



Shape the Future

# Canyon Chatter

Friends of Madera Canyon

September 2025





# Links to Contents

- 6 From the President
- 7 The Bird Page
- 9 August FoMC Education Program
- 11 Old Baldy Approach Trail
- 14 Rare and Threatened Species 12 miles NE of Madera Canyon
- 17 The Editor's Desk

On the cover. The Arizona Owl Eyed Click Beetle, *Alaus zunianus*. This is probably the largest and the rarest of the US *Alaus* species. It is endemic to Arizona and New Mexico. The larvae of *Alaus*, unlike some of the other click beetles are dedicated carnivores and as soon as they hatch they start feeding on other invertebrates. The larvae are often found in decomposing wood. Adults can be found in riparian habitats at mid-elevations in the sky islands. Photography Doug Moore.

## How to Join Friends of Madera Canyon

Below are links to join as a new member, renew a membership or make a donation. The links will take you to a secure server to use to make an automated payment. Do you have any questions? Let us know. If you prefer to help by writing a check, please make your check payable to Friends of Madera Canyon - mail to:

**FOMC**  
**PO Box 1203,**  
**Green Valley, AZ 85622-1203**

## Links

**A NEW MEMBERSHIP - RENEW A MEMBERSHIP**  
**DONATE TO FoMC**

# From the President

September 2025

## Shaping the Future

Frederick Law Olmsted, the 19<sup>th</sup> century architect of New York's Central Park and many other American parks, wrote: "Nature employs the mind without fatigue and yet enlivens it. Tranquilizes it and enlivens it. And thus, through the influence of the mind over body, gives the effect of refreshing rest and reinvigoration of the whole system."

Writing in Greater Good magazine, Dr. Leif Hass expanded on Olmsted's view: "It took almost 150 years, but science has verified that statement almost word for word." Later in his article, Hass notes that "according to biologist E. O. Wilson, here is an innate emotional affiliation with other living organisms that makes us calm and comfortable in nature. The sounds, smells, sights are our evolutionary 'happy place' where we can rest and rejuvenate. We are deeply tied to a world from which we have strayed. Despite the comforts and safety of the modern world, there is a price to pay for urban living."

The writing prompt for Dr. Hass, who practices medicine in Oakland, CA, was an effusive thank you from a 68-year-old patient who exclaimed that the prescription Hass had given him during the COVID lockdown had saved his life. "You gave me a prescription to ride my bike to the marina and watch the sunset," said the patient. "I have been watching that sunset almost every day. And the prescription is still on the fridge!" Dr. Hass remembered. He had written a prescription for the man to "get outside and take in the natural beauty of the sunset."

He concludes: "Every episode outside is an opportunity to access the healing power of nature...when I watch the sunset, I think of what it did [for my patient]."

In the August 11, 2025 The Guardian, writer Patrick Barkham reported: "People's connection to nature has declined by more than 60% since 1800," a number posited by Professor Miles Richardson of the University of Derby in England. The professor tracked the loss of nature from people's lives over 220 years by using data on urbanization, the loss of wildlife in neighborhoods, and, crucially, parents no longer passing on engagement with nature to their children. Richardson concluded, "It's vitally important for our own mental health as well. It unites people and nature's wellbeing. There's a need for transformational change if we're going to change society's nature."

Such transformational change might start with "introducing children to nature at a young age," said Barkham.

Doug Moore, our FOMC Naturalist, and a band of volunteer docents have been educating 4<sup>th</sup> graders from local schools for 20 years. As Doug puts it, the docents seek to develop young naturalists with a curiosity about nature in general. I have met parents in our area who recall their 4<sup>th</sup> grade trip with Doug and others who offer their gratitude to FOMC for an experience their child has enjoyed through the program.

Barkham's article has suggested an additional endeavor for us: reaching out to children even earlier in their educational experience. New programs will require additional financial support, and if the FOMC Board chooses to pursue such a new path, we will reach out to our membership and beyond to make our case for support.

In the meanwhile, reflect on how you came to develop your passion for nature. And when did that development start? Can FOMC be the catalyst for a revival of the connection between people of the 21<sup>st</sup> century and nature? The experience of Dr. Hass and his patient suggests that much good could come out of such a revival.

Dan White  
August 28, 2025

# Bear Story Addendum

Last issue, I wrote: "VIS volunteers Bruce and Jean Sillers recently encountered a woman, a regular hiker in the Canyon, who saw a bear somewhere on the nature trail. Hiking alone, "she got spooked, took off away from the bear, tripped, and bloodied her knees. Bruce and Jean helped to calm her down, clean her knees and point her toward an Urgent Care Center," to quote another VIS volunteer, Debbie Gilliam." After my report appeared in the Canyon Chatter, Bruce wrote to me: "Re your comments in the latest FMOC newsletter. Thanks for your kind words about those of us who volunteer and; help the Canyon and its public. However, I need to clarify something about helping the bear "victim". Yes, Jean and I were involved and were helpful.

But two others who were about to replace us at the VIS were more directly helpful than I was in the cleaning and; calming: Don Berk and Diane Harris. I want them to get the credit they deserve."

