

# VERMILION FLYCATCHER

TUCSON AUDUBON

Winter 2024 | Vol 69 No 1



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PRICKLY PARTNERS:  
CHOLLA AND  
PRICKLY PEAR

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Winter 2024 | Vol 69 No 1

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**ON THE COVER**

Cactus Wren by Mick Thompson. Mick is a volunteer photographer/videographer for the National Audubon Society and spends half the year in Tucson.

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Western Tanager, Francis Morgan

# PRICKLY PROVIDERS

The desert is a pokey place. Spiny cactus glochids make us curse when they invariably lodge themselves into our fingers after a day of gardening or naturalizing. Cautionary tales and internet photos of close encounters with the notorious jumping cholla remind us to keep a wide berth, and our dogs need boots at all times of year to protect their feet from the stuff.

Despite having to keep a healthy distance from much of Tucson's flora, us desert dwellers wouldn't have it any other way. We know the magic of a cactus in full bloom that will stop you in your tracks and demand your gaze. Christmas cholla delight with their dainty little red ornaments, and staghorn cholla create striking silhouettes on a sparse landscape. Some of us even develop an affinity for individuals. I have a cholla friend on the Catalina State Park Birding Trail that I like to call "the Queen". She stands on the ridgeline tall as a tree, overlooking her kingdom, deserving of a curtsy from passersby.

Aesthetics aside, what I've come to appreciate as more and more prickly pear take over my front yard, and as I inspect the cholla stands surrounding the Mason Center, is the oft-overlooked habitat value they provide. Have you ever seen a swarm of figeater beetles on an open prickly

pear fruit? Or watched a Curve-billed Thrasher fly straight into a bramble of cholla to the safety of its nest? Better yet, how many times have our dogs and cats (cattos, please, but we'll leave that for another day) been bested by those spines as a whiptail or spiny lizard escapes into their safe haven?

They provide a rich food source for people and wildlife, provide protection from predators, and serve as effortless, remarkably tolerant centerpieces of our gardens. Don't let their ubiquity cause you to take them for granted! Next time you consider pulling that gangly prickly pear or cholla from your yard, think about the many whiptails it might save, the Cactus Wren that may use it for a nest, or hey, the syrup you can make for your prickly pear margaritas. I'd be happy to toast with you.

For the Birds,



Melissa Fratello  
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# ALMANAC *of* BIRDS

## January to March

At the advent of a new year, you may wonder: When does the birding calendar begin? Does it ever end? One thing is certain, the birding calendar of Southeast Arizona is ever changing, and the January through March period is a great example of this. As the year begins, the waterfowl and Sandhill Crane spectacle is in full swing, and as the seasons change, winter raptors give way to great numbers of migrating raptors, and finally, Lucy's Warblers and Bell's Vireos return in March signaling the start of migration. It's always time to get out there!



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Lapland Longspur, Tyler Pockette



Common Loon, Alan Schmierer



Tree Swallow, Dan Ellerbroek

## LONGSPURS AND WINTER SPARROWS

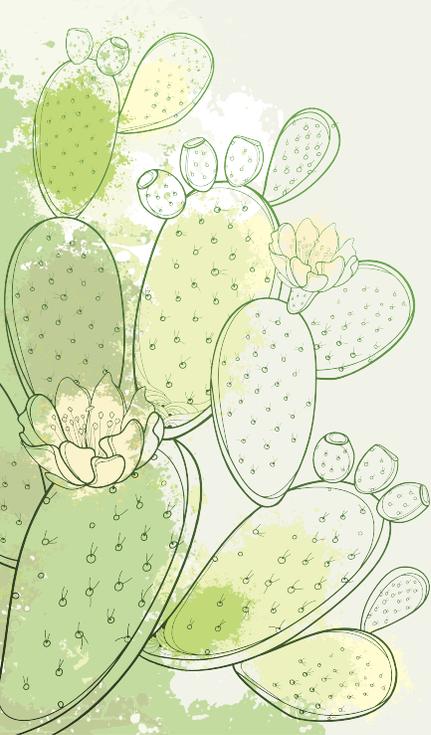
During the first and typically coldest month of our year, the grasslands of San Rafael Valley and Sonoita area teem with sparrows taking advantage of the bounty of seed produced in the rainy summer. Many of the bird species that nest in the Western Great Plains of the US and Canada winter in our Chihuahuan Desert Grassland. Vesper, White-crowned, and Savannah Sparrows, Lark Bunting, and longspurs ply large areas in search of the seeds of native gramma grasses, sacaton, and others they prefer. The Chestnut-collared Longspur is the fastest declining species of bird in North America and a very high conservation priority. Tucson Audubon's annual surveys for this species have shown that they favor areas where mostly native grasses are found, an increasingly rare occurrence as non-native Lehman's lovegrass outcompetes them. Finding these birds in the vastness of the grasslands is made easier by their tendency to visit water ponds and a propensity to call while in flight. It's a fun and unique experience to be surrounded by a flock of longspurs giving their *kittle kittle* calls as they circle you in a "popcorn popper" style of flight. While the Chestnut-collared is easily the most numerous longspur in our grasslands, you should also be on the lookout for Thick-billed and Lapland Longspurs. Recently, a pair of Laplands have been fairly reliable at the Davis Pasture tank in the southern end of the Las Cienegas National Conservation Area near Sonoita. While you're out in the grasslands, you may also see Loggerhead Shrike, Horned Lark, Sage Thrasher, Chihuahuan Meadowlark, and Northern Harrier.

## LAKE LOONS

Late fall and winter are also fabulous times to look for waterfowl people don't usually associate with the Sonoran Desert: loons! These large diving birds migrate through Southeast Arizona on their way to coastlines and prefer the larger and deeper water bodies in the region. Lake size is important as some loons may need up to a quarter-mile (depending on wind speed and direction) of flapping and running on the top of the water to get up to speed for lift-off. Unlike most birds, loons have solid bones that make diving easier and their mouths are equipped with rearward-pointing spikes that keep a firm grip on fish. The Common Loon is the most likely to be seen here, recently showing up in Marana and Patagonia and Parker Canyon Lakes. The Pacific Loon, which breeds in northern Canada and Alaska and spends winters on the west coast, also shows up in our region, but more so in late fall. Smaller and lighter than its Common cousin, the Pacific needs a small leap in the air to begin its dive. The smallest and least common loon in Southeast Arizona is the Red-throated. Because of its size, it can utilize smaller ponds and lakes and hunt from the air much like an Osprey. There have only been a handful of Red-throated Loon sightings in the region, but the most recent was in October 2023 at Sahuarita Lake. Loons in breeding plumage are some of the most beautiful and strikingly-patterned birds on the planet, but their identification is a challenge in winter as they all are a very similar looking gray and white.

## SPRING SWALLOWS

Most swallows found in Southeast Arizona are present year-round, but numbers of many species grow in February as northbound migrants pass through and residents return. These acrobatic, flying insect-eaters form flocks of thousands of birds and can be very conspicuous. Nesting in tree cavities in the northern US and Canada, the deeply iridescent blue Tree Swallow winters the farthest north of any swallow (just south of Arizona) and greater numbers of them will be present into May. The Violet-green Swallow is very similar to the Tree, but it is our summer resident mountain swallow. Look for these shimmering green and white birds soaring above any of our Sky Island ranges through October. The Northern Rough-winged Swallow is another summer breeder here nesting in riverbank burrows created by other animals and in human-created crevices. This inconspicuous brown species gets its name from small hooks on the leading edge of their primary feathers, which feel like a file if touched. The Cliff Swallow nests in Southeast Arizona under bridges and culverts and on buildings in structures they create using gathered mud formed into pellets—the finished product may contain 900–1,200 individual pellets! Finally, the familiar, blue and dark orange Barn Swallow can be found here late March through October. It's the only swallow with a deeply forked tail, and true to its name, it builds its mud nests almost exclusively on buildings.



# CACTUS LOVERS

## The Birds of Cholla and Prickly Pear

There are many birds in the Sonoran Desert that utilize cholla and prickly pear for nesting and foraging and use its fruits and seeds as a food source. Here are a few of those that really love the prickly partners.

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David Kreidler

### CURVE-BILLED THRASHER

You can find Curve-billed Thrashers all over Tucson and Southeast Arizona, but especially where they have access to the cozy thornage of cholla cactus. They almost exclusively nest in chain-fruit and teddy bear cholla, 90% of the time—maybe they should be called Cactus Thrashers! Curve-billed Thrashers usually inhabit the same territory year to year, so if you find an old nest (they're very conspicuous), the birds may still be nearby. Listen for their easily recognizable *whit-wheet!* call, frequently the last bird sound in the Sonoran Desert just before dark. Thrashers are omnivores who enjoy a variety of food items, and they will also take advantage of luscious prickly pear fruit. Cactus Wrens also favor cholla for nesting, and thrashers will destroy their roosting nests during the non-breeding season. Curve-billed Thrashers have readily adapted to our urban environment in Tucson, unlike the other thrashers of our region, and will usually show up after your planted cholla is large enough.



Shawn Cooper

### CACTUS WREN

The Cactus Wren, (*Campylorhynchus brunneicapillus*, meaning 'brown-capped curved bill') is conspicuous in behavior, size, and plumage—no doubt leading to its being chosen as Arizona's State Bird. It's a very conspicuous and busy species, building large football shaped dome nests with a tunnel entrance that leads to the larger living chamber. In Southeast Arizona, chain-fruit cholla seems to be the preferred cactus species in which to build these heavily guarded nests—good protection from predators, especially snakes. Other cholla species are utilized too, in addition to prickly pear, saguaro, yuccas, and various thorny trees. During incubation, males are known to build dummy nests to confuse predators and to roost in at night, sometimes allowing the female to start another brood (up to six per year!). Although Cactus Wrens and Curve-billed Thrashers will not destroy each other's breeding nests, the wrens are known to raid other birds' nests and dispose of eggs.



