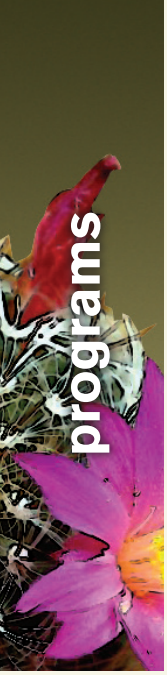
MARICOPA AUDUBON SOCIETY

The Cactus Wren•dition

Volume LXII, No. 3 Fall - 2016

California Patch

Photo by Marceline VandeWater



Programs

Meetings are held at: Papago Buttes Church of the Brethren (northwest of 64th Street and Oak Street, which is between Thomas Road and McDowell Road). You may enter from either 64th Street, just north of Oak Street (if coming from the south, turn left [west] at Oak Street and then right at the Elks Lodge. Continue north along the eastern edge of their parking lot and turn right into the church parking lot. Look for signs that say "Audubon"). Come and join us and bring a friend! MAS holds a monthly meeting on the first Tuesday of the month from September through April.

Committees/Support

Arizona Audubon Council Rep
Emerson Stiles
estiles2@hotmail.com

Bookstore
Mel Bramley
480 969-9893

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Maricopa Audubon Website
http://www.maricopaaudubon.org

"We will be known forever by the tracks we leave."
Native American Proverb

An Investment in the Future

Bequests are an important source of support for the Maricopa Audubon Society. Your chapter has dedicated itself to the protection of the natural world through public education and advocacy for the wiser use and preservation of our land, water, air and other irreplaceable natural resources.

You can invest in the future of our natural world by making a bequest in your will to the Maricopa Audubon Society. Talk to your attorney for more information on how this can be accomplished.

Meghan Hogan

September 6, 2016

Meghan Hogan
Bald Eagle Nestwatch Program

In 1978, the Arizona Bald Eagle Nestwatch Program was founded to monitor Bald Eagle nests in high recreational areas. The Arizona Game and Fish Department contracts around 20 nestwatchers annually to collect behavioral data, educate the public, and identify potential threats to the success of the breeding attempt. The Arizona Bald Eagle Nestwatch Program has expanded into a multi-agency effort to help with the conservation of one of Arizona's precious treasures.

Meghan Hogan graduated with a Bachelor of Science in Zoology from Ohio State University. She has participated in avian conservation in Hawaii, including offshore island habitat restoration and Laysan Albatross rearing. Meghan just completed her first season with the Arizona Bald Eagle Nestwatch Program. She plans to pursue a career teaching high school biology to inspire the next generation of naturalists.

October 4, 2016

Nico M. Franz
Arizona State University's Hasbrouck Insect Collection

Arizona State University's Hasbrouck Insect Collection contains around 750,000 insect specimens, representing at least 25 orders, 390 families, 5,000 genera, 15,000 species, and 1,240 subspecies. Although most specimens are from Arizona and the southwestern United States, considerable representative material is also available from other North American states and especially Mexico. The collection was largely developed through the activities of past faculty (Frank Hasbrouck, Gordon Castle, and Mont Cazier) and their students.

Nico Franz

Nico Franz is an associate professor in the School of Life Sciences at Arizona State University and curator of ASU's Hasbrouck Insect Collection. His research activities focus on understanding the diversity of insects, in particular plant-feeding weevils (snout beetles) in the Southwest and New World tropics. He directs the Biodiversity Knowledge Integration Center (https://biokic.asu.edu/), which promotes collections-based learning through direct and virtual interaction.

A new weevil species from the Dominican Republic. Photo by Nico Franz

November 1, 2016

Raptor Migration in Arizona
Kyle McCarty

Learn about raptor migration, which species migrate, their different strategies, and characteristics of hawkwatches, starting on a national level and then focusing in on Arizona. There are only a few known hawkwatch sites in the state, most notably the Grand Canyon. The Arizona Game and Fish Department completed three years of monitoring at the Aubrey Cliffs near Seligman. Kyle will discuss those results and efforts to locate other raptor migration hotspots. He will also share data from transmittered Arizona Bald and Golden Eagles.

Golden Eagle. Photo by Kenneth Jacobsen

Kyle McCarty, Eagle Field Projects Coordinator, has been with the Arizona Game and Fish Department since 2006, working on Bald and Golden Eagle management programs. Prior to joining the Department, he counted migrating hawks for a couple of seasons in coastal Texas, monitored nesting raptors for one season with HawkWatch International in northwest Utah, and worked at Hawk Mountain Sanctuary Association in Pennsylvania for five years.

On the Cover: California Patch
Focal length 100 mm, 1/400 sec, f/7.1, ISO 200, Canon EOS Rebel XTI by Marceline VandeWater.

Marceline says: I took this photo of a California Patch pair in Rackensack Wash, just north of Cave Creek, on March 17, 2009. This pretty butterfly often has two broods: spring and fall, and can be really abundant some years. It uses the native Desert Sunflower (*Viguiera deltoidea var. parishii*) as its host plant (where a female butterfly lays her eggs). Please consider planting some in your yard! "Plant it and they will come" is the motto!

President's Message

Welcome back to the Valley of the Sun, those of you who escaped to cooler environments for the summer. We endured an especially sizzling summer of brutal heat, but now your return signals that its end will come soon.

Our conservation efforts, field trip leader training, environmental education, and other projects continued during the summer and everything is set up well for the coming season.

I am looking forward to our fall season of monthly meetings with you, the membership of the Maricopa Audubon Society. Looking back for a moment, though, our annual banquet last May was a highlight of the year that was capped by a superb and fascinating program about the near-alien life forms we call dragonflies presented by Professor Pierre Deviche of Arizona State University! I, for one, will never think of dragonflies the same way when I encounter them in the field.

This fall season promises to be one of great conservation challenges, exciting programs at our monthly meetings, enriching field trips, and exceptional fellowship and learning about our natural world. And, as a result of my thought-provoking thirteenth visit to Costa Rica this spring, we may begin a novel program of cross-cultural environmental education for youth in our country and theirs using technology that was simply unavailable only a few years ago.

Another environmental education project, the bird checklist for the Cactus-Pine Girl Scout Council's Shadow Rim Ranch north of Payson, has been completed and the Girl Scout leaders have been trained to use it on field trips with the scouts.

In conclusion, I urge you, if you are not already involved in your Maricopa Audubon Society, to come to a monthly meeting, go on a field trip, participate in one of our committees, or get your children or grandchildren to become more aware of the wonders of the natural world. You will never regret it.

Mark W. Larson
President
MARICOPA AUDUBON SOCIETY
Phoenix, Scottsdale, and Tempe, Arizona

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Letter from the Editor

by Gillian Rice

Butterflies are a perfect complement to a birder's morning. Early on, birds are active. As the birds quiet down and the air warms, butterflies become active. They charm us with colorful wings and delicate flight. We can approach them if we, like them, are gentle in our movements. In this issue, butterfly enthusiast Marceline VandeWater's cover photo and Vicki Hire's Green Scene compilation celebrate these delightful insects.

A few years ago, I had a special butterfly experience. One November, I was photographing a native bee foraging on small aster flowers. Up close with my camera, I discovered a tiny butterfly. I snapped immediately, later to discover I had a photo of a Western Pygmy Blue: the smallest North American butterfly at just ½ to ¾ of an inch. I couldn't even see it was there until I bent right down. I have searched in vain for another one.

A favorite butterfly of mine is the American Snout, which flies all year, weather permitting. This unassuming creature dresses in fall colors and appears as a dead leaf when resting on a branch. An odd-looking butterfly, which does appear to have a long nose! I'm lucky my neighbor has a hackberry tree, the American Snout's host plant, so I often see these butterflies in my garden.

We need the right habitat for creatures we'd like to attract. In this issue, Tom Gatz writes about yard design and Duane Morse shares images of some of his yard birds. Some travel far to seek nature: Matt VanWallene interviews an avid birder about her Arizona journeys in search of birds for her "Big Year." But even when we are not able to get out and about into the field, we can see much from our homes. The Arizona Game and Fish Department is beginning to give us glimpses into the secret lives of birds with its webcams. Randy Babb writes about the downtown Peregrine Falcons, a pair that captivated me for a couple of months.

We find our own ways to observe nature and we record it in different ways – through vivid memories, in photographs, in poetry and prose, and in art. Our featured artist, Cathy Sheeter, introduces us to an unusual art medium – scratchboard – upon which she creates intricate portraits with stunning light and shadow effects.

But, underneath it all: the earth. We tend to take for granted the soil, its composition and health, and its relationship to the ecosystem. In Science Corner, soils researcher Becky Ball tells us a tale of two deserts. Be sure to learn more by perusing her blogs.

I'm grateful to all this issue's contributors. And thank you, readers, for supporting Maricopa Audubon.

Incipient Signs, #1

by David Chorlton

The sky floated on water
edged by reeds
with the land beyond them
dry all the way
to the mountains growing paler
as the day warmed.
Rocks broke the surface
while something hummed
in nearby trees. For days
no clouds had floated
on the light, and the air
was still with strange
anticipation, as if a darner,
amberwing or skimmer
were close, but when
the lacy wings appeared on stone
they folded parallel
to the long blue abdomen
that trembled briefly
before the torso settled
as a Harkness' Dancer
landed where none
had been before
while the Earth,
in molten darkness rolled
its solid iron core.

Maricopa Audubon Society Field Trips

Car Pooling: Please make every effort to organize your own car pool, consolidate vehicles at meeting places and/or contact leaders for car pooling assistance. Be courteous to the trip leaders and help cover their gas costs. We recommend that passengers reimburse drivers 10 cents per mile each.