There are many layers of good will in this exchange and another reminder that we are the visitors to the bears' home turf and so must be aware of the possibility of their presence when we are in the Canyon.

## On the Trail

1. While we were finishing a bee board behind one of our refurbished benches, my wife, Judy, and I engaged in a conversation with a husband and wife who regularly hike the Canyon but are not yet members of the Friends. When we told them what we were up to, Russ pulled out a \$20 bill and said, add this to the Friends' funds. And thanks for the work.

2. Another morning on bench patrol, I met Jim and his two dogs. I learned that he has been bringing his dogs to the Whitehouse Loop for the last 10 years, missing only a few mornings. He told me that the daily ritual was his chance to begin each morning relaxed and, for the time on the trail, at peace with the world.

3. The Board has engaged Eric Ruljancich of Outslope Trail Connections to prepare a plan for the re-engineering of the Bog Springs connector trail, between the campground and the trail to the springs. If you have hiked that trail, you know how dangerous it is because of the riprap that litters the old jeep road that serves as the trail.

Once the plan is completed, the Friends will begin collaborating with the Forest Service, foundations, and other funding organizations in an effort that will parallel the collaboration to re-do the Baldy trail-head a few years ago.

4. If a friend ever asks you what the Friends do besides greet visitors, educate kids, and replace benches, I urge you to share with them Tom Bailey's account below of the work our volunteers do on trail.

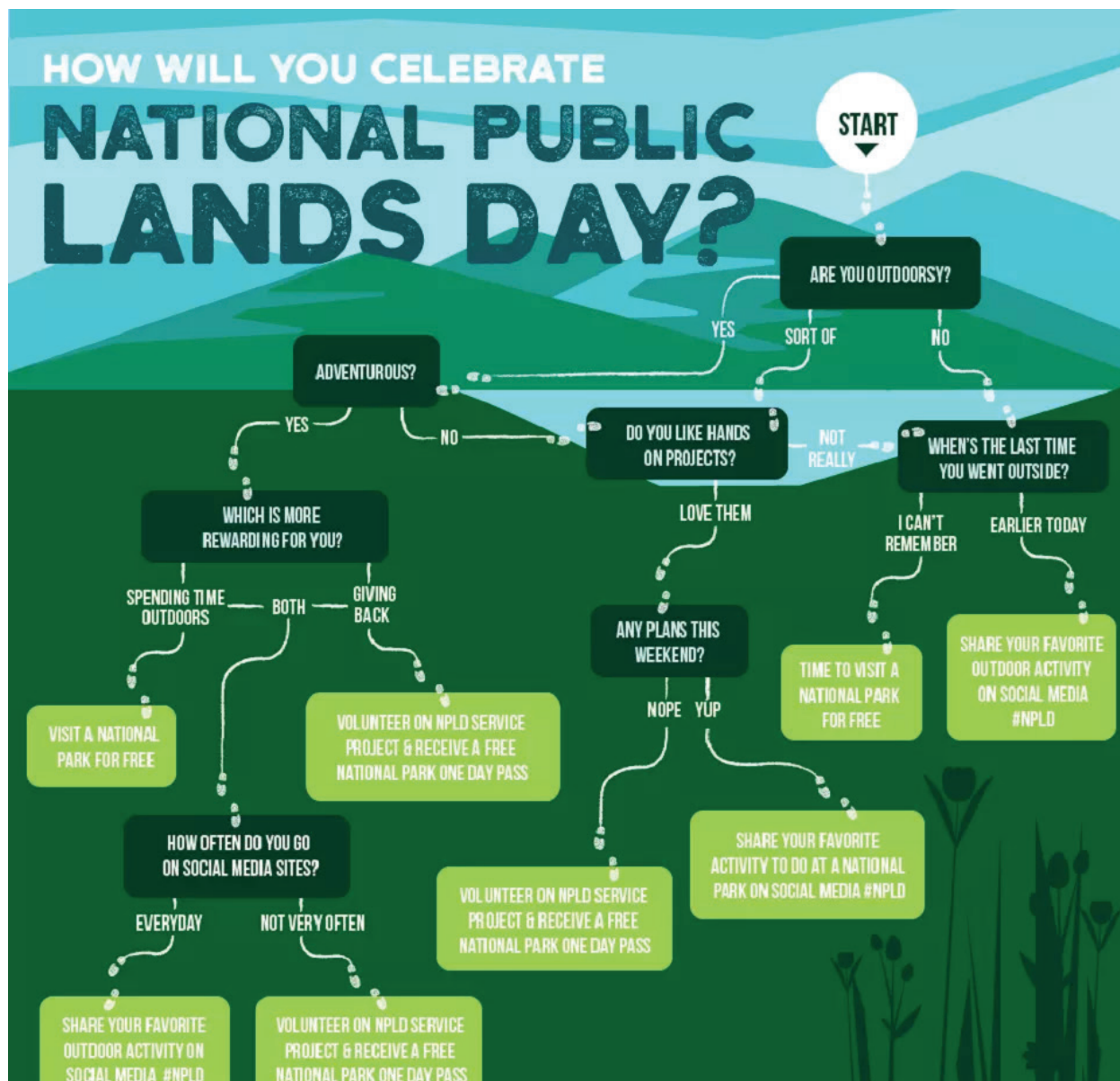
Dan White

**THURSDAY, SEPTEMBER 4 AT 5:30PM**



# NATIONAL PUBLIC LANDS DAY

## SATURDAY SEPTEMBER 27<sup>TH</sup>



National Public Lands Day is celebrated on **September 27, 2025**! Since 1994, this annual event on the fourth Saturday of September has been the nation's largest single-day volunteer effort. All national parks, forests (Madera Canyon) and monuments that charge an entrance fee will offer **free admission to everyone on September 27, 2025**.