Doris Evans

### GREATER ROADRUNNER

One of the most famous birds from popular culture, the Greater Roadrunner is an intriguing and biologically fascinating species. It is found in deserts and arid grasslands across the southwest and northern Mexico, and in many of these areas, cholla and prickly pear are found nearby. Across Arizona, the roadrunners' large platform nests are typically found in mesquite and palo verde. In the Tucson area however, various cholla cactuses are the most-used nesting substrate, with prickly pear being used occasionally as well. Roadrunners construct well-hidden nests, and a thick clump of cholla or prickly pear definitely helps with concealment and protection. Look for them along the Loop trail in Tucson where they are often seen searching for prey items that can include just about anything—poisonous animals, including venomous lizards and scorpions, most lizards, including horned lizards (head-first!), rattlesnakes (often in tandem with another roadrunner), small mammals, frogs, toads, birds, and carrion.



Dan Weisz

### GAMBEL'S QUAIL

The Sonoran Desert is the heart of the Gambel's Quail's range and the species relies on sprinting away from threats (at speeds around 20 feet per second), and hiding in dense shrubs and clumps of cholla and prickly pear. More than 90% of this "boom and bust" species' diet is composed of fresh, green plant parts. Population levels are heavily influenced by the amounts of winter and spring rainfall—dry years yield fewer food resources and thus fewer young birds. In a good year, nine to fourteen brown spotted eggs are laid in a ground nest preferably hidden under a shrub or stand of prickly pear, and sometimes in a pot on your patio! In addition to using cactus for cover and nesting, Gambel's Quail also feed on the fruits of cholla, prickly pear, and saguaro. Listen for the birds' grating, four-note *ka-KAA-ka-ka* call, one of the most recognizable sounds of a morning in the desert.



Mick Thompson

### BLACK-THROATED SPARROW

Southeast Arizona is home to one of the most striking sparrows in the US, and unlike a lot of those "little brown jobs", it's easy to identify! The Black-throated Sparrow has a dapper gray face, two bright white eyebrows and mustache stripes, and that big black throat and bib that set it apart from the rest. It's a denizen of the driest of arid desert scrub and is well-equipped to deal with hot and dry conditions—it's also known as the Desert Sparrow. Black-throated Sparrow can survive long periods without water and obtains moisture from the seeds and insects it eats. Depending on where it lives, Black-throated Sparrow can be a permanent resident or a migrating species. Our birds in Southeast Arizona seem to be permanent residents. Females build strong and deep cup nests low in vegetation, and they prefer teddy bear cholla (15% of breeding bird surveys), followed by creosote and prickly pear.



Doris Evans

### MOURNING DOVE

The Mourning Dove is among the most abundant and widespread terrestrial birds in all of North and Central America, occupying every state in the lower 48, all of Mexico, Central America, and some parts of southern Canada. It's also no stranger to the Sonoran Desert and could be the most abundant breeding bird in Arizona. It is one of the fastest flying birds you can see in your own backyard, it's powerful, straight flight reaching up to 55 mph. Mourning Doves can build a nest in a matter of hours, and that nest might produce 12 chicks over the course of a year! Species that spend up to two weeks working on a nest should take note. Their nests are flimsy constructions, often placed in cholla or desert trees and on top of old Cactus Wren and Curve-billed Thrasher nests. The Mourning Dove can be identified by its namesake slow, descending song and the unique whinnying sound their wings make on take off.



Greg Lavaty

### RUFIOUS-WINGED SPARROW

Like Ring-necked Duck, the Rufous-winged Sparrow is named for a fieldmark that is difficult to see, if one sees it at all. The rufous lesser coverts of the wing for which this bird is named are often concealed. This small to medium sized sparrow is more easily identified by a combination of marks which includes pale rufous crown stripes, finely streaked back, short bill, unmarked grayish breast, and most distinctive, the dark lateral throat-stripe. It may sing its descending bouncing ball song year round but it's heard most frequently during the monsoon season in which this species primarily nests. The tightly-made cup nest is most often placed low to the ground in hackberry, palo verde, or cane and chain-fruit cholla. The Rufous-winged Sparrow was first described in 1872, making it one of the last birds documented in North America. Still uncommon and local and closely associated with areas of native grasses, this species can only be regularly found in the US in Southeast Arizona.



Scott Olmstead

### HOUSE FINCH

The House Finch, one of the most numerous birds in North America, has a very interesting history in the US. Originally a bird found in the dry habitats of the southwest US and Mexico, a small number of finches were released on Long Island, New York, in 1939 after attempts to sell them as "Hollywood finches" failed. In the next 50 years, the species spread across almost all of the eastern United States and southern Canada and now has one of the widest ecological ranges of any North American bird, occurring on the edges of northern taiga and southern forests, coastal areas, urban centers, and desert habitats. House Finches almost exclusively raise their young on plant materials, a rare occurrence in birds as most species rely heavily on protein-rich insects when feeding nestlings. The species builds cup nests in cactus, palm trees, and many other substrates, but overwhelmingly favors various chollas in Arizona (43% of nests in breeding bird surveys).



# ANIMALS & OPUNTIAS: A Prickly Relationship



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.

ABOVE: Desert tortoise, Pinau Merlin

INSET: Marks left by javelina—they leave messy, stringy fibers because they don't have sharp cutting teeth. This also illustrates javelinas preferentially choosing inner pads.

RIGHT: Woodrat at her burrow entrance, Paule Hjertaas; Javelina and cholla, Lon & Queta; Harris's antelope ground squirrels routinely feed on prickly pear fruit, Katy Hooper; Pocket gophers eat the roots of prickly pear, Pinau Merlin

In this wondrous Sonoran Desert, nature has pulled out all the stops with ingenious adaptive strategies that allow the great diversity of plants and animals to thrive here. The opuntias—prickly pear and cholla cactus—are integral to the whole ecosystem and are a great example.

Both prickly pear and cholla are critically important food and water resources for many animals, especially during the hot foreshummer in June. Over 45 species of mammals utilize these cacti, from black bear, white-tailed and mule deer, bighorn sheep, pronghorn, and jackrabbits to ringtails, coatis, badgers, pocket gophers, ground squirrels, and skunks. All parts of the cactus are used, including the flowers, fruit, roots, pads, and joints. The flowers attract solitary cactus bees which pollinate many cacti as they gather pollen to feed their larvae. Other insects, like the cactus longhorn beetle, feed on cholla and prickly pear pads and roots, and ants consume the fruit seeds. Birds come to the flowers for nectar, pollen, and insects, and whiptail lizards and ground squirrels eat the flower petals. We even know that the Pleistocene mammoth and Shasta ground sloth ate prickly pear pads and fruits 11,000 years ago in Arizona!

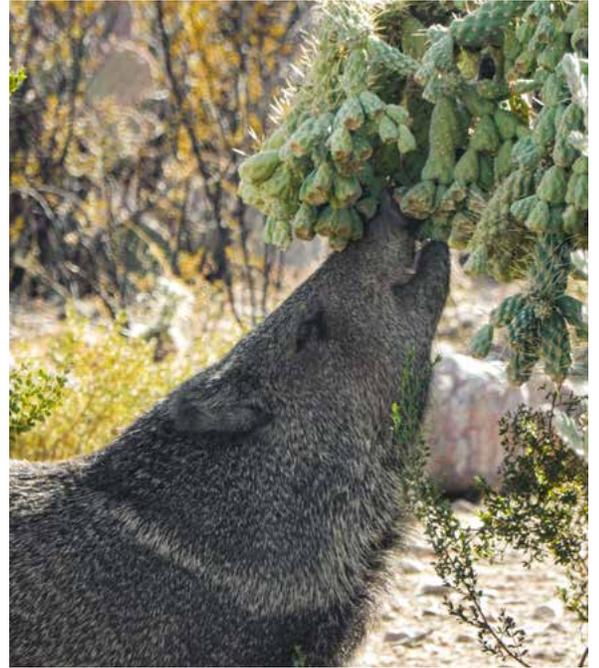
August brings the bounty of sweet red prickly pear fruits and at least 13 species of birds from roadrunner to Wild Turkey feast on the juicy treats. The birds carefully peck with their beaks between the spines and glochids, making a hole in the side of the fruit so they can eat the inside without getting poked. Harris's antelope ground squirrels clamber about on the prickly pads to reach the fruit, while coyotes, skunks, gray fox, ringtails, desert tortoise, badgers, and others forage on fruits that have fallen on the ground or feed on more easily accessible fruits on the plant. Desert tortoises, their faces smeared with juice, rely heavily on prickly pear fruit in summer.



Prickly pear pads have a low protein content and are not very nutritious, but the pads have more succulent tissue than woody tissue, making them an important water resource for all desert animals. Javelina, which must drink water every day, satisfy much of their daily water needs by eating prickly pear pads. During dry times both white-tailed and mule deer will feed on the pads, as will pronghorn, although they prefer to eat the pads after wildfires have burned off the spines.



How do prickly pears and chollas defend themselves from all these hungry mouths? The first line of defense is the spines and glochids. The intensely irritating glochids may be even more effective than the spines, although the spines do deter animals from completely devouring the whole clump of cactus. During the summer, water is even more important than food to desert animals and many have evolved ways of overcoming the spines. Javelina will ingest some spines (which soften as they pass through the digestive tract), but they also often pull off a pad and hold it down with a hoof and peel off the skin and spines with their teeth before eating it. Rabbits munch on the sides of the pad, working around the spines, which drop off as the tissue around them is eaten. Packrats de-spine the pad before eating by biting off the spines and spitting them out on the ground. Look for spines lying on the ground beneath a pad where a packrat has been feeding.



As always in nature, plants and animals evolve with each other in an arms race. Animals and insects adapt to plant defenses and plants evolve new defenses. The second and even more effective defense of both prickly pear and cholla is chemical. Oxalic acid is very toxic, binding with calcium in the body to form insoluble calcium oxalate which will clog the kidneys of most mammals. However, the diets of javelina, jackrabbits, and packrats rely heavily on prickly pear, and they are adapted to deal with oxalic acid. Deer, bighorn sheep, and many other animals eat prickly pear at times, but not as a mainstay of their diet.

Although javelina have bacteria in their gut and a physiological modification of their kidneys that allows them to detoxify and excrete oxalic acid, they will still choose new growth pads (nopalitos) that contain less toxin. While they must eat pads for water during the summer drought, javelina cannot survive on a diet of prickly pear alone. Javelina must supplement their diet with protein, and in tough times they have been known to dig up a packrat midden to feed on the stored mesquite beans, dried fruits, and other comestibles.