Reminders:
- Avoid wearing bright colors. Wear neutral-colored clothing and sturdy walking shoes.
- Bring sunscreen, sunglasses, head protection, and water.
- Always bring your binoculars. Bring a scope if recommended.
- Submit trip and leader suggestions to the Field Trip Chair, Larry Langstaff.
- Unless stated otherwise, reservations are required.

Day Passes: Many locations in the National Forests require Day Use Passes. For details, see http://www.fs.usda.gov/main/tonto/passes-permits

Sundays: August 28, September 18, October 16

Beginning Butterflies and Dragonflies at Gilbert Water Ranch
This area is outstanding for beautiful butterflies, dragonflies, and damselflies. Learn to identify local butterflies including Painted Lady, Queen, and Fiery Skipper as well as common dragonflies and damselflies such as Western Pondhawk, Flame Skimmer, Blue-ringed Dancer, and Familiar Bluet. Suggested $5.00 donation to support the Gilbert Riparian Preserve. Bring binoculars (close-focus preferred), water, and hat. *Common Dragonflies of the Southwest* by Kathy Biggs on sale for $10.00. No reservations. Easy. Meet 7:00 am August-September, 7:30 am October at the Dragonfly Ramada just south of the parking lot, east of Greenfield Rd., off Guadalupe Rd., just east of the Gilbert Public Library in Gilbert.
Leaders: Janet Witzeman and Laurie Nessel

September, October date TBA

Stewart Mountain Desert Tortoise Quest.
Have you ever seen a Sonoran Desert Tortoise in the wild? Increase your chances of stumbling upon one of these iconic desert creatures by searching in their preferred habitat after a summer monsoon. We are not setting an exact date for this trip near Saguaro Lake until the conditions are right. We will collect email addresses and phone numbers and contact you one day before or possibly the morning of the walk. It could be a weekend or weekday. Learn about the behavior, life cycle, and status of this keystone species. Difficulty: 4 (steep, rocky terrain, and hot, humid weather). Bring snacks, sun protection, hat, sturdy hiking shoes, and plenty of water. Start near daybreak and return by noon. Limit: 10.
Leader: Laurie Nessel, laurienessel@gmail.com or 480 968-5614 to get on the call list.

Friday, September 2

Aravaipa Canyon Road
This trip will focus on the road into Aravaipa Canyon, without actually entering the canyon. The road offers a variety of habitats: fields, cottonwoods, streamside vistas, and dense shrubbery. These areas have hosted a Great Blue Heron rookery, Gray, Black and Zone-tailed Hawks, roadrunners, and several species of summer songbirds (tanagers, warblers, and vireos). We may make a quick stop at Kearny Lake. Start about 4:45 am from Scottsdale. Probably catch lunch at a Mexican spot in Superior on our way back. Return about 3:00 pm. Easy. Limit: 8.
Leader: Kathe Anderson, kathe.coot@cox.net

Saturday, September 24

Roper Lake State Park for Dragonflies and Damselflies
Spend the day with ASU's School of Life Sciences professor, Pierre Deviche, searching for and identifying odonates (dragonflies and damselflies) at Roper Lake State Park. As time permits, visit and view odonates at nearby locations that may include Dankworth Pond, Cluff Ranch Ponds, and sites located along the road to Mt. Graham. The trip will offer opportunities not only for observation, but also for photography. With a total of 101 species recorded to date, Graham County, where all the above sites are located, is the Arizona county with the highest odonate diversity. In September, most species, several of which are normally found only in the eastern regions of our state, will still be flying. Rare species have been found at Roper Lake. Difficulty: 2 (easy walking in warm, humid conditions). Bring hat, sunscreen, long sleeves and pants, hiking shoes, insect repellent, and food and drinks for the day. Limit: 10 to allow for good viewing and photography. Entrance fee for Roper Lake and Dankworth Pond is $7.00 (cash) per car. Departure time from Phoenix no later than 8:30 am. Close-focus binoculars are helpful, especially for small species. Accommodation in nearby Safford, and also at Roper Lake State Park itself (nice cabins for rent).
Leader: Pierre Deviche.
For reservations: Larry Langstaff, larrylangstaff1@gmail.com or call or text 480 710-0431

Tuesday, October 18

Bushnell Tanks
An under-birded area off SR87 near Sunflower. This was alive with birds in late May, and has great potential to keep late migrants as well as attract wintering species, possibly American Robin, Western Bluebird, Townsend's Solitaire and Cedar Waxwing, along with typical resident species found along sycamore-lined creeks, with some open fields and nearby desert. Start 6:15 am in Fountain Hills, and finish about 11:00 am in a Fountain Hills coffee shop. Difficulty: 1-2 (water crossings). Limit: 8.
Leader: Kathe Anderson, kathe.coot@cox.net

Wednesday, October 19

Pinal Mountains area, south of Globe
The first of many Fox Sparrows and Chihuahuan Ravens will have arrived to add to chaparral birds (Black-chinned Sparrow, Crissal Thrasher, Juniper Titmouse), oak-pine woodland birds (Olive Warbler, Williamson's Sapsucker, Yellow-eyed Junco), and likely spruce-fir forest birds (Mountain Chickadee, Cassin's Finch, Red Crossbill). Nesting species linger and unusual wintering species can appear. Difficulty: 2 (some sloped walking terrain). Bring lunch and drink. Temperatures in the 50s to the 60s most of the day as we climb to nearly 8000 ft. Limit: 11 in three vehicles.
Leader: Dave Pearson, ASU School of Life Sciences Professor.
Please register with larrylangstaff1@gmail.com or text 480 710-0431.

Sunday, November 6

Lower Salt River
This established field trip led by a well-known birder follows a ten-mile drive on the Bush Highway between Granite Reef Dam and Saguaro Lake, stopping in recreation areas along the Salt River. Tonto National Forest day-use parking pass necessary. Fifty bird species likely: resident and early wintering birds like Western Grebe, White-crowned Sparrow, Phainopepla, Lesser Goldfinch, Spotted Sandpiper, and Belted Kingfisher. Raptors, including Bald Eagle and Osprey, are almost always seen, with Harris's Hawk and Peregrine Falcon possible. Bring lunch and a scope, if available. Difficulty: 1-2. Limit: 15.
Leader: Richard Kaiser, 602 276-3312, rkaiserinaz@aol.com

Friday, November 11

Scottsdale's Urban Ponds
This trip usually results in 35-45 species. Targets are winter resident ducks and waterfowl, but common urban birds often appear. We might see Valley rarities such as Red-breasted Nuthatches, Common Mergansers, and Bald Eagles. Start 7:15 am in Scottsdale, and finish about 10:30 am in a local coffee shop. Easy. Limit: 8.
Leader: Kathe Anderson, kathe.coot@cox.net

Friday, November 11

Oak Flat Campground
Search for Sonoran uplands and oak woodlands species including Black-chinned Sparrows, juncos, multiple towhee species, and possible resident Vermilion Flycatchers. Meet in the East Valley at 7:30 am. Return by 1:00 pm. Bring sturdy shoes, water, and a scope if you have one; lunch optional (around noon). Easy. Limit: 8.
Leader: Myron Scott, gaia_3@netzero.com or 480 968-2179 (leave message).

Friday, December 9

Sweetwater Wetlands
Good days here can top 40 species, mostly waterfowl, shorebirds, and water-related songbirds like Common Yellowthroat, Yellow-headed and Red-winged Blackbirds, and Vermilion Flycatcher, but also some unexpected sightings such as Bobcats. Start about 6:00 am in Scottsdale, and finish about 1:00 pm back in the Phoenix area. Easy (paths mostly level dirt and easily negotiated). Limit: 8.
Leader: Kathe Anderson, kathe.coot@cox.net

Saturday, December 17

Santa Cruz Flats, Pinal County
Target species are Sprague's Pipit, Mountain Plover, and Crested Caracara. Many hawks of up to eight or nine species are possible, and the location provides opportunities to develop sparrow identification skills. Bring lunch, water, and a scope if you have one. Temperatures in the 40s to the 60s. Easy. Limit: 11 in three vehicles.
Leader: Dave Pearson, ASU School of Life Sciences Professor.
Please register with larrylangstaff1@gmail.com or text 480 710-0431.

Tom Taylor (r.) discusses conservation with Bob Witzeman (l.) in 2012. Photo by Laurie Nessel

Tom Taylor Receives 2016 Herbert S. Fibel Memorial Award

By Laurie Nessel

Deep in the mineral mountains northeast of Florence lies a desert treasure, a rare riparian canyon with spring fed perennial pools of water. Martinez Canyon is a tributary of Box Canyon, which flows into the Gila River. In 1972, Viet Nam vet Tom Taylor discovered this place and was immediately drawn to its shade trees, primal beauty, serenity, and healing powers. But this Shangri La was not immune from the ravages of civilization including old mining operations (Martinez road was used to transport ore to the famous coke ovens), ranch buildings, and grazing. Tom befriended a retired hard rock miner and self-appointed caretaker of Martinez Canyon. When the miner died in 1992, the area lost its primary protector and was overrun with Off Road Vehicles (ORVs) and rock crawlers that damaged the biodiversity of the area. A rock crawler event featured in *Petersen's 4-Wheel & Off-Road* magazine was held in the riparian area. Damage included cutting down mature riparian trees. Tom could not bear to see the assault on the canyon and decided to do something. In the late 1990s he became a volunteer for the Bureau of Land Management (BLM), which had jurisdiction over the area, to monitor Martinez Canyon. He shared his love for the area with his children and they, too, began advocating on behalf of the canyon.