National Public Lands Day is organized annually and led by the National Environmental Education Foundation, in partnership with the National Park and Forest federal agencies. Hundreds of thousands of volunteers roll up their sleeves to help restore and preserve public lands of all types and sizes—from iconic national parks and rivers to local urban green spaces and everything in between. National Public Lands Day is special because it provides all lovers of the environment—old and new—an opportunity to show our appreciation for these unique places.

National Public Lands Day is more than a clean-up—it's a chance to connect with new communities, an event that creates kinship among those working together for a common goal, and an opportunity to use America's public lands for education, recreation, and overall physical and mental health. The theme for this year's celebration is **National Public Lands Day: Together for Tomorrow**. Let's join forces for a common goal, stewarding America's natural resources for future generations to enjoy. Be a part of this impactful day and help make a difference in our public lands!

There are many ways to participate in National Public Lands Day. Whatever you choose to do, we encourage you to share Your Story.

Visit a national park or forest for free.

1. Take part in a volunteer work project or create your own. If you cannot physically participate, make a financial pledge to a non-profit like FoMC that will use your funds to steward the land.
2. Have fun and enjoy the health benefits of being outdoors.
3. Protect public lands and **Leave No Trace when you visit**.

# The Bird Page

## An August Evening

**Bob Pitcher**

On August 16, I drove up to Madera Canyon late in the afternoon. The truck told me it was 91 as I left Green Valley; it hadn't been an especially warm day, and it would be cooler in the Canyon. Storm clouds were spread about the sky. None seemed threatening – or, more appropriately this time of year – promising.

I turned in at a side road north of the Canyon to see if there were any sparrows singing in the grassland. Cassin's Sparrows, the reader will know, are fairly common but exceedingly hard to find unless they're singing, which they generally only start to do after monsoon has begun. Botteri's Sparrows are much the same. Others have reported sparrows from this spot recently, but I heard none.

I drove up into the Canyon, parked up at the Amphitheater, and walked over to the Madera Kubo. On the way, I heard the call of a Dusky-capped Flycatcher, a clucking Hepatic Tanager, and saw three Turkey Vultures coming in to roost. It had just rained in the Canyon; the woods smelled wonderful as it dried out in the afternoon sun.



Hummers at a feeder. Photography Ed Freedman.

I intended to sit at the Kubo bird feeders, but the usual feeders weren't up. I knew the Kubo has had trouble with bears; I suspect management takes down the feeders at night before the bears do. Not all of the birds had got the memo, however, and quite a few were still hanging around in hopes. The first I noticed was a big male Rivoli's Hummingbird looking expectant, then annoyed, to find no sugar water on offer. His mate showed up a few minutes later, and one or two Rufous Hummingbirds came in for a look while I sat.

The most numerous of the other birds that appeared were Black-headed Grosbeaks. At one time there were three pairs in tree limbs just over my head. But there was nothing out for them. Then first a female and then a male Hepatic Tanager came in and went for what looked like a desiccated orange slice. They seemed to get some good out of it. I've begun to notice how tame the Hepatics are, compared to other tanagers, which tend to stay in the treetops.

Other birds stopped in too for a quick look: three House Finches, a White-breasted Nuthatch or two, a couple of Acorn Woodpeckers, and last a Painted Redstart, flicking its tail and posing along the trunk of an oak tree. All these in hardly more than fifteen minutes.

I went on down to the Santa Rita Lodge. The feeders were still out there, and a good thing they were. The selection of birds in the feeding area was sparse: three Acorn Woodpeckers, a Mexican Jay or two, a pair of Mourning Doves, maybe three House Finches; not even any Turkeys this evening.

But at the feeders, *clouds* of hummingbirds! I saw seven kinds in perhaps ten minutes. Predominant in numbers, as they usually are at the Lodge, were the Broad-billed, so common one is occasionally tempted to think them commonplace. What a mistake! Counting numbers of hummingbirds is difficult, but I would guess there were two dozen coming in to the four or five feeders the Lodge had out. Could have been twice that many.

Giving the Broad-bills competition this evening were early migrant Rufous Hummingbirds, squabbling vocally with each other. One feeder had five at once, with others hovering for their turn at it. There were at least a couple pairs of Black-chinned Hummingbirds as well, two Rivoli's, an Anna's, and two Broad-tailed, probably also migrants, but perhaps just down from higher up in the Santa Ritas. Best of all were three little Calliope Hummingbirds, North America's smallest bird. They're shy of bigger hummers, and are sometimes hard to pick out of a crowd anyhow, but when one is standing only three feet from the feeder.... Besides, one broke off and came over, as hummingbirds will do, and looked me in the face.