The white-throated woodrat (packrat) is also closely tied to both prickly pear and cholla for food, shelter, and insulation. These small mammals have limited adaptations for conserving water and are so reliant on cactus for their daily water needs that they can't live in areas without it. During the heat of summer, up to 90% of their diet is prickly pear. The cholla's cylindrical form and dense spination make it much more drought and heat tolerant than prickly pear, so as one moves into western Arizona's very hot, xeric desert, cholla becomes the dominant opuntia and prickly pear drops away. The few woodrats in this habitat prefer to place their dens in small caves or holes in rock outcrops rather than out in the open. These locations are often almost completely filled (and insulated) with cholla joints and include preserved parts of other plants, bones, animal parts and random objects. Packrat dens can be used for thousands of years by successive generations and some are treasure troves of the Sonoran Desert's evolutionary history preserved by these little woodrat curators.



Cholla and prickly pear display nature's intricate adaptive strategies to withstand heat, aridity, and herbivory, yet they sustain a myriad of insects, birds, and other animals in a desert community. Life always finds a way where all can thrive. Like the song says, "it's a wonderful world!"

# A FORTRESS OF SPINES: CHOLLA AS A VITAL RESO

Residents of the Sonoran desert know to avoid getting close to the spines of a cholla cactus, while inexperienced visitors learn the lesson quickly! Many plants of the desert utilize thorns and spines to defend themselves. The very sharp spines of chollas are barbed at the tip, making them difficult to pull out of one's shoes, or flesh. The segments readily break off when attached to a passerby. When those segments fall to the ground, they sometimes take root and grow into a new plant—an effective strategy to duplicate themselves!

Prickly pear is another armored plant of the Sonoran Desert, and besides their impressive self-defense strategies, these plants have other similarities. They both add splashes of spring color to the desert with their beautiful, vibrant, and varied blooms. The fruits of both plants are important food resources for many desert animals, and their intimidating spines offer ideal nesting protection for many bird species.

In 2014, Tucson Audubon developed five original “recipe card” outreach pieces to encourage people to add native plants in their yards. This original set featured: Hummingbirds, Gambel's Quail, “Desert Finches” (House Finch & Lesser Goldfinch), “Tiny Raptors” (American Kestrel & Western Screech-owl) and lastly, “Cholla Dwellers,” which showcased Cactus Wren and Curve-billed Thrasher. These featured birds were carefully chosen as charismatic species that can do well in urban habitat in Tucson and will readily respond to the addition of native plants. When taking these cards to events that targeted birders and the general public, a clear trend started to emerge. I always had more “Cholla Dwellers” cards left over at the

end than any other card. I began to actively try to get people to take that particular card, and often heard responses along the lines of “cholla are bad” or “I don't want those in my yard!” Interestingly, the Gambel's Quail recipe card featured prickly pear cactus as a vital nesting resource, and people always grabbed that card. I took this understandable but negative attitude as a challenge, to demonstrate the value of these multi-faceted and maligned plants.

The bird habitat “recipe cards”, that we still distribute at outreach events, were a long-awaited and now realized goal of the Tucson Bird Count (TBC). The TBC is an ongoing urban bird count that began in 2001 at the University of Arizona, and has been run by Tucson Audubon since 2012. Both previous coordinators of this conservation-focused community science project were interested in how the presence of native plants in Tucson affects distributions of birds. Will Turner analyzed the initial data from the first years of the TBC, and had this advice for residents of Tucson:

The low-to-the-ground layer is often the first to go when land is developed, but may be the most important for our native birds. If you must trim low branches, fill in the space with shrubs like wolfberry or thornbush. Let people know that you can have big, dense patches of cholla (Cactus Wrens, Curve-billed Thrashers, and others will thank you) and prickly pear (Gambel's Quail) that won't hurt anyone because you've placed them away from walkways and surrounded them with flowers and low shrubs like brittlebush, on which Verdins and goldfinches feed.



Cactus Wren, David Quanrud



Curve-billed Thrasher and nestlings, Dan Weisz

# URCE FOR BIRDS

Jennie MacFarland,  
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Rachel McCaffrey took over the count in 2003, and coordinated it until 2012. Subsequently, she had even more data to review, to try to understand how native plants can help birds effectively utilize areas that have been converted to urban and suburban spaces. The relationship between cholla presence near one of the 800+ TBC survey locations, and detections of Cactus Wrens, was something in particular that Rachel studied.

Cactus Wrens exemplify a species with strong local-scale habitat associations, with cholla cacti explaining a significant amount of variation in whether the species occurred at a site. The presence of a few cholla (1 to 3) corresponded to more than a 100% increase in the likelihood of a Cactus Wren being detected at a site, and at sites with more cholla (>4), the chances of encountering a Cactus Wren were more than 80%, independent of housing density and other habitat features measured.

Another way that Rachel once put it:

**“IF YOU HAVE CHOLLA,  
YOU WILL HAVE A CACTUS WREN.”**

I have been coordinating the count at Tucson Audubon since 2013, and we now have over 20 years of data. We can begin to analyze bird distributions and presence, and how they are impacted by certain plants, or other landscape features. To this end, beginning in 2024, TBC counters will fill out a short survey about the habitat characteristics of each of their point count locations.

With the help of our dedicated and talented long-term tech volunteer, Jay Bhangoo, we have also added new data review features for the TBC database and website. You can now select a specific bird species and click on any point where it has been detected to see a graph of detections over the years. This feature has been highlighted and linked to on the home page at TUCSONBIRDS.COM.

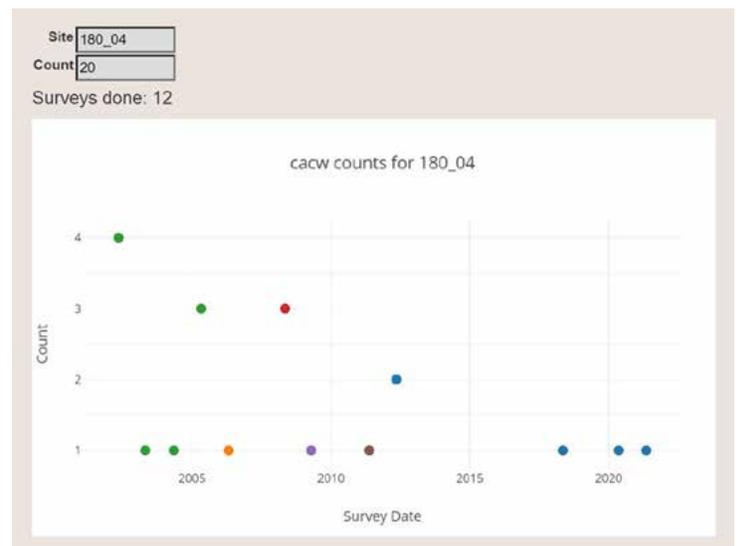
**If you would like to volunteer for the Tucson Bird Count, we could really use your help! Please contact Jennie at [jmacfarland@tucsonaudubon.org](mailto:jmacfarland@tucsonaudubon.org) to find out more.**



Gambel's Quail, Doris Evans



Cactus Wren detections for TBC point 525-24 within Saguaro National Park. Detection levels have been relatively consistent over the years in this protected area.



Cactus Wren detections at point 180-04, near Arthur Pack park in NW Tucson have declined. This area has experienced conversions of natural spaces to urban areas over the last few years.

# PREDICTABLE PLENTY IN A SUCCULENT LANDSCAPE



Juanita Ahil Cholla Bud Harvest, © kresanphotography.com

May this article acknowledge the rich traditional ecological knowledge of the Desert People! They are original residents of S-cuk Şon, or Tucson. May it also honor my mentor, Juanita Ahil-*bađ*, who shared her wisdom and told me to “write it down”!

Community: how she considered the plants, animals, land, air, and village residents around her. All were part of her community, each with a purpose and action time.

After the chill and dormancy of the cold time from Weight-loss Moon into Green Moon, when stored foods were used up, she welcomed signs of new growth on the branch tips of succulent cholla cacti and on top edges of prickly pear cactus pads. By the beginning of Yellow Moon she prepared for *ciolim* harvest (pronounced chee’oh-rlim). It was a short window of opportunity— 3–4 weeks—but would provide enough of the dried flower buds to store for community needs until next spring.

Cholla bud time was her celebration time. We would go out to greet individual *ciolim* plants, her relatives, who provided reliable food gifts yearly regardless of rain unpredictability. Of all the different available cholla species, she had definite preferences. Where there was a choice between the very similar buckhorn cholla and staghorn cholla, she would shun the buckhorn cholla although other families harvested it. Buckhorn’s persistent, tough bud spines took lots more work to remove. Staghorn was easier to de-spine. Her favorite, the rarer *wipnoi*



*Nowi*, a young pad of *Opuntia engelmannii* with leaves at areoles, Martha Burgess

(pencil cholla), has the largest buds and fewest bud spines. As for what she called *hanam* (chain-fruit or jumping cholla) which flowers with the monsoon, she considered its buds “starvation food”, reliable if nothing else was available. Cholla fruits, which can persist long after flowering, she also considered famine food.

I saw her offer to a cholla a hair pulled from her head, or some water. By her example, she encouraged her helpers to offer something, a powerful lesson to us—that Nature balances things. If we take without giving back, Nature will eventually whomp us unexpectedly. Best to put things in balance proactively. Acknowledging cactus gifts by giving it something before taking the gift was imperative in her cultural way.

“You watch the buds swell. When you see the first *ciolim heosig* (flower) open, it’s time for picking.” With her *wa:’o* tongs, her “Papago chopsticks”, made with a split saguaro rib tied at one end, she’d carefully grab a single bud, twist it until it released from the stem, drop it into her bucket, and go to the next.

Juanita-*baq* understood the significant nutrition of *ciolim*. When I was nursing my infant son, she insisted, “You eat your *ciolim*,” knowing that it was good for mother’s milk and for keeping up my energy. *Ciolim* was good to feed old people too, for their bones. No need to define *ciolim*’s high available calcium content, complex polysaccharides that give sustained energy, its prevention or treatment of osteoporosis or diabetes. Lessons enough if you live with these foods as neighbors and know their amazing attributes through generations of your ancestors’ teaching. You honor them and they sustain you.