In 2001, a BLM advisory group recommended the creation of the Middle Gila Conservation Partnership (MGCP) to manage the pressures of recreation, including in Martinez Canyon. Tom knew that if this place were protected, it could not only serve as a significant wildlife preserve but could potentially be annexed to the adjacent White Canyon Wilderness Area. Tom and his son Tomas conducted field surveys, drafted reports that included hand-drawn maps, and proposed ways to protect Martinez Canyon. The survey area was 300 yards long and contained 12 significant pools of water. They documented the vegetation, grazing impacts, aquatic and terrestrial insects, algae and larvae, and level of shade throughout the day. They found no native fish but there were crayfish. For eight years, Tom and Tomas set traps until no more crayfish were caught. They submitted their reports to the BLM and the Arizona Game and Fish Department (AZGFD).

Much of his advocacy occurred at the time before Tom had email. Everything was handwritten and mailed by post. He used vacation time and sacrificed family time to act as steward.

He advocated banning motorized vehicles and reintroducing native fish (Longfin, Speckled Dace, Gila Chub, and Gila Topminnow), Sonoran Mud Turtle, Lowland Leopard Frog and Desert Bighorn Sheep. Tom also attended meetings, some very contentious with conflicting stakeholders, mostly in Tucson where the BLM field office was. He invited agency personnel to visit the area.

He had no formal training in science or conservation but he was thorough and tenacious and accomplished much. He convinced the AZGFD Habitat Program Manager to submit comments to the BLM on the Mineral Mountains Area Tours and Special Recreational Permit Process and requested that Martinez Canyon be closed to motorized vehicles.

When Tom reported nesting Zone-tailed Hawks with young downstream of Martinez Canyon, BLM closed that segment to motor vehicles.

In 2003, the US Fish and Wildlife Service and AZGFD reintroduced native fish.

In 2010, the BLM closed Martinez Canyon to motor vehicles and in 2012 a steel gate was installed.

As for the bighorn sheep, Kriselle Colvin, Wildlife Manager with AZGFD, Region 6 wrote to Tom on April 27, 2016: "…. the reintroduction was very successful. We saw over 100 bighorn sheep in the Mineral Mountains on the 2015 survey flight. The population has grown and expanded into the available habitat. Lambs are being born yearly and we aren't having to do any kind of predator management in the area. In short yes, it was a very successful project."

Tom shared three things that made his case effective: tenacity (he was like a pit bull on an ankle); scientific evidence (surveys, documentation, and reports); and endorsements (from respected sources including MAS, Sierra Club, Arizona Wildlife Society and Arizona Riparian Council).

It's an arduous, hour-long 4-wheel drive journey to Martinez Canyon. Its inaccessibility makes it unfamiliar to most birders. But we are, as birders, grateful nonetheless to Tom and Tomas Taylor, for their dogged determination to protect this riparian jewel, for the birds and other wildlife.

For his effort, and for being an inspiration to all who want to act to save our precious resources, at this year's MAS Banquet in May, we honored Tom Taylor with the 2016 Herbert S. Fibel Memorial Award for excellence in conservation.

Laurie Nessel is the lead instructor of the glass studio at the Mesa Arts Center.

A Wing and a Prayer: Overnight Field Trip to Prescott

By Kathe Anderson

Good field trip leaders always scout a birding location before leading a group to the chosen site. Sometimes that doesn't happen. As long as willing participants know that the trip will likely include some adventures, the trip will succeed on a wing and a prayer.

The April 28-29 overnight field trip to Prescott was such a trip. Three of us launched at the sane hour of 7:00 am from the Phoenix area, meeting the other three at 8:15am at the Hassayampa River Preserve. We had the Preserve to ourselves, wandering the main route around Palm Lake and the Mesquite Meander trail. At one spot near the lake, we found ourselves rooted while Yellow, Wilson's, Townsend's and Hermit Warblers danced in the cottonwoods above us, as the calls and songs of Gila Woodpeckers, Red-winged Blackbirds, Summer Tanagers and other species beckoned us to explore further.

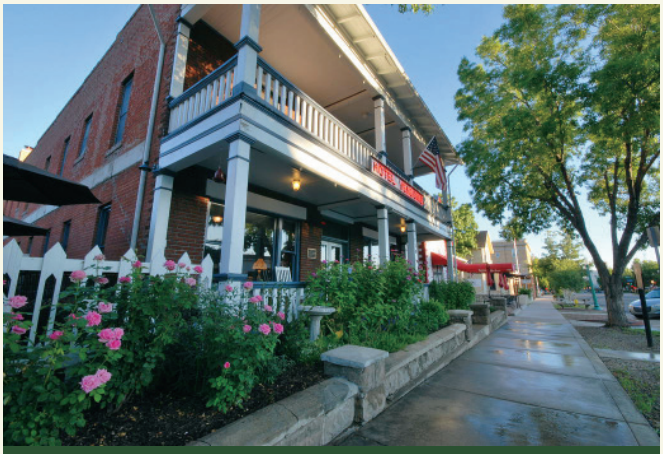


Photo courtesy of Hotel Vendome

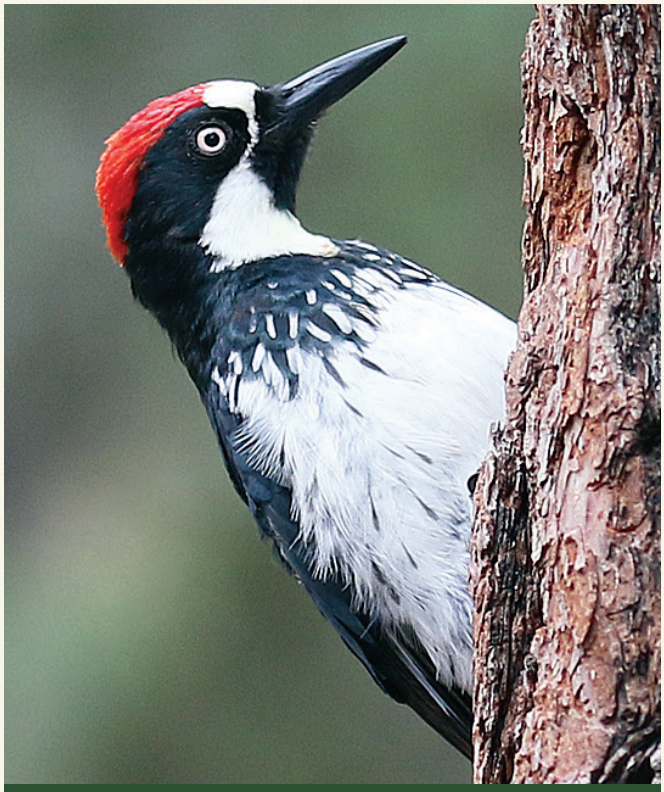
Seeking higher elevations, we struck out for Yarnell on Route 89 as a cool, sunny morning turned into a chilly, cloudy afternoon. Lunchtime at the Flora May Park Ramada was brief. A bit of drizzle passed and we set off to explore the short paths, finding an American Robin, Northern Cardinals, and a communal bath of Pine Siskins, Lesser Goldfinches, and one Lazuli Bunting. An *Empidonax* flycatcher got us discussing eye rings and primary projections, and we labeled it, accurately, we hope, a Hammond's.

Heading towards Prescott, we made a quick stop at White Spar Campground just before reaching the city. There, we added Western Bluebirds, Acorn Woodpeckers, Spotted Towhees, and Northern Flickers to our list.

We next stopped at Jay's Bird Barn, a friendly bird store supporting birding festivals and birding generally, hoping for suggestions for Prescott area hotspots. Eric Moore, the owner, handed out up-to-date Prescott trail maps and recommended Willow Lake. As we continued our conversation just outside the store, an unexpected Swainson's Hawk flew overhead and Eric told us about the unusual nest, right in Prescott, of this species of the plains. He also invited us to the Prescott Audubon Society meeting that evening!

On Eric's suggestion, our last stop of the day was Willow Lake, arriving just as big drops of rain on the windshield seemed to indicate unfortunate timing. But the heavy, steely-gray clouds dumping torrents to the west never got any closer, and we emerged from our cars to the best collection of birds on our trip. As we scanned the lake from afar, the air just above the surface appeared to be covered with thousands of skittering mosquitos—until we realized that the flying creatures were swallows—mostly Violet-green and Cliff Swallows, with some Barn Swallows mixed in. The lake was home to Mallards, Gadwalls, Ruddy Ducks, Northern Shovelers, and Eared Grebes, as well as unexpected White Pelicans and a far-flung gull, likely Ring-billed. Ashore, we found Killdeer and Yellow-headed Blackbirds, along with other species.

Not wanting to press our luck in the waning daylight, we sought out Hotel Vendome, our in-town lodging, just off Courthouse Square. This charming brick accommodation will turn 100 years old next year. It features comfortable rooms with claw-foot tubs and the kind of toilet that flushes with a pull cord. The proprietor recommended El Gato Azul for



Acorn Woodpecker. Photo by Matt VanWallene

dinner, and got us some hard-to-come-by reservations. We enjoyed our own happy hour at the hotel, then walked to the restaurant, known for its "small plates." It should be known for its large small plates! One is not a meal, but two or more allowed most of us to take home leftovers. We didn't want to leave one bite behind. Remarkably, our waitress remembered all our orders of multiple plates flawlessly without writing them down.

The next morning, the hotel served a light breakfast, just enough to get us started for our return to Willow Lake. We took another path to the lake; it seemed like an entirely different place from the evening before. Very few swallows remained, and the pelicans and gull were missing. While most of the waterfowl had stayed, and Double-crested Cormorants and Great Blue Herons sailed above, we were distracted by the birds in the adjacent rocks, grasslands and trees– Western Meadowlarks, Cassin's and Western Kingbirds, and Western Wood Pewees.