# August FoMC Education Program

**Doug Moore, Education Director**

Our summer monsoon got off to a rather “fitful” start! But timely-spaced rainfall in late July provided some relief to extreme drought conditions and made it much more enticing to explore the canyon again. More consistent August precip will help immensely to produce a favorable monsoon response in the canyon from both plants & wildlife. I only hope the monsoon tap stays on and does not dry up completely in September like last year- keeping my fingers crossed!

A FoMC members walk around the Proctor Loop on August 3<sup>rd</sup> and it was a warm success. Recent rain had germinated summer annuals and many barren oak trees re-sprouted leaves (what a relief!!!) The rain also stimulated the canyon insects, providing much needed prey for the many nesting migrants. The group ended up with a nice bird list, saw a number of early butterflies and beetles, and were able to closely study the plants around the loop. We were out of the canyon by 10:30 am to stay safe from the heat & humidity!

Aug 7-9, the FoMC had an info table at the Double Tree Resort in Tucson for the Nature Expo (formerly Tucson Bird Festival). Volunteers had a good chance to interact with expo visitors and promote the FoMC. It was blazing hot for the expo and the many scheduled field trips- we felt lucky to be inside in the AC, as baked, bedraggled birders straggled in from the heat after their walks!



**Bud Gode/Bob Coder Memorial Bug Night participants**

Photo: Doug Moore

Saturday, August 16 was the Bud Gode/Bob Coder Memorial Bug Night at White House Rec. Area in the canyon (both Bud & Bob were outstanding naturalist volunteers with the FoMC). A beautiful evening started with clear skies and thunderstorms tracking away from the Santa Ritas to the east. About 10 participants gathered in a picnic spot (the White House Ramada porch being completely overrun with red harvester ants!) and chatted while waiting for insects to come to the UV black light & sheet. Though there had been a big rain the day before, expectations were tempered by the overall rather dry monsoon conditions. Nevertheless, some interesting insects did actually make an appearance!

The surprise of Bug Night were 100s of small gray blister beetles. Not particularly an unusual Madera Canyon Bug Night visitor, I had never seen a hatch of them in such HUGE numbers all at once! We also had a variety of small moths, mantis flies, click beetles, a Bark Scorpion, and a variety of scarabs- including a smelly dung beetle and two gorgeous Glorious Scarabs, *Chrysina gloriosa*, decked out in metallic green & gold. An active male Trapdoor Spider wandered upon the sheet, attacking and eating as he went. Later, a pop-up thunderstorm blustered into the canyon over the Tomboy ridge from the south about 8:30, causing the group to skedaddle on the double. Unfortunately- just as the group departed- a giant male *Strategus* sp. "Triceratops" scarab beetle blundered into the sheet as I was packing up to go. He would definitely have been "the star of the night"; what a bruiser! I got my gear in the car and closed the hatch just as a good soaker started to accompany the strobing lightning. Exciting night in the canyon! On Sat., August 30, Doug lead our Madera Canyon annual botany walk with members of the Arizona Native Plant Society on the Proctor Loop (this has been an annual monsoon event since about 2015!).

In other August Ed Program news- as the new public school year also started this month, Doug reached out and scheduled 4<sup>th</sup> grade nature walk field trips in October and November with Continental School & San Cayetano Elementary. Docent volunteers will meet on Thursday, Oct 9 for an in-service in the canyon to prepare. Anyone interested in becoming an FoMC volunteer docent naturalist and helping our local school kids learn about the canyon is encouraged to apply! Volunteering information is available in this Canyon Chatter edition or on the FoMC website.





# Old Baldy Approach Trail

Tom Bailey

A bedrock principle of wilderness preservation and sustainability is to remain on the trails and leave nothing behind but your footprints. But what happens when the trail itself forces hikers off due to unsafe conditions? When monsoon rains erode soil, exposing endless rocks that hikers step over or around - making the trail wider and making preservation that much more difficult?

This is the situation that was facing the Friends of Madera Canyon and the Nogales District of the Coronado National Forest on the Old Baldy Approach Trail at the upper end of the Madera Canyon Recreation Area. At one time a road, with drains and retaining walls built by the Civilian Conservation Corps in the late 1930s, it now serves as the approach to the Old Baldy, Carrie Nation, and Vault Mine Trails. The road bed, unfortunately, doesn't make for a great trail foundation, especially when the slope of the road causes water to flow down the trail and erode it before water reaches the drains built into the hill sides. Ideally, a well-positioned trail enables water to wash across it and leave the trail quickly, minimizing erosion.

FoMC, along with independent consultant Eric Ruljancich, owner of Outslope Trail Solutions, met with our USFS partners late this spring to address the root cause of the ever widening and continually eroding trail. The solution everyone endorsed was to create a new "trail track," moving the trail off the roadbed to an outslope, where monsoon rains would quickly leave the trail and flow down the hillside slope. With summer approaching, FoMC Trail Crew leads Michele Gazica and Tom Bailey devised a unique solution to keep the trail open for hikers while getting some work done in the summer.