For more info about Tohono O’odham use of prickly pear and cholla, see *From I’itoi’s Garden, Tohono O’odham Food Traditions*, 2010 by Tohono O’odham Community Action.

See [SAVORTHESOUTHWEST.BLOG](http://SAVORTHESOUTHWEST.BLOG) for cactus food anecdotes and recipes. Dry *ciolim* or *i:bhai* products may be for sale seasonally at San Xavier Coop Association or at AjoCSA.



Harvesting *ciolim* (*Cylindropuntia versicolor*) with *wa:’o*, Martha Burgess

About the same time as the *ciolim* harvest, a nutritious harvest of *Nowi* (“hand”) was available. Known as nopal in Spanish, they were the fresh young pads or cladophyll stems of prickly pear. The new growth *nowi* is spotted with little dunce cap shaped prongs, tiny leaves, at each areole. She knew as long as the little leaves remained on a pad, it was harvestable, with soft tissue, and no interior woody tissue. She singed off the spines and leaves over an open fire and fried them to serve with red chile or eggs for a delicious meal.

During the Rain Moon, monsoons brought another pulse of plenty in the Sonoran Desert, initiating the *i:bhai* (prickly pear fruit) harvest season which could last well into October.

Contrasting with what botanists recognize as two species of the prickly pears she harvested, she had nine distinct names for the same plants. In anthropological terms, it was a well-defined folk taxonomy. Her nomenclature was based not only on the shape and size of the *i:bhai* but also on toughness, juiciness, storability, architecture, color, and ripening season—attributes that matter to those whose well-being depends on such knowledge. For example, *Şaşani i:bhai*, “blackbird” prickly pear is identified by its dark purple fruits that stand up on the edge of the pads like lines of blackbirds.

What a moment in time to have observed her intimate relationships with these cacti! As fellow desert inhabitants, engulfed in increasing heat and drought of climate change, we would do well to become intimate with these succulent survivors following her example and attuning ourselves to short-term times of plenty.



With degrees in geology and dendrochronology, Martha Ames Burgess pursued Sonoran Desert ecology and was mentored by Tohono O’odham elders, inspiring an ethnobotany career, an adjunct position at Tohono O’odham Community College, and educational outreach at Tucson’s Mission Garden and other ecological organizations.



*Oam ciolim* (yellow-flowered staghorn), beads of extrafloral nectar at areoles, Martha Burgess

# CHOLLA AND PRICKLY PEAR of ARIZONA

Lynn Hassler  
Green Gardeners Volunteer Captain  
Historic Y



Arizona's variety of cacti is unmatched anywhere north of Mexico. Many are bizarre in appearance with gnarly and unusual shapes, but their flowers can be beautiful and fragile-looking and come in a rainbow of colors.

The cactus family (Cactaceae) is one of several plant families that exhibit succulence—the ability to store moisture in leaves, stems, or roots for later use during dry periods. This capacity for water storage is an adaptive strategy for desert survival. The thick succulent stems of cacti are covered with a waxy epidermis that retards evaporation. Spines also contribute to this strategy by shading plants and reducing water loss by slowing air movements. Spines also protect the cactus from hungry animals.

Two standout groups in this family are the segmented cacti: the prickly pears (*Opuntia*) and the chollas (*Cylindropuntia*). New stem segments or joints branch from previous years' segments. Plants can look shrubby or tree-like. The stem segments of cholla are cylindrical while prickly pear are flattened. In general, chollas are more drought tolerant than prickly pears and extend into drier deserts.

In addition to the usual spines, prickly pears and chollas have clusters of many tiny, barbed bristles called glochids. These are very sharp and detach easily, causing pain and aggravation when encountered. The best way to remove them is to draw very sticky tape across the affected areas.

Despite their spiny surfaces, the pads of prickly pears and some cholla stems are eaten by packrats, jackrabbits, deer, and javelina as a source of moisture. Flowers are pollinated primarily by common cactus bees

(*Diadasia* spp.), very small ground-nesting bees that are active between April and June. Many birds, mammals, and insects feed on species that produce fleshy fruits. Desert tortoises, ground squirrels, thrashers, Cactus Wrens, finches, and even hummingbirds enjoy these fruits.

The spiny branches of cholla provide well-protected nesting sites and are used by Cactus Wrens, Curve-billed Thrashers, Verdins, doves, and House Finches. White-throated woodrats (aka packrats) often build their stick and debris-filled nests within prickly pears and may layer the nest with cholla joints. Note that rattlesnakes often take up residence in abandoned packrat nests.

Though all species flower, some rarely, if ever, produce viable seeds; these species reproduce almost entirely by vegetative means. Fallen joints root rapidly and are easy to propagate. Cut off a section at a joint, let the cut dry and callus over for about a week, then plant in the ground cut side down.

Prickly pears and chollas are among the least demanding of landscape plants. In addition to needing little or no water, they can also tolerate the hottest, brightest locations and are very cold hardy. They make excellent security plantings near dwellings or as barrier hedges along property lines. Since these plants are so spiny, plant away from patios, sidewalks, pools, and play areas.

**NOTE: Numerous species of cholla and prickly pear hybridize, so identification can be tricky.**



**BUCKHORN CHOLLA**  
(*Cylindropuntia acanthocarpa*)  
Much branched shrub 3–8' tall. Each plant has flowers of a single color, though different colors are often present in a population. Blooms in yellow, orange, bronze or red appear in April/May.



**PENCIL CHOLLA** (*C. arbuscula*)  
With stems the size of pencils, these plants are densely branched and have few spines. Early spring flowers are yellow-green to red and brown. Greenish purple fruits remain on plants for at least a year.



**TEDDY BEAR CHOLLA (*C. bigelovii*)**  
Up to 7' tall and fiercely armed with dense spine coverings. Often form impenetrable stands of many hundreds or thousands of individuals. The spines glow when backlit with early morning or late afternoon light.



**PANCAKE PRICKLY PEAR (*O. chlorotica*)**  
Light green rounded pads look like flapjacks. In April and May yellow flowers are sometimes tinged with red. Largest native *Opuntia* in Arizona, growing 4–7' tall and 5' wide.



**CHAIN-FRUIT/JUMPING CHOLLA (*C. fulgida*)**  
This 8' high tree cholla doesn't actually "jump," but spiny segments detach readily onto unsuspecting passersby. On summer afternoons small pink flowers appear and remain open into the evening. Extended fruit chains dangle below the stems.



**ENGELMANN PRICKLY PEAR (*O. engelmannii*)**  
Most abundant and variable prickly pear in southern Arizona. Showy yellow flowers turn an apricot color on the second day. Plump and juicy fruits ripen in July and August and are relished by a wide variety of animals—rabbits, packrats, javelina, deer, ground squirrels, desert tortoises, cactus beetles, and many different kinds of birds.



**CHRISTMAS CHOLLA (*C. leptocaulis*)**  
Has the thinnest stems of any cholla species. Spring- and early summer-blooming flowers are only open for about 3 hours a day, opening in late afternoon and closing around sunset. The festive fleshy red fruits remain on plants for several months, providing color during winter—they are a favorite of Pyrrhuloxias.



**BLACK-SPINED PRICKLY PEAR (*O. macrocentra*)**  
Spines are the longest of any prickly pear in Arizona. Showy yellow flowers have red centers. Stems are bluish-gray with a purple reddish-lavender color around the stem margins. Often seen in open grasslands of Southeast Arizona.



**CANE CHOLLA (*C. spinosior*)**  
Common name refers to the use of the dried woody skeletons for walking sticks. Flower colors varied although red or magenta is most predominant; 6–10' tall.



**PLAINS PRICKLY PEAR (*O. macrorhiza*)**  
Hugs the ground, forming low clumps usually less than 2' across. Yellow blooms with red centers appear in May and June. The botanical name refers to the large root: *macro* = large or long; *rhiza* = root



**STAGHORN CHOLLA (*C. versicolor*)**  
With well-developed trunks and open, spreading crowns, staghorns are tree-like and grow 6–12' high. The botanical name refers to the variety of flowers colors that may be found on different individual plants March through May.



**SANTA RITA PRICKLY PEAR (*O. santa-rita*)**  
Named for the Santa Rita Mountains in Southeast Arizona. Particularly attractive when stems turn purple in response to periods of drought or cold stress. Rounded and dome-like to 6' tall. Eye-catching large lemon yellow flowers appear in April/May.



**BEAVERTAIL PRICKLY PEAR (*Opuntia basilaris*)**  
Named for the paddle-shaped pads in a beaver tail design. Grows in low, spreading clumps. When grouped together, the 3" wide pink to magenta blooms create a knockout display. Spineless, but beware of the many glochids that are often too small to see.

PHOTO CREDITS: Buckhorn Cholla, Take a Hike Arizona; Pencil Cholla, Saguaro National Park; Teddy Bear Cholla, Fluff Berger; Chain-Fruit/Jumping Cholla, Doris Evans; Christmas Cholla, Roberto González; Cane Cholla, Katja Schulz; Staghorn Cholla, Brent Miller; Beavertail Prickly Pear, Dick Thompson; Pancake Prickly Pear, J. Maughn; Engelmann Prickly Pear, Lynn Hassler; Black-Spined Prickly Pear, Joe Schallan; Plains Prickly Pear, Ed Ogle; Santa Rita Prickly Pear, Lynn Hassler

# CACTUS: FOSTERING A BALANCED AND SUSTAINABLE BACKYARD HABITAT



Native plants are the backbone to creating vibrant, ecologically rich habitats at home that offer a myriad of benefits to our local wildlife. Prickly pear and cholla cactus are exceptional choices that not only add a unique aesthetic but also significant contributions to a habitat's shelter, nesting, and forage capacity.

Why should you add these prickly beauties to your habitat at home?

## SAFE NESTING SITES AND SHELTER

Many of our local birds build their nests within the safe compounds of the spine-studded joints and pads of cholla and prickly pear. Their dense, woody interiors create a strong, protective foundation for numerous birds, from House Finches to Greater Roadrunners. This is especially important for nesting birds in urban areas where free-roaming cats are a major threat. During inclement weather, these cacti provide an ideal location for birds to seek refuge from the elements.

