rebecca Clark
- In memory of Kellie from Donna Tucker
- In honor of Kirsten Howe from Martee Robinson
- In honor of Luke Safford from Barbara Wright & Dwight Gee
- In memory of Marion & Wally Paton from Bonnie Paton Moon & Richard Moon
- In honor of Marlies Ozias & Eric Gumpricht from Gretchen Scheibel
- In honor of Matt Griffiths from Clareen Heim
- In honor of Phoebe Drew Moore from Kimberlyn Drew & Andy Moore
- In memory of Priscilla Hibbs from Wendelin Guentner
- In honor of Scott Wilbor from an anonymous donor
- In memory of Shirley Ann Piploni from Virginia Foster
- In honor of the Milner & Swanson Wedding from Philip Paige
- In honor of The Roszels from Peggy & John Smith



Orange-crowned Warbler, Shawn Cooper

# WHEN DOES BIRDING FIT INTO YOUR LIFE?

Birding in the Sonoran Desert is always a delight, but there's something primal and magical about nighttime birding here in our desert home. My first experience with the birds of the night came not while birding, per se, but while camping. For a city dweller nestled in a tent in the middle of nowhere, every sound coming from the other side of the canvas is cause to take notice. A shuffling of paws, the skittering of an arachnid, every sound is a reminder that—especially at night—we humans are the intruders in this space.

And so there's something welcoming about the familiar hoot of a Great Horned Owl. Out in that vast darkness, the owl's call serves as a recognizable touchstone. I may not know what paws are padding, or what chitinous critters are crawling outside my tent, but I can at least identify that one nighttime neighbor.

Nighttime birding doesn't need to involve a camping trip, of course. A neighborhood walk that continues past sunset gives ample opportunity to experience other nocturnal hunters. Lesser Nighthawks (a personal favorite) are easy to spot, thanks to their distinctive flight patterns, and predictable location near streetlights and backyard pools.

For me, and maybe for you too, nighttime birding in the Sonoran Desert brings a sense of solitude. There are no crowds, no city noise, and no distractions. It's just you and the desert, under the vast expanse of the starry sky. As you scan the horizon for birds, you may start to feel a sense of peace and contentment that's hard to find during the day.

One of the best things about birding at night is that it serves as an important reminder—birding the Sonoran Desert doesn't have to look like any one particular thing. You can experience birds early in the morning, on a midday walk, along a sunset walk, or after dark. Wherever and whenever you can fit birding into your life, you'll find something wonderful.

If you've experienced the same kind of wonder while birding at night, why not share the experience with your friends and family? A gift membership to Tucson Audubon is the perfect way to bring others the magic and joy of birding—*day or night!*



Ethan Myerson  
Director of Development & Communications  
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The *Vermilion Flycatcher* is the newsletter of the Tucson Audubon Society, a chapter of the National Audubon Society. National Audubon Society members and members of other chapters may receive the *Flycatcher* by becoming a member of Tucson Audubon. For more information visit: [TUCSONAUDUBON.ORG](http://TUCSONAUDUBON.ORG).



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## THE DESERT AT NIGHT



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### Owl Babies by Martin Waddell

\$17.00 / Book and Plush Gift Set

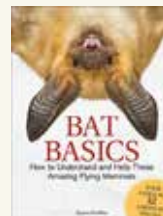
A new edition of this comforting classic comes with a cute owl toy to remind the youngest of children that Mommy always comes back. Little readers will have a hoot when they see the fluffy white baby owl they can play with long after the book is closed!



### Zeiss SFL 10x40

Member Price \$1,800

Lightweight and as powerful as its predecessor, the Victory SFL holds its own during low-light conditions. The smart focus helps a birder lock in on the smallest sparrow, or the bright night sky.



### Bat Basics by Karen Krebs

\$15.00

Who is emptying all of your hummingbird feeders overnight? There's a strong chance you have bats in your backyard! Learn more about these nighttime pollinators in this book by local bat conservationist, Karen Krebs!



### Midnight Migration 500pc Puzzle

\$22.00

Did you know that most migratory birds fly at night? A Summer Tanager, Yellow-billed Cuckoo and Rose-breasted Grosbeak are featured in moonlight in this puzzle from Cornell.



### Stellaluna Plush

\$18.00

A soft plush baby bat made to wrap up tight for sleep or stretch out with an 18" wingspan. Based on the classic book, *Stellaluna* by Janell Cannon, in print for over 25 years.