Early in the morning, one or two times a month before the summer heat makes working outdoors unsafe, the FoMC Volunteer Trail Crew are building a new trail, one section at a time. When a new section is ready for hikers, the Friends naturalize the old trail segment with rocks, dead branches, logs and forest detritus. These larger materials provide a visual cue to hikers to travel on the new trail. The detritus retains moisture needed for grasses and trees to reclaim the former trail. So far, 4 segments have been completed and one more is already prepared for the next trail work session on 17 September. The Trail Crew plans to have most of the trail moved this Fall.



Stacey Barnes and David Linn work in the newly marked outsloped section while leaving the existing trail open to hikers.



This trail has been a constant maintenance headache and some of the Friends volunteers had vowed to “never move another rock on that trail.” But after a couple volunteer work sessions everyone involved saw that implementing the solution was easier than expected, and the results were better than expected: the outsloped trail is holding its own against the monsoon rains. It even has some refreshing shade!

If you think you’d like to help the FoMC Preservation and Maintenance Trail Crew improve the hiker experience and preserve your Madera Canyon, shoot us an email at [volunteer@friendsofmaderacanyon.org](mailto:volunteer@friendsofmaderacanyon.org). See you on the trails!



Stacey Barnes, David Linn, and Tom Bailey closed off the old trail and apply finishing touches to the new trail track.



Regular Admission Prices  
Passes Accepted  
DOORS OPEN AT 5:30PM; FILM AT 6:30PM;  
Q&A FOLLOWING THE FILM  
Co-presented by Northern Jaguar Project

## The American Southwest

Be among the first to see the spectacular new nature documentary THE AMERICAN SOUTHWEST, at this special advance screening featuring a post-film Q&A with the film's producer/cinematographer Ryan Olinger, and Northern Jaguar Project General Manager Roberto Wolf and Assistant Director Cholla Duir!

THE AMERICAN SOUTHWEST opens for a regular engagement at The Loft Cinema starting Friday, September 5.

The American Southwest is a family-friendly wildlife movie that takes viewers on an unforgettable journey down the mighty Colorado River. Narrated by Indigenous environmentalist Quannah Chasinghorse, the film beautifully showcases the abundant wildlife of the region, confronts the ecological impacts of dams and water overuse, and boldly advocates for better management of water and wildlife. Made in association with Natives Outdoors, the movie is told through the perspectives of some of the Southwest's most charming characters ... such as industrious beavers, bugling bull elk, and soaring condors. Between its legendary landscapes and fascinating wildlife, The American Southwest, from acclaimed filmmaker Ben Masters (Unbranded, The River and the Wall, Deep in the Heart) aims to endear millions of people to better cherish, love, and conserve this unique region. (Dir. by Ben Masters, 2025, USA, 107 mins., Rated G)





# Rare and Threatened Species 12 miles NE of Madera Canyon

Dave DeGroot

The Yellow-Billed Cuckoo is fairly common in the U.S., especially in southern states, but in western states some cuckoos have evolved to become a separate variety with specific habitats and behaviors. The U.S. Fish and Wildlife Service (USFWS) considers birds that migrate into Arizona each summer to be a “Distinct Population Segment” with the name “Western Yellow-Billed Cuckoo,” *Coccyzus americanus occidentalis*. Due to habitat loss, our western bird is now listed as a “threatened species” under the federal Endangered Species Act.

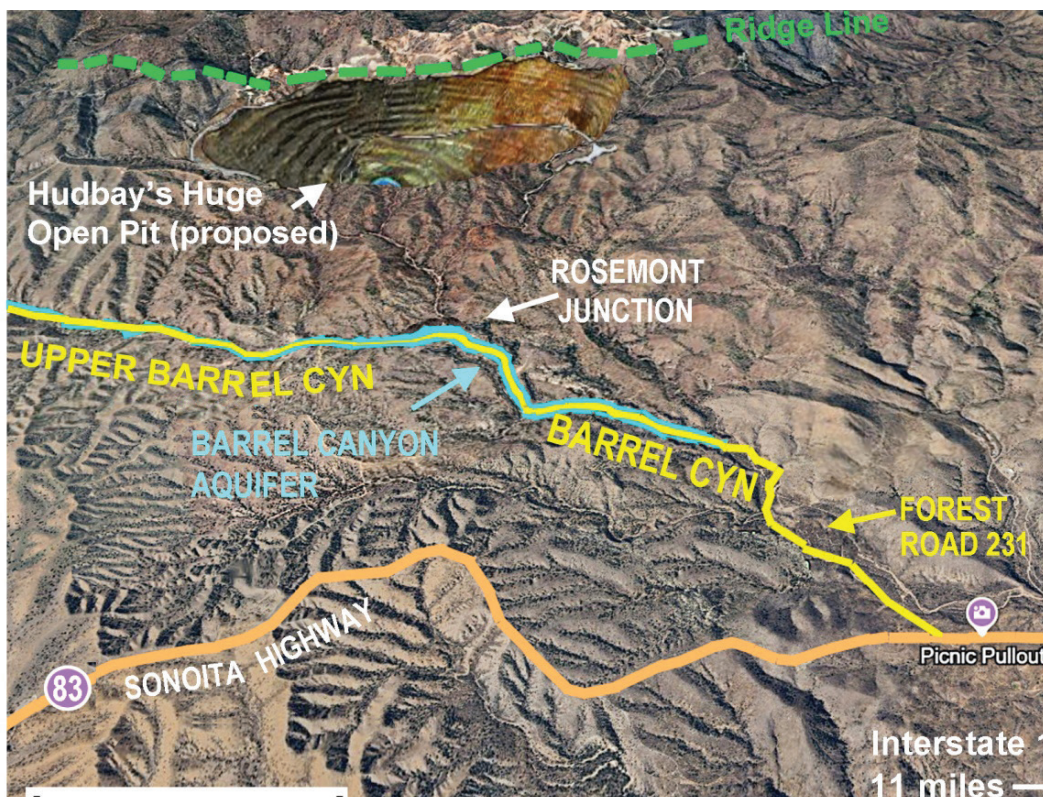
This cuckoo has been seen “uncommonly” in Madera Canyon. The last sighting was several summers ago.