Our last stop as a group, The Highlands Center for Natural History on Walker Road, always a lovely spot, and usually good birding, was very quiet. So we had lunch and headed back to Phoenix. We tallied about seventy species, a lovely collection from desert and transition zones to riparian and ponderosa forest habitats. It was a leisurely trip, driving only about two hundred miles. We all enjoyed the historic hotel, so full of character, and the delicious culinary experience of El Gato Azul. For a field trip based only on an outline and on hotel reservations, with some unseasonably cool weather and several sites being new to participants, a wing and a prayer were more than sufficient for a memorable trip.

Pine Siskin. Photo by Matt VanWallene

Kathe Anderson is an active member of several conservation organizations and leads lots of field trips.

Gambel's Quail Chick

By Vicki Hire

My Australian shepherd pup had what I feared was a snake cornered under some brush. When I went to help her, I discovered it was actually this tiny Gambel's Quail chick. After some searching, my husband, Ron, found a family of Gambel's Quail nearby. We released the chick. A happy ending as it ran towards the family!

Here's a cool fact from The Cornell Lab of Ornithology All About Birds website www.allaboutbirds.org:

"Just before her eggs hatch, the female Gambel's Quail calls to the chicks, who cheep to each other from inside the eggs. The eggs hatch in synchrony, with the chick cutting a neat hole in the largest part of the shell and leaving an intact piece of membrane to serve as a 'hinge' – the chick pushes on the shell and opens the 'door' that it has created."

Gambel's Quail Chick. Photo by Vicki Hire

An Arizona Cardinal asks...

Do you play football?

Humor by HollandWest

Are you a Friend?

Do you enjoy reading *The Cactus Wren•dition*? Are you a "Friend of Maricopa Audubon?" Or have you renewed your membership this year? Please support Maricopa Audubon by becoming a Friend. Please see the back page of *The Cactus Wren•dition* for full details. Your contribution will help fund the publication of the *Wren•dition*. Thank you for your support!

The view from the author's bedroom window. Photo by Tom Gatz

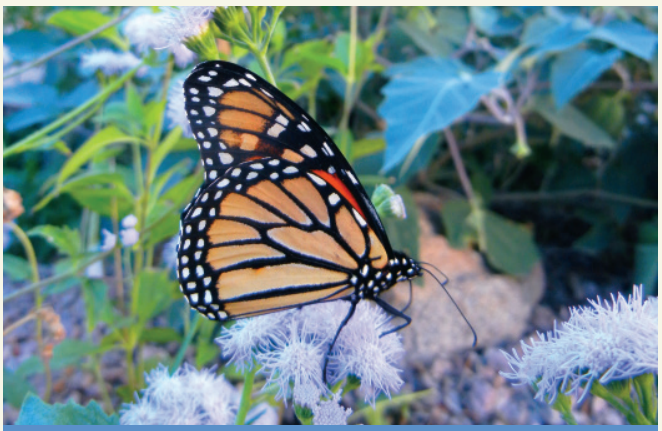
Designing Your Garden - A Room With A View

By Tom Gatz

We all want our homes to look nice inside and, we strive to have an attractive garden outside as well. What is sometimes overlooked, however, is the interplay between the two areas. Referred to as a "viewshed" by designers, this is just a fancy word for what you see when you look out of your window. Is it a gray block wall or are there colorful perennials that attract hummingbirds and butterflies?

We often design our gardens from the standpoint of what we see when we are outside in the garden. This is all well and good, but remember that many of us spend a good amount of time looking out from inside, especially when the temperature chases us indoors. So it is helpful to consider the view from your windows when you place your plants. What view would be most pleasant to wake up to when you look out of your bedroom window? What will your guests see from the guestroom window? When you are rinsing off the dishes after dinner, is there a pot of colorful flowers in your viewshed out the kitchen window to make the task more enjoyable?

Sometimes it is desirable to have a tangle of thorny vegetation outside of a front window as a security barrier or a mass of tall, green growth to block the view from a nosy neighbor's window or an unsightly utility pole. Just be sure to leave space for quick and easy exits from your windows in the event of an emergency. However, if you don't have these constraints, take some time to view your proposed plant placements from within the house as well as from outside.

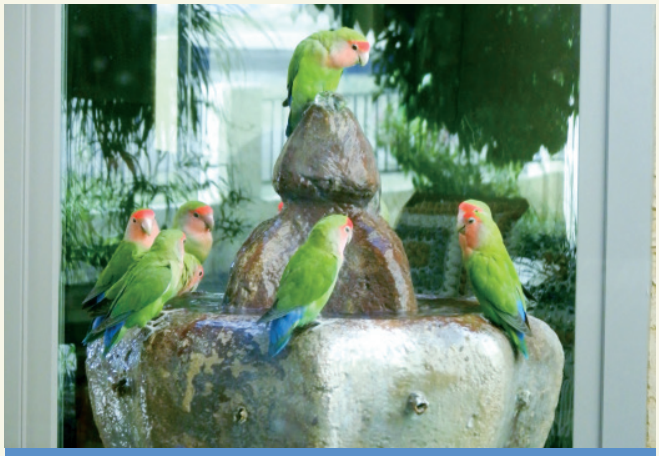


A male Monarch Butterfly is drawn to a Blue Mistflower in the author's front yard. Photo by Tom Gatz

If you have bird or hummingbird feeders, make the most of them by placing them close to a window that you look out of often. Surprisingly, studies have shown that fewer bird injuries occur when feeders are within three feet of (or more than 30 feet from) a window; apparently because the birds are not flying very fast if they bump into the glass when flushed by a noise or a hunting hawk.

The same applies to backyard ponds and water features. Rather than hiding them in a back corner of the yard that seldom gets visited, position them near a window or on the edge of the patio. That way, while you are relaxing in the air-conditioned comfort of your living room or the shade of your patio, you can enjoy the birds coming in to drink and bathe during the heat of the day.

I have installed irrigation drippers near several of my windows so I can rotate pots of perennial plants into view as they come into bloom over the seasons. An even lower maintenance alternative is to plant a bed near your windows with several varieties of flowering perennials that will give you flowers over much of the year. To attract nectar-feeders such as hummingbirds and Verdins, try aloes, Chuparosa, *Salvia coccinea*, and *Penstemon parryi*. Queen and Monarch butterflies can't resist Blue Mistflowers (*Conoclinium* and *Ageratum*, *sp.*), and Carpenter Bees and hawk moths come to Sacred Datura. To attract seed-eaters such as Lesser Goldfinches, I've had good luck with Desert Marigolds, Angelita Daisies and other composite flowers. Don't be too quick to deadhead them; leave some dried seed heads for the birds.



Looking from his windows, Desert Botanical Garden volunteer Dan Smith often enjoys a fountain festooned with Rosy-faced Lovebirds and other birds. Photo by Dan Smith

If you can live with seeing your plants gradually disappear as they are consumed by caterpillars in exchange for a view full of beautiful butterflies, try planting a passion vine for Gulf Fritillary butterflies or various species of milkweed for Queen and Monarch butterflies near your windows. Arizona Milkweed (*Asclepius angustifolia*) is said to be a favorite.

And, speaking of gray block walls, don't be afraid to paint them a bright color as a great contrast to the different shades of green in your yard. Be brave!

Tom Gatz has been a MAS member since 1981.

Thanks to Dan Smith and Kim Pegram for helping me with this article. (Reprinted from *Gatherings*, the newsletter for volunteers at the Desert Botanical Garden).

Conservation Update

By Mark Horlings

Oak Flat:

The running battle over Resolution Copper Company's (RCC) plans to mine near Superior continues. A rider to the Defense Authorization for fiscal 2015 instructs the Forest Service to transfer public land RCC intends to mine. Oak Flat Campground and the rock climbing area will be lost. The San Carlos Apaches and other Native American tribes recently demonstrated in Washington, protesting the potential loss of traditional cultural areas.

RCC will use block cave techniques to extract the ore, eventually resulting in subsidence and collapse at the land surface and a crater estimated by RCC to be a thousand feet deep and one to two miles wide. Mining takes water; nearby areas, particularly Devil's Canyon, may dry up. Processing and moving ore pollutes water; RCC's plans threaten local springs, wells and creeks.

RCC's plans also involve an enormous tailings pile, hundreds of feet high, on National Forest land north of Highway. 60. Janet Witzeman, Lisa Fitzner and MAS President Mark Larson surveyed the tailings area this spring and saw that RCC's plans threaten bighorn sheep, Zone-tailed Hawks, and miles of pretty country as well.

The tailings will be placed wet on unlined countryside, dried and left there for the life of the mine, then covered so the pile can be replanted. Similar facilities at other mines have become "permanent treatment facilities," requiring cleaning farther into Arizona's future than Coronado lies in its past.

In May, representatives of the Intertribal Council of Arizona, rock climbers, MAS, Arizona Mining Reform Coalition, Center for Biological Diversity, Sierra Club, and Superior and Queen Valley citizens met with the Forest Service to discuss objections filed to the Environmental Assessment the Forest Service issued to allow hydrological drilling in and around the tailings site. These meetings tend to be polite but unproductive. Lisa Fitzner scored at least one small victory for the good guys.

Lisa, a trained wildlife biologist, returned from trips to the tailings area impressed with the extent of riparian habitat and suspicious that Yellow-billed Cuckoos might breed there. The creeks we saw were tangles of low brush and trees, perhaps not "densely wooded," as the Arizona Breeding Bird Atlas describes ideal Yellow-billed Cuckoo habitat, but close.

The Breeding Bird Atlas also notes that, of all spring migrants, the Yellow-billed Cuckoo arrives in Arizona last. The bird surveys cited in the Environmental Assessment were completed early in the year.

After the meeting broke up, we learned that Lisa's presentation was at least temporarily successful. The Forest Service withheld final approval of the Environmental Assessment until they can consult with the US Fish and Wildlife Service about the Yellow-billed Cuckoo.