## NECTAR-RICH FLOWERS FOR POLLINATORS

Both cholla and prickly pear boast an abundance of vibrant blooms in the spring and summer months. These flowers are filled with nectar and pollen that attract hummingbirds and are an important source of food for native bees. The cactus bee is the primary pollinator for cholla and prickly pear cactus, almost exclusively feeding on nectar and gathering pollen to feed their young. These flowers also offer shelter to native bees. In the early morning, when the flowers are still closed, you can find native bees sleeping, cradled in their petals.

## MOISTURE- AND NUTRIENT-RICH FRUITS

After the blooms, luscious fruits appear. These moisture-rich nuggets of nutrients come at a time of little to no rain and are devoured by deer, javelina, small mammals, desert tortoise, and many birds who return the favor through seed distribution.

## DROUGHT TOLERANT AND LOW MAINTENANCE

These cacti are well-adapted to our region's climate, requiring little to no supplemental water once established.

Prickly pear and cholla cactus are not merely prickly plants; they are significant contributors to a thriving, bio-rich bird and pollinator habitat. From providing essential forage opportunities to safe nesting and sheltering sites, and supporting native bee species, these cacti play a pivotal role in fostering a balanced and sustainable habitat.

Find more information about the Habitat at Home program at: [TUCSONAUDUBON.ORG/HABITAT](https://TUCSONAUDUBON.ORG/HABITAT) and find our Cholla Dwellers Recipe Card at: [TUCSONAUDUBON.ORG/RESOURCES](https://TUCSONAUDUBON.ORG/RESOURCES).



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Cactus Wren eating prickly pear fruit, Lois Manowitz; Cholla in habitat, Jennie MacFarland; (left) Cactus Bee, Sherry Massie; Leafcutter bees, Carrie Harris; Verdins building nest in cholla, Lois Manowitz

# Ocean Birds in a Sea of Desert

Many Tucson (and Arizona) birders got to enjoy seeing the Pomarine Jaeger in Green Valley this past November, as well as the confiding Red-throated Loon in Sahuarita. What is a jaeger or loon doing inland in the desert? Birders usually associate these birds with the ocean!

You might be surprised to learn there are many Arizona records for all three species of jaegers. Both Long-tailed and Parasitic Jaegers have occurred no fewer than 20 times each, and Pomarine, the rarer of the three, at least 15 times. Prior to the 1970s, there were only a few jaeger reports in the state: older specimens of Parasitics collected along the Lower Colorado River, a Pomarine collected in fall near Flagstaff, and a Long-tailed Jaeger photographed in Phoenix in September of 1970, the state's first.

In 1977, birders discovered that the large lakes on the Colorado River (mainly Lake Havasu) are excellent for migrating jaegers, particularly in September and October! The excitement of the

original boat trip on Lake Havasu in September of 1977, pattering around in a small, slow boat, and trying to chase down jaegers all over the place, will be difficult to recreate! When one considers that jaegers breed in the high arctic all the way across from Alaska to eastern Canada, it makes perfect sense that at least some of those breeding birds need to migrate across inland North America to reach both the Gulf of Mexico and Gulf of California, let alone the oceans. This is also true for other species that we normally associate with the ocean, such as all of the loons, Red-necked and Horned Grebes, and some gull species, in particular Iceland (Thayer's) and Sabine's.

Across the West, the larger reservoirs regularly get migrating jaegers, loons, gulls, and grebes. Late August and early September are the best months for both Long-tailed and Parasitics, and Pomarine records tend to be late October and November. As with jaegers, the larger lakes along the Colorado River are the best locations

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



to look for loons, gulls, and grebes, although they can show up at just about any prominent body of water. That was the case this fall, when a Red-throated Loon put on a great show at Sahuarita Lake and an Iceland (Thayer's) Gull was at Lakeside Park. There are even at least eight records of Yellow-billed Loon, including one from Tempe Town Lake in May 2008. Sabine's Gull, always a striking bird to see in the desert, is an annual migrant (August to October) at lakes and ponds just about anywhere in Arizona. It's worth it to pay attention—not all birds on lakes are ducks!

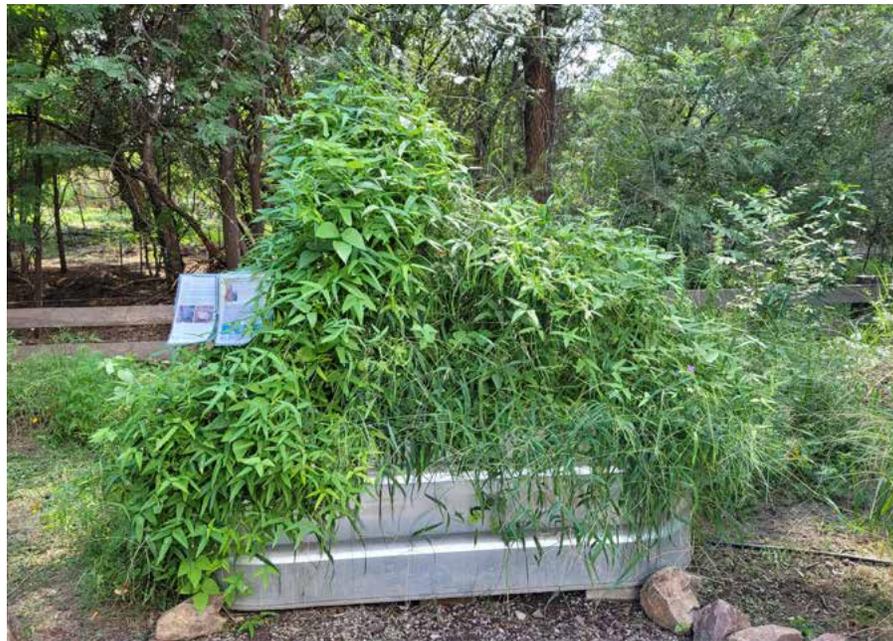
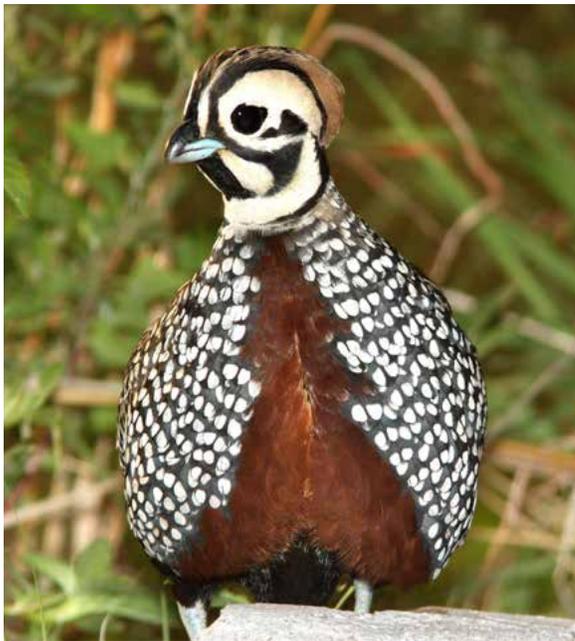


Red-throated Loon, Alan Schmierer



Pomarine Jaeger, Greg Lavaty

# QUAIL-ITY FOOD PLOTS



The first time I saw a Montezuma Quail I was driving near the Southwestern Research Station in the Chiricahua Mountains. Luckily, I was driving slowly because they darted right in front of my car! Although only visible for a second, I instantly recognized the bird. Their unique harlequin-like face pattern and intricate design of spots, streaks, and bold chestnut body coloration make them an easy species to distinguish from other quail.

Montezuma Quail are usually found in pine-oak forests with abundant native bunch grasses. This year, they were frequently sighted in Madera Canyon, Cave Creek Canyon, and Miller Canyon, and since they aren't migratory they will stay in these areas year-round. They also have very small home ranges and move as little as 150 feet per day. Their unique behavior and appearance make them a highly sought after bird by birders and hunters alike. In Arizona, the hunting season for Montezuma Quail (or Mearns's Quail, as they are referred to by hunters) runs from December to mid-February.

Although Montezuma Quail eat some insects, a large portion of their diet consists of tubers and bulbs of nutsedge and woodsorrel, which they dig up with their large talons. They also rely on tepary beans and acorns. Many of these plants are dependent on high moisture riparian areas. Unfortunately, many of these areas are at risk due to increased erosion caused by development, mining and cattle. Shifting rain patterns also

deter the growth of these plants. Additionally, trying to revegetate habitat within these areas is challenging since the seeds aren't available for purchase and the plants aren't sold in nurseries.

Fortunately, Tucson Audubon has found a way to create native food plots for Montezuma Quail by working with landowners to source plants from their properties. We are also working with Montezuma Quail hunters who donate the crops of birds they hunt which contain intact seeds that have not been broken down yet in the digestive process. This way, we know we are planting exactly what they are eating! The seeds have been planted in the concrete and metal planting troughs at our Paton Center for Hummingbirds and will be used to create a seed source. Once established, the seeds can be planted to create food plots at other locations.

If you are a Montezuma Quail hunter and would like to donate the crops of your hunted birds, please contact Aya at [apickett@tucsonaudubon.org](mailto:apickett@tucsonaudubon.org).

*This project is funded by Arizona Sportsmen for Wildlife Conservation, the National Forest Foundation, and Southern Arizona Quail Forever.*

Montezuma Quail, Alan Schmierer; Food plot at the Paton Center

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# Simpson Farm Habitat Restoration Complete After 21 Years

Tucson Audubon's field crews recently spent their last days working at our long-term habitat restoration project, the North Simpson Farm. The site is a retired agricultural field, along the Lower Santa Cruz River in Marana, owned by the City of Tucson and managed in part by Tucson Audubon. As part of an Arizona Water Protection Fund grant and participation in the Army Corps of Engineers In-Lieu Fee program, we restored nearly 300 acres of critical riparian and floodplain habitat adjacent to the river, a key wildlife corridor for Southeast Arizona.

Field Crew members Rodd Lancaster and Dan Lehman have worked on the project since the beginning and, along with other staff and volunteers, planted thousands of trees, shrubs, and grasses at the site. Over the years, they've witnessed positive changes to the area as a direct result of their restoration work, including watching cottonwood and willow pole plantings grow to maturity, observing Great Egrets hunting lizards in open desert, and documenting a greater diversity of bird species during surveys.