A recently released, eight-year study by Dr. Jennifer McIntosh of the University of Arizona’s Hydrology Department identified Barrel Canyon as an important component of the aquifers and drainages that lead downward into the Cienega Creek Natural Preserve, where the Western Yellow-Billed Cuckoo is often seen. Last spring Dave DeGroot, a docent for Friends of Madera Canyon, speculated that the bird might appear in Barrel Canyon when it migrated into the Santa Rita Mountains. His theorizing was based on past USFWS sightings in the area and statements in Pima County’s Multi-Species Conservation Plan.

A number of environmentalists and birders were intrigued by the notion and informally visited Barrel Canyon to try for a Summer of ‘25 Sighting. Among them were Joelle Buffa, Clyde Morris, and Doug Moore, who is Friends of Madera Canyon’s Education Director. Buffa and Morris grabbed a recording of the WYB Cuckoo’s call in Barrel Canyon on July 24. They’ve given FoMC permission to post their audio ([CLICK HERE](#) to hear the bird’s staccato call). Doug

Moore saw and heard a Barrel Canyon cuckoo on July 25, DeGroot saw and heard it again on July 26, and Andrew Murray posted a sighting on eBird on July 29.

Is there a bigger picture in this? Possibly yes. The sighting of this federally threatened bird and other endangered species could help to slow the progress of the foreign-owned Copper World Mine, which eventually wants to discard mine debris in Barrel Canyon.



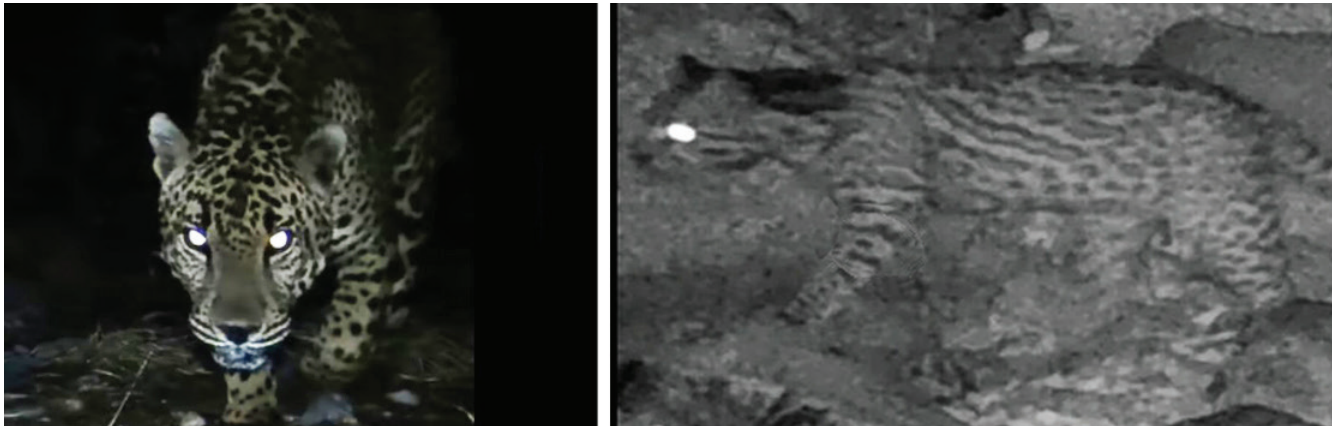
Caption: Barrel Canyon is 12 miles northeast of Madera Canyon. Forest Roads 231 and 4058 closely follow the canyon's system of aquifers. Hudbay's Copper World Mine will eventually create an open pit mine above Barrel Canyon that will be much larger than Meteor Crater in Northern Arizona, with debris containing toxic metals eventually covering Barrel Canyon.





## Sightings of rare and endangered species in Barrel Canyon are piling up.

A male jaguar called “Jaguar Number Four” appeared in June, about the same time the WYB Cuckoo was making its appearance. U of A observers have to be close-mouthed about its exact location, but it’s a good bet it passed by Upper Barrel Canyon. According to a source at the Center for Biological Diversity, a number of years ago a famous, far-ranging jaguar nicknamed El Jefe was caught on a trail camera near Upper Barrel Canyon and was also observed on the ridgeline above the canyon. A rare ocelot was trailcammed at the same time in the same location as El Jefe. And at least one ocelot is still around. He has been detected in a different undisclosed locations this past summer (and he probably knows about Upper Barrel Canyon.)