The Forest Service has shifted its attention to preparation of the main Environmental Impact Statement (EIS) for the mine. The EIS will take years to complete, and the topics it covers will be at least partially determined by scoping comments received from MAS and others. The Sierra Club wrote a scoping letter raising multiple objections, and Audubon Arizona plans its own. The Arizona Mining Reform Coalition is organizing the most detailed comments out of concern that, if you don't alert the Forest Service to an issue now, you can't sue later if the EIS doesn't discuss it. MAS joined the Sierra Club letter and Arizona Mining Reform Coalition letters as well as sending its own.

Southwestern Willow Flycatcher:

In May, the Federal District Court in Las Vegas announced a victory for the plaintiffs, Center for Biological Diversity, MAS, and MAS Vice President Dr. Robin Silver in the long-running suit over the Southwestern Willow Flycatcher, tamarisk, and the tamarisk beetle.

Brief Background: The US Animal and Plant Health Inspection Service introduced tamarisk beetles in an attempt to control previously-introduced tamarisk. Meanwhile, flycatchers had adapted to nest in tamarisk. The Service was confident the beetle would not move south into areas where, by eating tamarisk, it would further endanger flycatchers. The beetles quickly proved the Service wrong.

In ruling for Dr. Silver and the other plaintiffs, the District Court relied on Section 7(a)(1) of the Endangered Species Act (ESA), which requires federal agencies to carry out programs for the conservation of endangered species. Despite years of ESA litigation and hundreds of successful suits, this case represents only the second time that a court found an agency to have violated Section 7(a)(1).

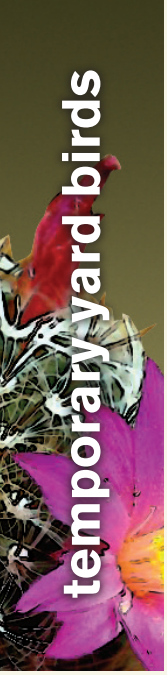
As if to prove this work is never easy, a Petition to Delist the Southwestern Willow Flycatcher as an endangered subspecies was recently filed and awaits response.

Be Social! Find MAS on Facebook

facebook.com/MaricopaAudubonSociety

Sign up for the e-newsletter!

To receive updates and supplements to *The Cactus Wren•dition*, sign up for the monthly (September to May) e-newsletter. It includes meeting and field trip reminders, special events, and citizen science projects. To subscribe, contact laurienessel@gmail.com
Note: We do not use the email list for anything other than the described purpose.



Temporary Yard Birds

by Duane Morse

In rare bird reports, you'll often hear about a special bird that was found mingling with more common ones, such as a White-throated Sparrow among White-crowned Sparrows, which supports the birder's admonition, "you should bird every bird."

Oddly enough, the same advice applies to yard birds!

Duane Morse is a retired computer programmer who started birding just three 3 years ago thanks to Cynthia Donald's inspiring classes at the Desert Botanical Garden.

American Kestrel

Most temporary yard birds are very transitory (dare I say "flighty"?) – they appear once, and then they are gone. One afternoon I went into the backyard and saw an American Kestrel on the utility line behind the house.

Hooded Oriole

In March of 2015, a Hooded Oriole stopped by. I subsequently saw this bird and his mate setting up housekeeping in a neighbor's palm tree.

White-Eared Hummingbird

In December, 2014, I was decorating Christmas cookies at the kitchen table and watching hummingbirds at my two front yard feeders when I noticed a hummingbird that looked different from the usual visitors. I took pictures, examined various field guides, and finally asked an expert to confirm my identification: a White-eared Hummingbird.

I subsequently learned that this was the first time this species had been documented as visiting Maricopa County. The bird stayed for 10 days, and since I posted the news on the Arizona/New Mexico Rare Bird Alert listserve, many admirers came to pay their respects.

Green-tailed Towhee

One September, another bird popped out among others as not quite fitting in. I regularly toss a small amount of bird seed behind our back fence, and that always attracts Abert's Towhees, but this bird had a rufous crown and green along the leading edge of his wings: a Green-tailed Towhee. He ended up visiting this feeding ground for a handful of days.

Lawrence's Goldfinch

Our house is a few blocks north of South Mountain Park, and we have a finch feeder and two hummingbird feeders in the front yard, and a finch feeder, a hummingbird feeder, and a tube feeder in the back yard. In addition, I put out a home-made suet cake near the tube feeder each morning. Subsequently, our yard is fairly popular with certain desert and residential birds, but every once and a while, a stranger pops up.

While having breakfast one morning, I noticed a bird at the front finch feeder that stood out from the others. I took some pictures and quickly identified the bird: a Lawrence's Goldfinch. By an odd coincidence, the day before I had gone to Hassayampa Preserve, hoping (in vain) to see this bird. I guess while I was driving out west, the bird had been flying east to my home. This one stayed in the area for two days before departing.

Ash-throated Flycatcher

A few months before this, another desert bird put in an appearance, an Ash-throated Flycatcher. In this case, I heard the bird first and knew the melody wasn't coming from one of my "regulars" (though European Starlings continue to play tricks on me). He and two others (family members?) appeared off and on for the next few days.

Cooper's Hawk

Some temporary yards birds are a mixed blessing. In December, I looked out the back window and discovered that a Cooper's Hawk was having a snack on my back fence. Apparently the hawk had found the Mourning Doves in my yard too tempting to resist.

Rosy-faced Lovebirds

Another time I found a trio of Rosy-faced Lovebirds looking at me as I came through the patio door. I got the impression they had heard about the suet cakes and were hoping I would put out a new one just for them.

All photos by Duane Morse

Connecting with nature makes Arizona a fun and better place to live!

Compiled by Vicki Hire

Common Buckeye. Photo by Vicki Hire

Green Scene Go Take a Hike

Looking for butterflies? Take your friends and family to Boyce Thompson Arboretum State Park. Be sure to attend one of the "Guided Butterfly Walks" usually held in the mornings. These present a wonderful opportunity to observe several species of butterflies, as well as learn all about their life cycles and host plants. Visit https://ag.arizona.edu/bta/events/butterflywalk.html

Green Scene Butterfly Garden Tips

- A butterfly garden can be any size, but plant selection is important.
- Mass plantings of flowers do a better job of attracting butterflies than a single plant.
- Look for plants with wide, shallow flowers or with clusters of flowers. Color is important, with white flowers the least attractive.
- Consider planting factors such as water requirements and adaptation to sun and temperature extremes.
- For additional information and a list of plants, visit the University of Arizona Cooperative Extension website at: http://ag.arizona.edu/maricopa/garden/html/pubs/0103/creature.html

Green Scene True or False?

T F 1. There are about 760 species of butterflies in North America.
T F 2. The Monarch butterfly can live up to nine months.
T F 3. Every year there is a butterfly count throughout the US, Canada, and Mexico.
T F 4. Caterpillars are picky eaters.
T F 5. Butterflies always have their eyes open and do not sleep.

Guess this Butterfly

Clue: This butterfly can average 10 miles per hour in flight, and is known for its 3000-mile fall migration from Canada to Mexico.

Photo by Marceline VandeWater

Green Scene School Projects

If you would like to apply to the MAS Education Committee for funding for a school natural history project or field trip, please contact Carol Langdon at clangdon2@cox.net

Send us your photos! Did you take a hike or field trip? If so, we'd like to hear about it! Send us your bird or nature photo and a brief description of where and when you took the photo. It's ok if you aren't sure what species the bird is – just say so and we will help you to identify it!

Answers on page 21

Arizona Sister. Photo by Vicki Hire

Southern Dogface. Photo by Vicki Hire

Mormon Metalmark. Photo by Vicki Hire

The Beautiful Butterfly

Have you ever said you had butterflies in your stomach? That's because the 'flutter' feeling you have when you are nervous or excited is similar to the quick, light wing movement or flutter of the butterfly.

Did you know Approximately 250 species of butterflies are native to Arizona? Butterflies have four separate stages, each of which serves a different purpose.
STAGE 1 A butterfly begins as an egg attached to a leaf or stem of a plant. It hatches into a larva after several days or more.
STAGE 2 The larva or caterpillar can eat twice its body weight in one day. A caterpillar often has colorful stripes and sheds its skin four or more times because its body grows so fast.
STAGE 3 The caterpillar forms a protective envelope around itself called a chrysalis or pupa. This stage lasts a week or more before the chrysalis splits open. Many moths form a cocoon spun from silk instead making a chrysalis.
STAGE 4 The adult butterfly emerges from the chrysalis and can fly in about an hour.

Did you know Butterflies have brains? A butterfly's brain is located in its thorax and not in its head. Its thorax is the part of the butterfly that contains muscles and a nervous system. A butterfly also has a proboscis, which it uses like a straw to drink liquid. A butterfly cannot bite because it no longer has jaws like it had when it was a caterpillar. A butterfly can smell with its two feelers or antennae, attached to its head.

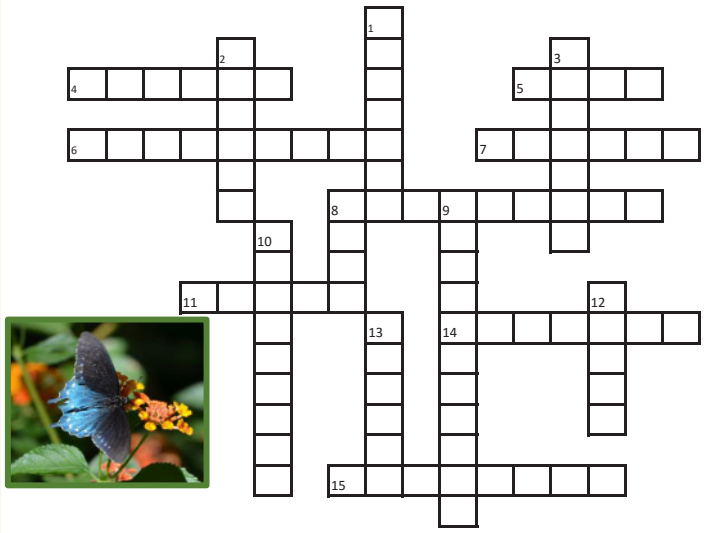
Did you know Butterflies have hearts? A butterfly's heart is long and tubular and runs from its head to its abdomen. The butterfly's heart contains hemolymph (like blood). The hemolymph is not red like human blood because it does not carry oxygen. A butterfly cannot heal itself like humans do when they get a cut or scrape, so when its wings become damaged, the butterfly cannot regenerate or heal them. However, it can usually still fly even with pieces of a wing missing.