The project encountered numerous challenges due to the area's remoteness and the degraded condition of the agricultural soil. Hurdles

included a pervasive infestation of tumbleweed and tamarisk, periods of drought in the Santa Cruz River, and cattle intrusion. These combined difficulties impeded the establishment of new plants, seed banks, and soil health. Successfully overcoming each obstacle not only underscores the remarkable achievements of the project, but also highlights the dedication and resilience of our field crew.

The North Simpson restoration efforts resulted in especially good habitat for birds. Since completion of the restoration component of the project, Tucson Audubon has surveyed and identified an incredible 184 bird species onsite. Saltbush supports a variety of sparrows and quail and is now well established at Simpson. A thriving cottonwood-willow gallery forest along the river provides critical nourishment to migrating warblers and riparian birds. The Loggerhead Shrike, a declining species, is now a common sighting. The project has even supported the federally threatened Western Yellow-billed Cuckoo, with 33 recorded sightings over the years.

After 21 years of hard work and accomplishments, the field crews closed up shop by removing the

last of the irrigation lines used to help establish new plantings. It was a full circle moment for the organization and especially for the crew members who have been with us since the beginning. The project and its positive outcomes highlight the impact that Tucson Audubon restoration work can have on the environment and on birds, especially in a unique situation such as this where the resources exist to provide long-term stewardship to the land.



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Constructing the irrigation system, Dan Lehman



Yellow-billed Cuckoo, Martin Molina



Field Crew disposing of retired irrigation line on their last day at the North Simpson project.

# FOR BIRDS' SAKE, GET POLITICAL!

This past November I attended the National Audubon Leadership Conference, which introduced chapters to Audubon's new five-year "Flight Plan" and called for our active, sustained involvement in achieving the plan's ambitious goals between now and 2028.

An enormous amount of thought and work went into this event. The location (Estes Park, Colorado) was gorgeous and offered some very good birding (my highlight: a flock of Red Crossbills drinking snowmelt from a rooftop). The hundreds of attendees were refreshingly diverse, varying in age, race, gender identity, sexual orientation, geography, and more. The plethora of workshops were designed to enable everyone, whatever their connection to Audubon, to engage meaningfully with the Flight Plan and with each other.

And yet, for me, all those positives were outweighed by a single, glaring negative: the conference ignored the biggest threat facing birds and our planet in the foreseeable future—the 2024 elections. As I tried to impress on the organizers both before and during the conference (without success), if the elections go against us—giving control of our country to climate obstructionists, anti-environmentalists, conspiracy mongers, and worse—the Flight Plan's chances of success are virtually nil, as are our chances of keeping global temperature rise below catastrophic levels.

On the other hand, if the elections go in our favor—putting the levers of power in the hands of people who respect science; who are dedicated to

fighting the climate crisis and the extinction crisis; and who believe that all living creatures have the right to clean air, water, and land—then at-risk birds, habitats, and people—not to mention our at-risk democracy—will have a fighting chance.

There's something surreal about National Audubon's timid, backward-looking, unstrategic approach to our elections, given their powerful leadership on climate. With their 2019 report, *Survival by Degrees: 389 Bird Species on the Brink*, Audubon laid out, with unmatched clarity, precision, sophistication, and urgency, the stakes for birds if we fail to stop and gradually reverse global temperature rise. That achievement makes their refusal to honestly confront and strategically respond to our current political crisis all the more baffling—and, frankly, shameful. For, again, if the 2024 elections go as poorly as they easily could, stopping runaway climate change will be close to impossible.

Knowing from experience that some members of our community strenuously object to Tucson Audubon "getting political," I could lay out example after example proving that decisions made by policymakers, both elected and appointed, directly impact every threat birds face, from climate change, to habitat loss, to window-strikes, and beyond. Indeed, I did so in the Fall 2022 issue of *Vermilion Flycatcher*. But continuing to focus on such readers would not be the best use of my time, when time is of the essence.



Montezuma Quail, Hemant Kishan



Red-faced Warbler, Shawn Cooper; Acorn Woodpecker, Tom Brown

Instead, my aim is to reach fellow bird-lovers who understand what’s at stake in the 2024 elections but who don’t know what to do about it, other than making sure to vote and to get their bird- and environment-loving friends and family to vote, too. Of course, we should all do that in every election—especially local ones, which directly impact so much of what we care about but which far too many people ignore. But when it comes to national politics, that approach isn’t nearly enough, because it isn’t strategic. In our current electoral system and political reality, one thing matters above all else: location.

We’ve learned that lesson when it comes to conservation work. Given the magnitude and pace of habitat destruction, we conservationists are forced to focus on the most strategically important places: wildlife corridors, migratory stopovers, breeding and wintering grounds, and the like.

Electoral politics aren’t so different. In our political system, where you live determines how much your vote counts. To take just the starkest example: With over 154 million votes cast in the 2020 presidential election, the race came down to just over 44 thousand votes in three states (Arizona, Georgia, and Wisconsin).

What does this mean for 2024? We need to do all we can to ensure that people who share our core values—bird-lovers, nature-lovers, environmentalists, people deeply concerned about climate change, members of communities bearing the brunt of environmental injustice, defenders of democracy—not only vote in record numbers, but do so, above all, *in key battleground states and districts*. Here in Arizona, our local efforts will once again have national impact. But people in non-battleground states can still make a big difference by donating to or taking part in strategic postcarding, letter-writing, texting, and phone-banking to voters in battleground states.

Much of that work, of course, is partisan, but nonpartisan work is crucial, too. That’s why Tucson Audubon has been partnering with Environmental Voter Project (ENVIRONMENTALVOTER.ORG) to make sure environmentalist Tucsonans show up and vote in every election. And that’s why we’ll soon be partnering with groups doing nonpartisan voter-registration in communities who share our values.

If you’d like to get involved, contact me at [drobinson@tucsonaudubon.org](mailto:drobinson@tucsonaudubon.org). Regardless of where you live, I’ll help you find smart, strategic voter-engagement efforts that feel right for you.

And while you’re at it, contact National Audubon (AUDUBON.ORG/CONTACT-US) and tell them to face political facts and get cracking! National Audubon can and should play a huge role in educating and mobilizing *millions* of bird-lovers to take strategic action to make sure the 2024 elections set us up to achieve the Flight Plan’s ambitious goals, resulting in lasting wins for birds, the environment, people, and the planet.

## VULNERABLE BIRDS IN SOUTHEAST ARIZONA

There are 48 bird species in Arizona identified in Survival by Degrees as highly vulnerable to climate change. What we and fellow bird-lovers do between now and November 7th to impact the outcome of the 2024 elections could determine their fate. Here are the 26 that breed in Southeast Arizona.

- Montezuma Quail
- Broad-tailed Hummingbird
- American Goshawk
- Northern Pygmy-Owl
- Mexican Spotted Owl
- Acorn Woodpecker
- Arizona Woodpecker
- Gilded Flicker
- Western Wood-Pewee
- Western Flycatcher
- Cassin’s Kingbird
- Mexican Jay
- Mountain Chickadee
- Bridled Titmouse
- Bushtit
- Pygmy Nuthatch
- Ruby-crowned Kinglet
- Hermit Thrush
- LeConte’s Thrasher
- Olive Warbler
- Botteri’s Sparrow
- Black-chinned Sparrow
- Yellow-eyed Junco
- Grace’s Warbler
- Red-faced Warbler
- Painted Redstart



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# Expanding the Paton Center's Impact

Since 2017, Tucson Audubon has been hard at work improving habitat at the Paton Center for Hummingbirds, and we have recently embarked on another multi-year restoration effort on a piece of land purchased in 2019. Previously owned by the Town of Patagonia, this five acre parcel is sandwiched between the Paton Center and The Nature Conservancy's (TNC) Patagonia-Sonoita Creek Preserve and creates 170 acres of land along two miles of streambed that is managed for conservation by the two organizations. We are especially excited to be restoring this area since it is a vital wildlife corridor, hosting critical habitat for three threatened/endangered species including Mexican gartersnake, Huachuca water umbel, and Western Yellow-Billed Cuckoo.

Although the parcel already serves as habitat for many species of birds and other wildlife due to its developed canopy and mature cottonwood trees, it faces high pressure from invasive species that provide poor habitat resources and that outcompete valuable native species. This year we began treating invasive Vinca that dominated the understory of most forested areas in the parcel, and we recently began treating invasive Johnsongrass which has almost completely consumed all open canopy area throughout the five acres. Federal and state restoration grants and private donations have allowed us to target not only these high-pressure species, but also tree of heaven, Siberian elm, *Arundo*, and horehound.



Strike Team member Dusty Rowen taking down an invasive elm tree



Cottonwood saplings at the Paton Center

Invasive species suppression efforts will continue through 2024 and beyond and will be complemented by native planting and seeding. This winter we are installing an irrigation system that will support new native plants including hackberry, soapberry, black walnut, desert honeysuckle, giant sacaton grass, and more. These species will bolster the midstory throughout the parcel while creating a functioning understory, the latter being almost nonexistent due to pressure from invasive species. These plants will be supplied by our partners at Nighthawk Natives Nursery and Borderlands Restoration Network. We will also be planting 250 cottonwood saplings along two miles of Sonoita Creek—these were collected and saved from monsoon flooding last summer.

In addition to being ideal habitat for birds, pollinators, and other wildlife, the new area will be open for human use and community engagement opportunities. The parcel will host almost a mile of new public trails built in part by the community volunteer trail building group, the Dirtbags of Patagonia. The organization has built trails for public use in the Paton Center's Cuckoo Corridor and in areas surrounding Patagonia over the past 20 years. The trails will host educational signage about our restoration work and local ecology along with new vantage points for viewing birds in Sonoita Creek. Our goal is to transform the space to best support both bird habitat and human enjoyment, and we are excited to be expanding the impact and legacy of the Paton Center!



Restoration Crew Members Rodd Lancaster and Dan Lehman standing in a field of Johnsongrass, ready to mow



The Dirtbags of Patagonia trail crew at work in the Paton Center's Cuckoo Corridor



Cally Wilken  
Mitigation Program Manager  
cwilken@tucsonaudubon.org



# BIRDS NOW GOING CUCKOO FOR CORRIDOR

For the past four years I have had the privilege of being the “Birder in Residence” at the Paton Center for Hummingbirds, allowing me to witness the daily, seasonal, and year-to-year changes in the bird life here.