Jaguar #4 was photographed numerous times in the general vicinity of the Santa Rita Mountains this summer. Like his predecessor “El Jefe” he travels long distances on both sides of the border. His cousin the ocelot, Shown above, doesn’t cross the border as frequently. This ocelot picture is from an undisclosed location in the general vicinity of the Santa Ritas. Jaguar photo by the U of A’s Wild Jaguar and Ocelot Monitoring Project. Ocelot photo from the Center for Biological Diversity, contact Russ McSpadden.



Nectar-drinking bats were captured by DeGroot’s trail camera at a blooming agave - observed by DeGroot and Murphy in Upper Barrel Canyon. These may be Lesser Long-Nosed Bats that are well known at the gift shop patio bird feeders in Madera Canyon.

In addition, federally “near threatened” nectarivorous bats (either Lesser Long-Nosed or Mexican Long-Tongued) were identified by DeGroot and *Canyon Chatter* editor John Murphy in Upper Barrel Canyon on August 8 (see photos above). There may be more. Friends of Madera Canyon are encouraged to informally and conscientiously look for other endangered species – plants, arthropods or herps - along Forest Road 231 and also along Forest Road

4058, the public-access gravel road which winds through Lower and Upper Barrel Canyon. Please report sightings to FoMC's John Murphy.

DeGroot also suggests: "Do an internet search for <Opposing Copper World Mine> and then let your conscience be your guide."

## Sources

"Arizona Heritage Waters: Cienega Creek Natural Preserve," Northern Arizona University. Downloaded 6/14/2025 from [http://www.azheritagewaters.nau.edu/loc\\_cienega.html](http://www.azheritagewaters.nau.edu/loc_cienega.html)

"Gallery," The University of Arizona Wild Cat Research and Conservation Center. <https://rust-orange-j2hj.squarespace.com/meet-the-cats-gallery/project-six-sz8wl-ddtgx>

Kortright, Mia. "New Arizona jaguar sightings a 'positive sign' despite border wall, UA researchers say." *Tucson Sentinel*. com, Aug. 7, 2025. Downloaded Aug. 20, 2025 from [https://www.tucsonsentinel.com/local/report/080725\\_jaguar\\_spotted/new-arizona-jaguar-sightings-positive-sign-despite-border-wall-ua-researchers-say/](https://www.tucsonsentinel.com/local/report/080725_jaguar_spotted/new-arizona-jaguar-sightings-positive-sign-despite-border-wall-ua-researchers-say/)

McIntosh, Dr. Jennifer, "Sources of surface flow and metal exceedances in Davidson Canyon & Cienega Creek Watersheds, Pima County RCFC monthly webinar. Downloaded 6/8/2025 from [https://www.youtube.com/watch?v=Tcn8ZHQPsZA&list=PL0Elrrgc1\\_870SjNKDWRjJI\\_NNN7XS7VE&index=3](https://www.youtube.com/watch?v=Tcn8ZHQPsZA&list=PL0Elrrgc1_870SjNKDWRjJI_NNN7XS7VE&index=3)

A map at 1:49 into this presentation shows clearly the linkage between Barrel Canyon, Davidson Canyon, and the Cienega Creek watershed.

McSpadden, Russ. Southwest Conservation Advocate for the Center for Biological Diversity. Private and confidential May 11 email conversation with me, confirming the jaguar and ocelot sightings less than a mile from Upper Barrel Canyon, in the general vicinity of the southern origin of Wiegel's Ridge and Forest Road 231.

Pima County Multi-Species Conservation Plan Covered Species, Western Yellow-Billed Cuckoo. <https://www.pima.gov/768/Western-Yellow-Billed-Cuckoo>

"Santa Rita Skyline Above Rosemont Valley," Save the Scenic Santa Ritas/Maps. Downloaded 5/10/2025 from [https://static.wixstatic.com/media/58e23e\\_195fa11b18d4434f8de2fc733406af16~mv2.jpg/v1/fill/w\\_1413,h\\_795,al\\_c,q\\_85,enc\\_auto/Santa%20Rita%20skyline%20after%20Rosemont%20project.jpg](https://static.wixstatic.com/media/58e23e_195fa11b18d4434f8de2fc733406af16~mv2.jpg/v1/fill/w_1413,h_795,al_c,q_85,enc_auto/Santa%20Rita%20skyline%20after%20Rosemont%20project.jpg)

This annotated visualization provides an accurate view of the location of Hudbay's open pit mine in relation to the east side landscape.



## Two papers on the survival of the Saguaro Cactus

Deserts and semi-deserts are the most widespread biomes on Earth, covering more than a third of the planet's land surface. The Sonoran Desert is projected to become drier in the 21st century, with higher temperatures and unpredictable rainfall leading to more frequent regional droughts. These changes will cause fluctuations in population age structures due to bursts of births and deaths. Although previous studies have modeled climate impacts on keystone species, such as the saguaro cactus, using distribution and climate data, few have incorporated crucial demographic data, including growth, survival, and reproduction. Such data is essential for understanding population dynamics under climate stress, but long-term demographic datasets for desert species are rare.