Did you know Butterflies are insects and have six legs? Each leg is made up of five jointed sections. The butterfly's foot is called a tarsus. When a butterfly's foot touches and tastes sweet liquid or nectar, it sends a signal to its proboscis to uncurl and drink the liquid.

Did you know Butterflies have four wings? A butterfly has two forewings and two hindwings attached to its thorax. In flight, these wings move in a figure eight pattern. The wings are covered with lots of scales, just like the tiles on the roof of your house! These scales can have many patterns and be very colorful.

Did you know Butterflies can travel for miles, which might explain why they have periods of rest in which they are quiescent but not asleep? They are capable of identifying plants from a great distance. Each butterfly species has its favorite plant foods. And each caterpillar species will only eat from a single plant species (or group of closely related plants).

The Beautiful Butterfly Crossword Puzzle



Across

4 The part of the butterfly that contains muscles to make its legs and wings work
5 Number of stages during a butterfly's life span
6 Describes a resting butterfly
7 A butterfly's wings are covered with these
8 Both butterflies and elephants have one of these and the butterfly uses it to drink nectar and other fluids
11 Another word for the caterpillar, or worm-like stage of a butterfly
14 Butterflies do not have these so their eyes are always open
15 Sometimes called feelers, these are long flexible appendages on the head of the butterfly

Down

1 To fly unsteadily or hover by flapping wings quickly and lightly
2 A butterfly's foot at the end of its jointed legs
3 This butterfly can live up to nine months
8 Another word for chrysalis
9 There are approximately 250 native species in Arizona
10 The third stage in the life of a butterfly
12 These move in a figure eight pattern when a butterfly flies
13 The protective covering of silk that covers some moth pupae.

Answers on page 21

Peregrine Falcon in flight.
Photo by R Babb AZGFD

Peregrine Falcon.
Photo by R Babb AZGFD

Phoenix Peregrines

By Randall D. Babb

It's unclear just how long Peregrine Falcons have been nesting in downtown Phoenix. The Arizona Game and Fish Department (AZGFD) became aware of the falcons in 2006 when a fledgling chick was found on the ground amid the miles of concrete. Prior to this time it was generally thought that temperatures might be too high in central Phoenix for successful nesting. It was difficult finding the nest amongst the numerous high rises. It was finally determined to be on the Maricopa County Administration Building, but exactly where on that building no one but the peregrines knew. A roofed nesting platform outfitted with a surveillance camera was placed on the building in 2007, but the birds refused to use it. The following year the nest was located in a metal rain gutter along the roof on the north side of the building.

Peregrine Falcon.
Photo by R Babb AZGFD

In 2009, the Game and Fish Department replaced the nest platform with a nest box and the same camera. The new nest box provided better protection from the elements and fit neatly into the façade on the top of the Maricopa County Building, just a few feet away from the gutter nest site. Alas, the peregrines snubbed this offering too. For the next several nesting seasons the pair was unsuccessful. In 2013, two chicks were observed in the nest but only one of these, a male, fledged. The other chick and surprisingly, the female, both mysteriously disappeared.

In the spring of 2014, a young female peregrine appeared in the downtown area and quickly paired with the old male. During the pair-bonding period both birds were observed in the nest box and hopes were high that the peregrines would finally use it. The female falcon laid two eggs that year but neither appeared fertile. This was also the year that the Arizona Game and Fish Department's Wildlife Viewing Program was looking for new ways to connect the public with wildlife. The downtown peregrine nest and Wildlife Viewing Program were a natural fit. Unfortunately, in the seven years that intervened between the installation of the camera and the birds using the nest box, advancements in webcam technology had rendered the Game and Fish camera obsolete. Though

Nest box with webcam on the side of the downtown building.
Photo by Joe Yarchin AZGFD

Department biologists could still view the live feed, there was no way to share it with the public. Efforts to resolve the problem continued through the next year but were stymied by antiquated technology.

In 2015, the falcons returned to the nest box laying four eggs, three of which hatched into healthy chicks. The Department monitored the nest via the old camera and discovered that trying to translate it to a format that could be

Female Peregrine Falcon at Nest Box. Screenshot by Daniela Siroky

Male Peregrine Falcon with chick. Photo courtesy of AZGFD

Early Family Portrait. Photo courtesy of AZGFD

Feeding the chick. Note the full crop. The splint on the chick's leg is also visible. Photo courtesy of AZGFD

shared through the Internet was akin to looking for a VHS player on Saturn. That year, one chick fledged. Another injured itself during the fledging process and was taken to a rehabilitation center where it healed and was released late that winter. The third chick disappeared and all attempts to locate it were unsuccessful. So with a little help, the nest box contributed two chicks to Arizona's Peregrine Falcon population that year.

This year the Department's Wildlife Viewing Program upgraded the camera and contracted with HDOnTap to provide live streaming video from the nest. As anticipated, the Peregrine Falcons returned and the camera went live in mid-March 2016. The female laid the first egg soon afterwards. Over the course of nine days, she laid four eggs. Both parents took turns incubating as is typical for the species. The male however, proved to be an attentive parent and often protested loudly if the female did not give way when he returned to assist incubating the eggs. For a time, things appeared to be going well. About two to three weeks into the incubation, one egg collapsed for unknown reasons. A second egg collapsed about a week later. Game and Fish biologists puzzled over the loss of the two eggs and advanced several theories including pesticide exposure on southern wintering grounds, but could identify no culprit. The remaining two eggs appeared to fare well.

On Mother's Day, May 8, 2016, one of these eggs hatched. The other egg was later removed and determined to be infertile. Problems were far from over with the hatchling. During the first week the chick exhibited unusual behavior, which caused great concern among Department biologists. The chick would lie on its back for prolonged periods, an unnatural position for birds, and even fed in this position. One of the camera's many viewers drew the attention of Department biologists to a nest in Philadelphia where last year a chick showed similar behaviors and abruptly died before fledging. Biologists continued to monitor the chick's development but if there was a congenital problem, there was little that could be done. About two weeks after hatching, the chick developed another issue, a splayed leg condition likely caused by a calcium deficiency. After much discussion, the Department decided to intervene and hobble the chick's legs while leaving it in the nest. This is the first time a chick had been left in the nest after this procedure had been performed. Biologists feared the adults might attempt to remove the hobbles or even kill the chick. Much to the relief of all, the adults paid no attention to the hobbles and soon the leg problem was rectified and biologists were guardedly optimistic that chick would fledge.

As so often happens in nature, things took a dark turn just when it seemed the falcon's troubles were over. While the young raptor was climbing about the ledge outside the nest, as is typical for young peregrines, it fell to its death. This was heartbreaking, not only for the thousands of people who had followed the travails of this nest from the beginning, but also to the biologist employees of the Arizona Game and Fish Department who had become so enamored of the little bird.

Slight renovations and upgrades are planned for the nest box next year. The Department has been consulting with raptor experts, including The Peregrine Fund, from the beginning and will continue to do so in an effort to provide the best possible nesting conditions. It is the desire of the Game and Fish Department that the Peregrine Falcon nest camera provides an educational and realistic glimpse into the unedited lives of these wonderful birds. This means keeping human meddling to a minimum and often, as painful as it can be, letting nature play out unimpeded.

Randall D. Babb is a biologist with the Arizona Game and Fish Department and currently manages the Wildlife Viewing Program.

An Arizona Big Year

By Matt VanWallene

Kayaking on San Carlos Lake on the Gila River. Photo by J9

I was birding Boyce Thompson Arboretum with Fraser when we met Janine McCabe. As Fraser does, he engaged her in conversation when she mentioned she was doing an Arizona Big Year. That comment immediately piqued my interest too. The Big Year demands tenacity, sacrifice, and a high level of birding knowledge.

J9, as her friends call her, is a graduate of Minnesota State University, Mankato.". She majored in resource management in parks and recreation with the goal of becoming a park ranger.

Reddish Egret at Paloma Ranch. Photo by J9

Finding park work a bit confining, she worked for 10 years as a biological field technician. This took her from the coast of California where she radio-tracked Marbled Murrelets nesting in old growth forests to Cape May, NJ where she tagged Monarch butterflies. She tagged 2200 Monarchs there, one of which was found in Mexico.

One of her gigs was tagging Sandhill Cranes on the Platte River near Kearney, NE. Part of the job required radio-tracking birds around the clock. One night during the graveyard shift after 11:00 pm, she saw a car coming towards her. The driver rolled down the window and asked her, "Would it be OK if you showed Jane Goodall what you are doing with the cranes?"

J9 caught the birding bug from her parents. After reading Kenn Kaufman's *Kingbird Highway*, she put an Arizona Big Year on her bucket list. She decided to go for it after watching Laurens Halsey break a long-standing record in 2014. He got 413 Arizona bird species, beating the old record by 11 birds.

Living in southwest Tucson, J9 is well situated to chase the rarities that make Arizona famous. When I picked her up for this article's interview on a Mount Lemmon birding trip, I was immediately jealous of her neighborhood. She has lived there for over 20 years and has a yardbird list of 135.