The most dramatic changes have occurred in the creek-side parcel across the road from the original Paton property, known as the Cuckoo Corridor. When I arrived in December 2019 this was a new acquisition and the restoration effort by Tucson Audubon’s restoration crew was in its early stages. There was a lot of bare ground where non-native plants such as Arundo and Johnsongrass had been removed, though little patches of planted native sacaton grass held promise of what was to come.

What a difference four years has made! The sacaton grass has thrived, agaves have taken hold on the hillside, and parts of the trail, once dominated by Johnson grass, are bordered by a veritable forest of eight-foot-tall native sunflowers. The value of this space for birds is considerable, and the restoration work has benefited both breeding and wintering species and increased the value of the property as stopover habitat for migrating birds.

In September 2020, the presence of a young juvenile Rufous-winged Sparrow was an indication that this range-restricted species had bred successfully here. In March 2023, a Violet-crowned Hummingbird built a nest deep in the leafy recesses of a Mexican Elderberry tree in a particularly lush section of the property, and was frequently seen hunting flying insects in the vicinity.

In the winter months, large numbers of sparrows forage and seek refuge here, mostly White-crowned, Chipping, and Lincoln’s Sparrows, but occasionally Brewer’s, Lark, and even White-throated Sparrows are mixed

in. The abundant sunflowers attract large flocks of Lesser Goldfinches, sometimes joined by Pine Siskins and less often by their rarer congeners, Lawrence’s and American Goldfinches.

Migrants that are frequently seen in the Cuckoo Corridor in both spring and fall include Willow Flycatcher, Wilson’s Warbler, Rufous Hummingbird, and Lazuli and Painted Buntings. During one early-April post-dusk walk down Pennsylvania Avenue I heard the unmistakable soft barking call of a migrant Elf Owl emanating from the Corridor. The list of “good birds” found here by myself and others goes on.

Another testimony to the quality of this habitat occurred in fall 2022 when a migrant Elegant Trogon found its way here, and foraged from one end of the Cuckoo Corridor to the other. Before flying across the creek and road, it disappeared into the parcel known as the “Cuckoo Corridor South” where Tucson Audubon began restoration work early this year.

Of course, Yellow-billed Cuckoos occur in their namesake corridor. As the southwestern black cherry and Arizona walnut trees, which host the caterpillars upon which cuckoos thrive, continue to grow thanks to Tucson Audubon’s efforts, the habitat will become even more favorable for this iconic denizen of southwestern riparian zones. In 2022, one juvenile Yellow-billed Cuckoo lingered in the corridor until the late date of October 8, so we must be doing something right!

Louie Dombroski  
*Paton Center Birder-In-Residence*



Migrating Lazuli Buntings benefit from sacaton grass in the Corridor, Mick Thompson; The Corridor is now full of mature sacaton bunch grass, Matt Griffiths





# TUCSON AUDUBON **BIRDATHON** 2024

**APRIL 1–30**

**THE 2024 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 Erica Freese at [efreese@tucsonaudubon.org](mailto:efreese@tucsonaudubon.org).

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

**WHEN?** April 1–30. You make the call: Take 24 hours, half a day, a week, or the whole month!

**WHERE?** Take your birding anywhere on the planet!

**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.

Never done a Birdathon or want new ideas to make your Birdathon the best yet? Stay tuned for our workshops.

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



Bridled Titmouse, Matthew Studebaker



FIND UPCOMING EVENTS AND REGISTER AT:  
[TUCSONAUDUBON.ORG/NEWS-EVENTS](https://TUCSONAUDUBON.ORG/NEWS-EVENTS)

## Birdability Field Trips



Join Tucson Audubon for a leisurely birding experience designed for nature lovers with accessibility challenges; wheelchairs, walkers, or other assistive devices are welcome. The pace is slow, distance short, and terrain even.

- Birding for Every BODY at Agua Caliente — Jan 9
- Birding for Every BODY at Canoa Ranch — Jan 14
- Birding for Every BODY at Agua Caliente — Jan 20
- El Rio Preserve with Southern Arizona Accessible Wildlife Refuge — Jan 21
- Birding for Every BODY at Canoa Ranch — Feb 3
- Birding for Every BODY at Agua Caliente — Feb 13
- Santa Rita Lodge Big Sit — Feb 24

## It's All In the Family Workshops with Homer Hansen

### SPARROW ID WORKSHOP, FEB 1 & 3

Registration fee: \$125/member, \$175/non-member

This workshop series consists of two parts: a classroom workshop and a field workshop. Participants are expected to attend both portions for a holistic experience.

**Part I: Classroom ID Workshop**, Thursday, February 1, 5:30–8:30 PM, at the Tucson Audubon Nature Shop (300 E University Blvd)

**Part II: Field ID Workshop & Birding Trip**, Saturday, February 3, all day (location & schedule TBD)

### RAPTOR ID WORKSHOP, FEB 22 & 24

Registration fee: \$125/member, \$175/non-member

This workshop series consists of two parts: a classroom workshop and a field workshop. Participants are expected to attend both portions for a holistic experience.

**Part I: Classroom ID Workshop**, Thursday, February 22, 5:30–8:30 PM, at the Tucson Audubon Nature Shop (300 E University Blvd)

**Part II: Field ID Workshop & Birding Trip**, Saturday, February 24, all day (location & schedule TBD)



## Hunt's Photo Virtual Event Series

**Hunt's** PHOTO & VIDEO We are proud to partner with Hunt's Photo & Video as our presenting partner for a series of upcoming virtual events. Over the last calendar year, Tucson Audubon and Hunt's Photo teamed up to bring you several virtual events and we are excited to continue that partnership in 2024. Times and topics are TBD so be sure to check our Events page throughout the year for more information about these fun, informative events.

## Tubac Hawk Watch and Optic Event

Come out March 17–20 and scope the hawks and new optics at Tubac Hawk Watch 2024. We'll have reps from Vortex, Leica, Swarovski, and Zeiss showing off the latest birding optics. You're welcome to try them out and purchase from our Nature Shop on-site!

There will also be daily morning and afternoon bird walks along the nearby De Anza trail and Santa Cruz River, led by staff and volunteers of Tucson Audubon and Tubac Nature Center. Our optics partners will also be leading trips so you can try out their gear on the trail before you buy!

# CULTIVATING A CONSERVATION ETHOS

Tucson Audubon and the Arizona Trail Association have joined forces in a unique collaboration to cultivate a new generation of environmental stewards. This groundbreaking partnership focuses on training young students to lead birding trips and share their passion for conservation. Through hands-on experiences, mentorship, and workshops, these budding leaders develop their birding skills and become conservation advocates.

The collaboration arose from a shared commitment to the Tucson youth community. Treven Hooker, a Tucson-born youth leader, envisioned a program that engages young people in nature-based activities, allowing them to develop their voices in the conservation movement. The emphasis of this program lies in individual leadership development, where participants learn about birds and ecosystems while recognizing their unique skills in guiding others on the journey of nature reconnection.

Driven by his own connection to nature, Treven eloquently expresses his motivation for the program: “I do this work because I have found that nature has been my greatest medicine and mentor. As a non-indigenous person born and raised on this land, I feel immense privilege and gratitude to learn and grow from it. I help others connect to nature so that they can help heal and protect the land as much as the land heals and protects them.”

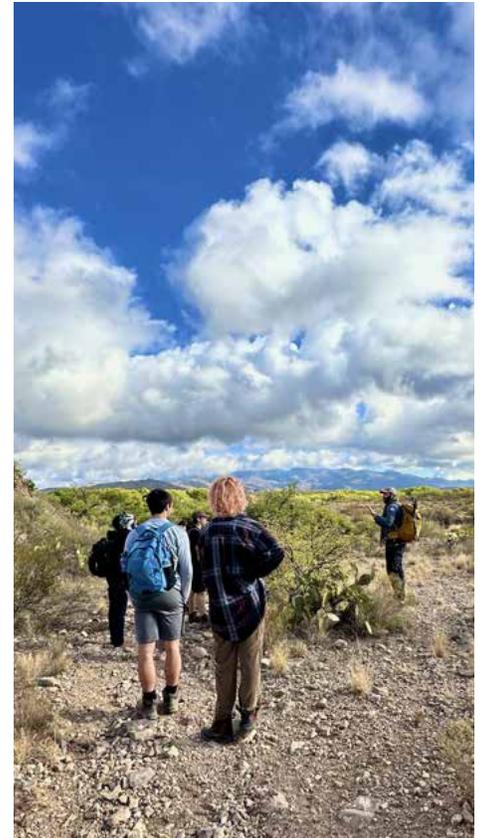
The participants, regardless of their talents, share a common love for the Earth and a commitment to preserving its beauty and function for future generations. The program encourages these young leaders to share their knowledge and passion through guiding peers, families, and community members on birding excursions.

At the core of this partnership is the belief that sharing one’s passion is a powerful force for positive change. As these young birding leaders guide others on trips, they impart knowledge and inspire a connection to nature, creating a ripple effect that extends beyond single excursions, influencing attitudes and behaviors toward environmental conservation.

This collaboration exemplifies how joint efforts can inspire and empower the next generation of environmental stewards. As these young leaders take flight, they carry the hope for a future where the wonders of nature are cherished and protected for generations to come, embodying the reciprocal relationship between individuals and the land they aim to preserve.

Bea Mendivil  
Education Coordinator

[bmendivil@tucsonaudubon.org](mailto:bmendivil@tucsonaudubon.org)



A collaboration with the Arizona Trail Association is cultivating a new generation of environmental stewards.

# VOLUNTEER UPDATES

## Celebrating 40 Years of the Tucson Audubon Nature Shop

Tucson Audubon is supported by a team of devoted volunteers who contribute their time, skills, and boundless enthusiasm to further our mission of inspiring people to enjoy and protect birds. From organizing engaging events to assisting with educational programs, bird counts, and nature walks, our volunteers are the backbone of our efforts, sharing their knowledge and fostering a love for the environment in countless ways. Our Nature Shop thrives not only because of its offerings, but also due to the tireless dedication of our volunteers, whose unwavering commitment has helped create a welcoming space for nature enthusiasts to gather, learn, and grow. As we mark this milestone, we extend our deepest gratitude to every volunteer who has generously given their time and energy, shaping the Tucson Audubon Nature Shop into the vibrant hub it is today. Here's to 40 more years of impactful conservation efforts, fueled by the passion and commitment of our amazing volunteers!