The Saguaro Cactus (*Carnegiea gigantea*), a keystone and iconic species of the Sonoran Desert, is particularly vulnerable to climate change, as its growth and survival are closely linked to temperature and water availability. While adult saguaros are well-adapted to harsh desert conditions, their seedlings are much more susceptible to drought. Recent findings suggest that population declines across the saguaro's range are linked to climate change, underscoring the need for more comprehensive, long-term studies to understand and predict their persistence in an increasingly arid environment.

These environments are particularly vulnerable to the effects of global warming. Rising levels of carbon dioxide, increasing temperatures, decreasing rainfall, and greater variability in both temperature and precipitation are altering the composition of species communities, ecosystem processes, and overall biodiversity. These changes affect the demographic patterns of populations and may threaten the survival of key species.

A paper published last year (Félix-Burrueal et al. 2024) found that all populations of the Saguaro Cactus will decline, mainly due to future increases in drought, which will hinder recruitment. However, the decline will vary across populations, as those located near the coast will be more affected by harsher drought events than those further inland. The study demonstrates that climate change and its associated increase in drought pose a significant threat to Saguaro Cactus. The results indicate that the recruitment of Saguaros, vital for establishing new individuals, is particularly vulnerable to intensifying drought conditions. Importantly, regional climate trends will have different impacts on saguaro populations across their distribution range.

### Board of Directors

Dan White, President  
David Linn, Vice President  
Bob Pitcher, Secretary  
Pat Holmes, Treasurer  
Bob de Feyter  
Carole deRivera  
Terrence Donnelly  
Hilary Hamlin  
Doug Moore  
John C. Murphy  
Colleen Verge  
Michele Gazica  
Laura Lukomski  
Carolyn Fowler, Emerita  
Rusty Lombardo, Emeritus,  
Honor Wall Co-Chair  
Jim Woodward, Emeritus,  
Honor Wall Co-Chair

### CC Editorial Staff

John C. Murphy  
Dan White  
Penny France  
Bob Pitcher,  
Birding Columnist.  
Doug Moore,  
Education Columnist







Saguaros in bloom. Sonoran Desert National Park. JCM

Breslin et al. (2025) investigated microsite characteristics correlated with Saguaro establishment, the degree and direction of those correlations, and microsite effects on growth rate and Saguaro abundance using 40 years of repeat survey data from Saguaro plots at the Desert Lab. Their results found Saguars established in microsites with higher native vegetation cover, intermediate rock cover, at more level sites, or sites closer to the north–south axis. Establishment was nearly zero in areas of high buffelgrass cover. The relative growth rate of young saguaros was determined in part by complex interactions of native vegetation cover with eastness and elevation. Abundance was positively affected by native vegetation cover and negatively by buffelgrass cover. The microsite characteristics help explain patterns in Saguaro regeneration. Their results suggest that microsite characteristics be considered in future studies of the Saguaro. These two papers will be helpful for the conservation, restoration, and management of Saguaro populations in the future.

## References

Breslin PB, Brown C, Búrquez A, Reichenbacher FW, Rodriguez-Buritica S, Venable DL, Goldberg DE. 2025. Establishment patterns of saguaro cactus (*Carnegiea gigantea*) at the microsite scale help explain saguaro regeneration and distributions in heterogeneous, regional habitats. *American Journal of Botany* May 29:e70053.

Félix-Burrueal RE, Larios E, González EJ, Búrquez A. 2024. Population decline of the saguaro cactus throughout its distribution is associated with climate change. *Annals of Botany*. 135(1-2):317-28





## The Last Page



On Monday, August 25, 2025, the Phoenix metro area experienced a weather phenomenon known as a haboob. A haboob is a dust storm that occurs in flat topography when the wind from a weather front or thunderstorm pushes dust into the atmosphere. Heavy rainfall and wind followed Monday's haboob, delaying flights at Phoenix Sky Harbor International Airport and causing some damage to a terminal roof. Haboobs are not uncommon during the monsoon season, although the term was not used in the USA until the early 1970's. The word "haboob" originated in Arabic and has been used to describe these intense dust storms, particularly in Sudan, before being adopted by scientists to describe similar phenomena in the American Southwest.

Dust storms play a complex role in ecosystems, acting as both a source of harm and benefit. On one hand, sand and dust storms (SDS) can negatively affect human health and agriculture by spreading pollutants and pathogens, and causing soil erosion. On the other hand, they benefit marine environments and extreme deserts by transporting vital nutrients like iron and phosphorus, which fuel marine productivity and contribute to the global carbon cycle. Human activities often increase the frequency and intensity of SDS, but sustainable land management can help reduce these impacts. Photo credit: Ameican Family.

I would like to think humans will adjust their behavior to protect Earth's life support system. But maybe not.

Send comments, articles, & announcements to:  
Friends of Madera Canyon Chatter Editor  
email: [FOMC.Chatter@gmail.com](mailto:FOMC.Chatter@gmail.com)