2015 netted her 388 birds from over 20,000 miles of driving and two breakdowns. At Granite Basin Lake, she had to climb a mountain to get a phone signal. On another trip, she got the last room in a Prescott hotel because a dog show was in town.

J9 working as part of a Wildland Fire Crew in western Montana.

Pronghorn in Las Cienegas. Photographed by J9 while birding grassland habitat.

Montezuma Quail in Florida Canyon. A first photograph after 22 years of trying! Photo by J9

While returning from Hassayampa, a first time visit to get a Red-shouldered Hawk, she got an alert of a needed shorebird in Willcox. Despite an already long day, she added four hours and detoured there to get her bird. She found herself in Willcox 17 times during the year. She is a disciplined eBird poster and entered over 600 site reports spanning the year.

One trip took her to Navajo County where she got a Black-billed Magpie and a Pinyon Jay and on to the Grand Canyon to catch the California Condor. Another trip found her in Yuma. Just 30 minutes from her destination after a four and a half hour drive, a ferocious windstorm kicked up. She was very lucky to get the Streak-backed Oriole that could only be seen when the wind blew the palm fronds out of the way.

Some opportunities were missed during the year. A Three-toed Woodpecker nested in eastern Arizona and a Carolina Wren visited a feeder in Heber. In the latter case, J9 was concerned that because it was at a residence it would require her to be intrusive.

One of J9's favorite spots is San Carlos Lake on the Gila River. She likes to go kayaking there because there are few people who use the lake. She feels that the area is under-birded considering that it is a great source of shore and aquatic birds as well as terns.

Many birders have a nemesis: the elusive bird that defies all attempts at viewing. In J9's case it was the Hooded Warbler. Having seen it prior to 2015 made it all the more frustrating. Other birders reported it at four different sites. Each time J9 made the trek but couldn't find it. She went to Summerhaven on Mount Lemmon, to Empire Gulch northwest of Sonoita, to Santa Cruz River at Tubac, and to the Patagonia-Sonoita Creek Preserve without success.

J9 now has 441 Arizona birds after adding 18 new ones from her 2015 effort; she also added three birds to her life list. Of the 388 birds she saw during her Big Year, she observed 25 percent only once. Despite the exhausting effort in 2015, the first week of 2016 had her chasing a Fox Sparrow. It's a passion.

To achieve a high number of birds such as this, networking is important. J9 has birded Arizona long enough to remember the rare bird phone-in procedure. The AZNM listserv, eBird, Facebook and other social media have since replaced that. She reflects: "In the course of the year, I got to meet many more birders of our close-knit birding community. I never would have been as successful without them."

Matt VanWallene is MAS Treasurer and an outdoor enthusiast.

Sonoran Desert in the White Tank Mountains. Photo by Becky Ball

A Tale of Two Deserts

By Becky Ball

Soil crust at Piestawa Peak. Photo by Becky Ball

When most people hear the word "desert," they think of a desolate, sandy place that is oppressively hot and dry. We here in the Sonoran Desert know that's not always true. Our desert, while hot and dry, is not desolate. Rather, we have a great biodiversity of flora and fauna that surprises many visitors. The Sonoran Desert is proof that not all deserts are "dead." It's also not true that all deserts are hot. Much of Antarctica is classified as desert. The McMurdo Dry Valleys region of Antarctica, for example, is one of the driest and coldest ecosystems on the planet

In many ways, the Dry Valleys look similar to the Sonoran Desert: sandy soils dominate the landscape, with limited amounts of organic material on the ground, and ephemeral streams that carry water at only certain times of the year. These two ecosystems differ in many ways, most notably in the different geological sources that yield the characteristically tan soils of Arizona versus gray soils in the Dry Valleys. (In actuality, different valleys in the McMurdo region vary in soil color based on the geology, ranging from gray, to brown, to red.) Also, while plants are certainly patchy here in the Sonoran Desert with areas of exposed soil, no vascular plants live in the Dry Valleys at all, making the region appear desolate. In 1903, the first human explorers to lay eyes on the Dry Valleys assumed as much. Robert Falcon Scott wrote in his journal, "... we have seen no living thing, not even a moss or a lichen... It is certainly a valley of the dead..."

He was wrong, though, because there are indeed moss and lichen in the Dry Valleys, though they tend to grow only in small patches (unless you know where to look). However, these are the only above-ground primary producers. A small bed of moss is equivalent to a forest canopy! Living in that moss bed, we find algae, lichen, bacteria, and even invertebrates. Similar "micro-forests" grow on soils here in the Sonoran Desert. Have you ever wondered what that black crusty stuff is that covers the soil here in the Sonoran Desert? It doesn't look like much, but it's actually a mix of biological material growing in a crusty form on top of the soil, called "soil biological crust." That dark crusty stuff is alive! There's a mix of bacteria, algae, lichen, fungi, and moss. The individuals are of course microscopic, so you can't see them. However, the group of microscopic cells gets together to form the crust that you're able to see, with a web of fibers that helps hold loose soil particles together. Thus, one major benefit of soil crusts is erosion prevention.

Another reason soil crusts are important is their role in nutrient availability. Crusts contain cyanobacteria, which are able to capture nitrogen from the atmosphere and turn it into a biological form. When a cell dies, it releases that nitrogen as a mineral into the soil that can be used by plants and animals. Without soil crusts, we'd lose that important source of soil nitrogen. So, next time you're walking in the desert, think twice about where you put your feet. The crusts might look dead and uninteresting, but they're very much alive! They're also very fragile, so care must be taken to avoid destroying these very important components of desert soil.

Notably, the above-ground and crust communities are not the only life in these deserts. At a microscopic level, the soil of both of these deserts is also very much alive. Even most long-time residents of the Sonoran Desert don't realize how much is living in the soil. It's estimated that hundreds of thousands of species live in a spoonful of dirt! Soils house organisms as minute as bacteria and fungi, up to insects and worms, and even small mammals in the Sonoran Desert. Every step you take, you're treading on hundreds of thousands of lives, even in seemingly desolate desert soils.

Soil organisms are important to the functioning of the whole ecosystem. An entire, complex food web exists beneath our feet, through which dead organic material is decomposed and nutrients are recycled, water is filtered, and carbon is stored. The soil food web is made up of a lot of different species, and you've never even heard of many of them. Aside from the prolific species of bacteria, Archaea, and fungi, a host of invertebrates lives in the soil. Common taxa include Collembola (commonly called springtails), mites, tardigrades, and nematodes, all of which eat microbes. These groups are abundant in the Sonoran Desert, as well as in Antarctica. Predators also live in the soil. In the Sonoran Desert are microscopic soil predators such as Diplurans, centipedes,

continued on next page

A patch of green moss in the Dry Valleys, showing how small these "forests" can be! Photo by Becky Ball

Can moss help remove nitrogen pollution from the soil?

In the Phoenix Metro area, we receive a fair amount of nitrogen from air pollution. Soil inside the city has more nitrogen than does the soil outside the city. What happens to nitrogen that's deposited by air pollution? Nitrogen can fertilize plants (which is why you might put it on your yard or garden), but too much nitrogen can cause a problem, both for human health and for the ecosystem's health.

Could moss take up some of that extra nitrogen from pollution? One component of the soil biological crusts in the Sonoran Desert is moss. Because moss can "wake up" so quickly after rain, we wanted to know whether moss could take up some of that nitrogen, even if larger plants can't.

We sampled moss, and the soil beneath it, from different places in and around Phoenix. We sampled from both inside the city (where nitrogen pollution is a bigger problem) and rural areas to the east and west of Phoenix (where nitrogen pollution is less of a problem).

We measured the amount of nitrogen in the moss and soil, to learn whether moss takes up the extra nitrogen deposited in the soil. If moss nitrogen were higher where soil nitrogen is higher inside the city from pollution, it would suggest that moss is taking up the extra nitrogen in the soil. If moss nitrogen were the same across all the sites, regardless of the amount of soil nitrogen, it would suggest that moss is not able to take up the extra nitrogen.

In our samples, we found more nitrogen in the soil inside the city of Phoenix (as expected), and the moss growing on that soil was also higher in nitrogen. This suggests that moss can indeed take up nitrogen from pollution. However, moss is much less abundant inside the city where nitrogen pollution is a problem. Moss is sensitive to pollution and human disturbance, and has a more difficult time surviving inside the city.

This means we need to help preserve the fragile moss crusts in order for them to help deal with the nitrogen pollution.

To learn more about my research in the Sonoran Desert, go to http://desertsoils.blogspot.com

A Tale of Two Deserts

continued from previous page

and pseudoscorpions, as well detritivores, such as isopods, midges, and millipedes, that eat decomposing plant material because it holds the nutritious microbes they can digest. In Antarctica, many of these species don't exist, but there are predatory nematodes and tardigrades. Because no large land animals live in Antarctica (only large marine animals that occasionally come on land), a nematode is actually the top of the terrestrial food web!

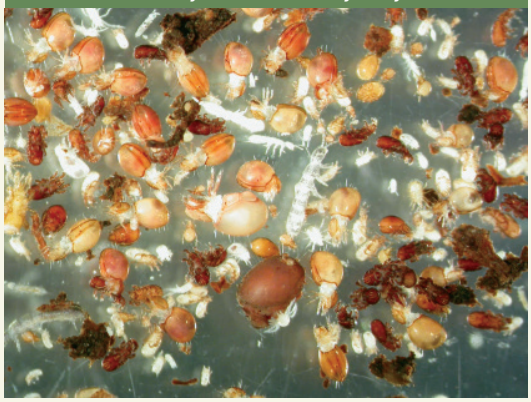
Whether we're talking about above-ground or soil communities, desert organisms live close to the physical limitations for life, constrained by low availability of water. Temperature limitations are at the opposite ends of the spectrum in these two deserts, being either at the limits of organisms' heat or freeze tolerance. Regardless of the temperature differences, these two ecosystems are united in the life-limiting role of water. Projections of future climate change suggest that water availability will change for many deserts, which will influence soil biology. Both the Sonoran Desert and the Dry Valleys are susceptible. Here in the desert Southwest, it will be through predicted changes in precipitation patterns: we will receive less precipitation overall, though in larger sized storms. In Antarctica, it will be through melting of the massive amounts of water stored in ice.