Nature Shop 40th anniversary party, Donito Burgess; Paton work, Cally Wilken; Planting saguaros, Erica Freese

Join us in celebrating the incredible efforts of our volunteers at the Paton Center for Hummingbirds, whose unwavering dedication and hard work have been pivotal in the restoration and preservation of this cherished property. For years, our volunteers have been the driving force behind the restoration initiatives at the Paton Center, devoting countless hours to maintain and enhance this vital habitat for hummingbirds and other wildlife. Their commitment to nurturing the gardens, maintaining feeders, and creating a welcoming space for visitors and these delicate winged wonders has been truly inspiring. Since October, staff and volunteers have been meeting on the first and third Wednesdays of every month, rain or shine, to actively participate in the ongoing efforts that ensure the Paton Center remains a thriving sanctuary for birds. Cheers to our amazing volunteers whose passion and commitment continue to breathe life into the Paton Center for Hummingbirds. Join these restoration volunteer days through spring by checking out our Volunteer Opportunities webpage.

## Celebrating the Dedication of Volunteers at the Paton Center

## Planting Saguaros to Ensure Habitat for Generations to Come

Over the last year, our volunteers have dedicated their time and energy to plant young saguaro cacti, ensuring nesting sites and food sources for future generations of birds. Thanks to the dedication and hard work of these volunteers, our ecosystem stands to benefit and will provide a sustainable environment for avian species while preserving the beauty of our natural landscapes. In an effort to plant over 14,000 (!) saguaros, we will continue to have saguaro planting events throughout the upcoming year. Be sure to check out our Volunteer Opportunities page to see how you can help with this important project!



Donito Burgess  
Community Engagement Manager  
dburgess@tucsonaudubon.org

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

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## SENIOR LIVING THAT'S WORTH A CLOSER LOOK

Just when you thought you had “these kinds of communities” all figured out, discover why Splendido is turning heads. Well-appointed homes, award-winning wellness initiatives, and services to suit your style—all in a dynamic Life Plan Community that’s uniquely designed with the future in mind, so you can live life with confidence.

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# PROMOTING THE BENEFITS OF URBAN BIRD CONSERVATION IN TUCSON

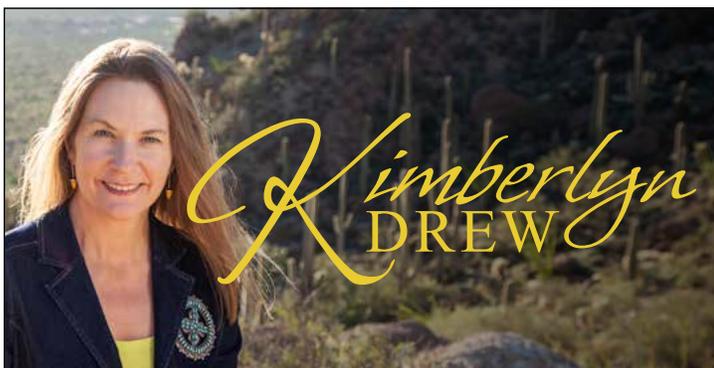
We are excited to announce that Tucson Audubon is actively pursuing Urban Bird Treaty City (UBTC) designation for Tucson! This US Fish & Wildlife Service (FWS) program works with local, state, and federal governmental agencies, non-profit organizations, corporations, and local communities to conserve migratory birds through education, hazard reduction, community science, and habitat improvement strategies in urban areas. The treaty is a partnership agreement between a US city and the FWS that promotes the benefits of urban bird conservation to the city and its communities, and expresses the city's support for helping achieve the goals of the UBTC program.

Over the next few months, Tucson Audubon will document and celebrate the amazing things Tucsonans are already doing to

support urban birds, propose ongoing actions, and make a solid case for designation. Achieving Urban Bird Treaty City designation will result in multiple city, community, and coalition benefits, including priority consideration for a portion of \$250,000 in annual funding through the National Fish and Wildlife Foundation's Five Star and Urban Waters Restoration grant program; support for efforts to designate an Urban Wildlife Refuge along the Santa Cruz River Corridor; and enhanced access to resources to meaningfully engage urban communities, provide safe passage for birds, improve urban habitat, and build community resilience to increased urbanization and climate change.

We look forward to unlocking new opportunities in 2024 to make Tucson's urban habitat better and safer for birds!

Olya Weekley  
Applied Conservation Project Manager  
owekley@tucsonaudubon.org



*Kimberlyn*  
DREW

17-year Tucson Realtor  
20+ year Tucson Audubon Member, Supporter & Volunteer  
MBA · Associate Broker · Birder

KimberlynDrew.com  
520.237.1408



Sandhill Cranes aren't the only frequent flyers bringing joy to southeast Arizona. Tucson Audubon's very own Frequent Flyers make our work possible through giving monthly. **Will you join this growing flock?**

### Monthly Sustaining Gifts Are Easy, Effective, and Eco-friendly

By joining Frequent Flyers, you can help Tucson Audubon balance our resources throughout the year, reduce fundraising expenses, and consume fewer resources by eliminating the need to send paper renewal notices. [TUCSONAUDUBON.ORG/DONATE](https://tucsonaudubon.org/donate)



# SOUTHEAST ARIZONA BIRDING FESTIVAL

**AUGUST 7-11, 2024**  
Tucson, Arizona · Registration opens April 30  
234 bird species seen in 2023!  
[TUCSONAUDUBON.ORG/FESTIVAL](https://TUCSONAUDUBON.ORG/FESTIVAL)

PRESENTED BY




Pyrrhuloxia, Matthew Studebaker

## GIFTS IN HONOR OR MEMORY OF

In memory of Bobby Skwarek from Cindy Strozewski  
 In memory of Carol Hubbard Wood from Robert Hubbard  
 In memory of Chantha Kem from Taylor Dunaway  
 In memory of Gini Baird from Barbara Rasmussen  
 In memory of Helen Coston from Steve Coston  
 In honor of Janine Higgins from James Randall  
 In honor of Jim Hoagland from Denise Carlton, Donna Burton,  
 Gordon Moro, K. D. Lundgren, Linda Walker, Loren Weimer, Mary  
 Ellen Drake, Ruth Fjellman, Sharon Passov, Sharon Thordarson,  
 Stephanie Kapolnek, & Susan Monson  
 In honor of Jonathan Horst from Amy & Michael Rule  
 In honor of Julia Gordon from Gale Harris



Lesser Goldfinch, David Kreidler



Our 2023 winter appeal demonstrated a multitude of ways that Tucson Audubon shows up for birds. We explored how our education program is empowering Tucson youth to join the conservation efforts in and outside the classroom. We then followed the hard but rewarding work of the Strike Team as they set the stage for the future health and survival of the Sonoran Desert. We ended the year by unveiling our Habitat on Wheels, the most eye-catching trailer to hit the Tucson streets this year. This mobile unit will enhance Tucson Audubon's efforts to transform urban spaces into welcoming habitat for birds, wildlife, and the community.

We hope you enjoyed learning about these programs and look forward to sharing many more exciting and impactful program updates this year.

Just as the cholla and prickly pear are key to the success of many birds, your donations are key to the success of Tucson Audubon's ability to implement these programs.



I hope you'll consider supporting our amazing programs with a sustaining monthly gift by becoming a member of our Frequent Flyers program. To join this growing community, please visit: [TUCSONAUDUBON.ORG/FREQUENTFLYERS](https://TUCSONAUDUBON.ORG/FREQUENTFLYERS).

Erica Freese  
 Director of Development & Communications  
 efreese@tucsonaudubon.org



CLOCKWISE FROM TOP LEFT: Strike Team in Saguaro National Park, Jaemin Wilson; Habitat on Wheels trailer, Kim Matsishino; Youth and Lucy's Warbler nestbox; School field trip at Sweetwater Wetlands; Habitat at Home at Parking Day, Erica Freese

VERMILION FLYCATCHER

Winter 2024 | Vol 69 No 1

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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).



## TUCSON AUDUBON NATURE SHOPS

### NATURE SHOP

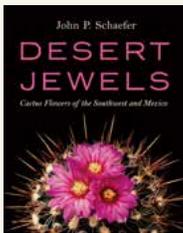
300 E University Blvd #120, Tucson 85705 (corner of University & 5th Ave)

2024 Winter/Spring shop hours:

Tuesday, 10am–2pm, Wednesday–Friday, 10am–4pm, Saturday, 10am–2pm

Always available online at: [TUCSONAUDUBONNATURESHOP.COM](http://TUCSONAUDUBONNATURESHOP.COM)

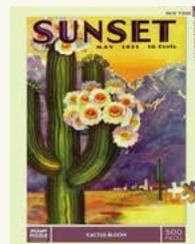
There's never any sales tax since we're a non-profit. All purchases support our mission to protect birds and their habitat.



#### Desert Jewels by John P. Schaefer

\$35.00

In this book, renowned Tucson photographer John P. Schaefer brings the exquisite and unexpected beauty of the cactus flower to the page.



#### Sunset Cactus Bloom 500pc Puzzle

\$22.00

Sunset Magazine featured a giant saguaro on its cover in May of 1931. Striking white cactus flowers occupy the dominate the scene while purple mountains loom in the background.



#### Untamed Confections Prickly Pear Honey Caramel

\$11.00

These caramels are infused with nectar from sustainably harvested prickly pear. Notes of citrus, strawberry, and watermelon. Sonoran Desert wildflower honey is the only sweetener. Made in Tubac, AZ. More flavors in store!



#### Leica Trinovid HD 8x42

Member Price \$999

Get up close to the spines of a saguaro without risking a prick! The close focus of the Trinovid HD can't be beat at 3.9ft!



#### Ceramic Cactus LED Lamp

\$15.00

Add some southwest flair to any room! Enjoy the warm glow of a desert sunset with the porcelain cactus LED light. 5.8" tall.



#### Kowa BDII 6.5x32

Member Price \$359

Fully multi-coated optics improve light transmission, color rendition, clarity, and contrast in a small, lightweight package with the Kowa BDII32.