Given that arid and semi-arid ecosystems cover a third of Earth's terrestrial surface and are increasing in extent due to desertification, understanding how deserts respond to human-induced change constitutes understanding the response of a large portion of the planet. This is the main research focus of my lab group.

Becky Ball is Associate Professor and a Senior Sustainability Scientist at Arizona State University.

McMurdo Dry Valleys

Soil biota showing diversity. Photo by Uffe Nielsen University of Western Sydney



What happens to soil biology when the environment changes?

From February to April this year, I joined other researchers to explore the diversity of soil biological communities along the entire Antarctic Peninsula. The Antarctic Peninsula is experiencing rapid environmental changes, which will influence the community of organisms that live there. However, we know very little about the microscopic soil organisms in this region. Without understanding the environmental conditions that influence soil biodiversity along the Antarctic Peninsula, our ability to predict the consequences of global change is strongly limited.

This project will identify the soil community at many sites along the Antarctic Peninsula to discover how the community changes with environmental conditions from north to south. The project will also identify how the soil community at each site differs under different types of plants. Understanding more about the ways in which plant cover and climate conditions influence soil biodiversity will allow predictions of how communities will respond to future changes such as climate warming and invasive plant species.

Because we were traveling from site to site, we worked on the research vessel, Laurence M. Gould. It can break through one foot of ice and has laboratories on board. After we collect soil samples, we need to do several things before we freeze the samples and send them home to Arizona. Freezing can kill the organisms that we want to study, so we must remove them beforehand. We also perform some chemical analyses on the soil in the ship's laboratories.

See photos and learn more about Antarctica, our life on the research vessel, navigating through Drake Passage, (famous for its rough seas), what it's like to work among a colony of fur seals, and how we coped collecting samples with strong katabatic winds at Elephant Island at http://polarsoils.blogspot.com.

Green Scene Puzzle Answers

Answers to True or False

1. True. In the lower 48 states, the US has about 575 species of butterflies. There are approximately 20,000 species found throughout the world. About 250 species are native to Arizona.[1]
2. True. While the typical butterfly lives about one month, the monarch butterfly can live up to nine months. Some of the tiniest butterflies live only one week.[1]
3. True. The North American Butterfly Association has conducted a Butterfly Count Program in the US, Canada, and Mexico since 1993. People gather on one day to count butterflies at an assigned location within a circle 15 miles in diameter. In Arizona, an annual butterfly count occurs at Boyce Thompson Arboretum State Park. These counts provide information to scientists who monitor changes in butterfly populations and study the effects of weather and habitat change on butterflies.
4. True. Caterpillars use only certain "host plants" for food so butterflies are selective about the plants where they lay their eggs. For example, the host plants of the American Snout are Desert and Netleaf Hackberries.
5. True. Butterflies do not sleep. Butterflies rest or become quiescent. Butterflies always have their eyes open, because they do not have eyelids.[2]

Answer to Guess this Butterfly

Monarch butterfly. These butterflies return to the same forests to winter each year and some even find the same tree that their ancestors landed on. It is estimated up to a billion butterflies arrive in the mountains of Mexico each year.[3]

Answers to The Beautiful Butterfly Crossword Puzzle

Across

4. Thorax
5. Four
6. Quiescent
7. Scales
8. Proboscis
11. Larva
14. Eyelids
15. Antennae

Down

1. Flutter
2. Tarsus
3. Monarch
8. Pupa
9. Butterflies
10. Chrysalis
12. Wings
13. Cocoon

American Snout.
Photo by Gillian Rice

1 http://www.naba.org/qanda.html
2 http://www.kidsbutterfly.org/faq/general/1
3 http://kids.nationalgeographic.com/animals/monarch-butterfly/#monarch-butterfly-grass.jpg

Help MAS with an Employer Matching Gift

Many Maricopa Audubon members aren't aware that their employers may include a matching gift program in their benefits package. Programs vary from business to business, but they generally offer a dollar-for-dollar match when an employee makes a personal gift to a nonprofit organization like the Maricopa Audubon Society.

Please visit your human resources department or charitable giving department to see if this opportunity is available to you. You usually have to fill out and submit a form, which is sometimes done online. If you have already made a donation to MAS in the past year, you may be able to get a matching gift after the fact from your employer for up to 12 months later.

Fiscal Year Ending May 31, 2016

By Matt VanWallene, Treasurer

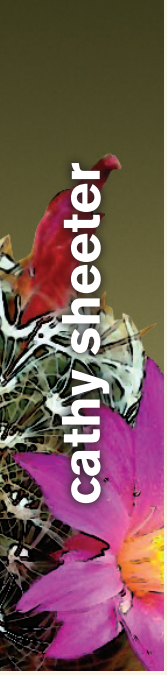
Here is our fiscal year wrap-up report of income and expenditures for the fiscal year, which ended May 31, 2016. If you have any questions, please feel free to contact me.

Income

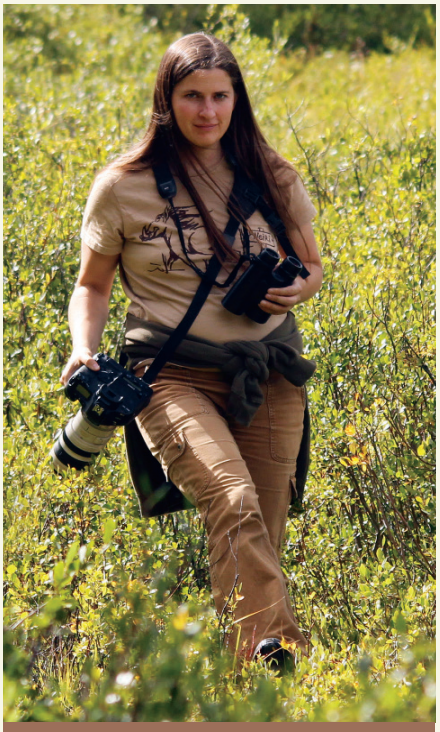
Audubon Membership	6,238
Donations	2,180
Books	1,635
Banquet	1,168
MAS Friends Membership	1,055
Interest	1,045
Big Sit!	716
Raffle	343
Misc	50
Total Income	**14,430**

Expenditures

Conservation	20,418
The Cactus Wren•dition	16,483
Admin	3,218
Witzeman Fund	3,000
Books	2,251
Insurance	1,538
Banquet	1,473
Honoraria	1,318
Rent	1,300
Publicity	1,123
Big Sit! donations	716
Education	500
Total Expenditures	**53,337**



Nature Through the Artist's Eye: Cathy Sheeter



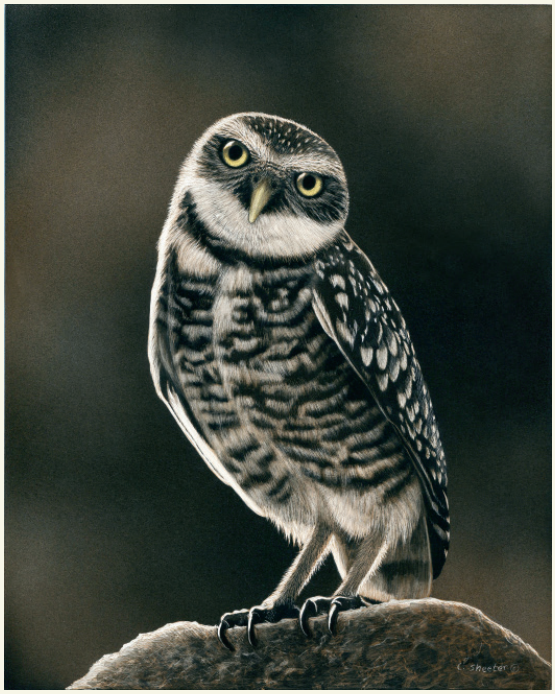
Cathy out gathering reference photos for her artwork. Photo by Anni Crouter

A love of the natural world (especially animals) has been an all-encompassing theme throughout artist Cathy Sheeter's life, so it was an expected progression for her to take this love into her artwork. Cathy works primarily in the unique medium of scratchboard. Scratchboard is a form of direct engraving where the artist starts with a dark ink-coated panel (often black ink, though colored ink can also be applied), and then a variety of abrasive tools are used to scratch off the darker ink down to a layer of white clay. The artist creates tonal variations by scratching more or less dark ink off of an area. Works can be left black and white or colored with transparent inks. Some of the tools Cathy uses include X-ACTO knives, fiberglass brushes, sandpaper, and tattoo needles.

Cathy is presently in the middle of a two-year artist residency at the Hiram-Blauvelt Wildlife Art Museum in Oradell, NJ. Prior to the residency, Cathy lived for 13 years in Colorado, where she plans to return in 2017, at the conclusion of her residency. She feels fortunate to have the opportunity to teach scratchboard art classes twice a year at the Arizona-Sonora Desert Museum (ASDM) Art Institute, which allows her to travel to Arizona on a regular basis.

Cathy is a founding and Master Member of the International Society of Scratchboard Artists (ISSA) and a Signature Member of the Society of Animal Artists (SAA). Her work has won many awards in international and national exhibitions. It can also be found in several museum collections (including the Arizona-Sonora Desert Museum's), as well as private and corporate collections in several countries. To view more of her work, visit www.cathysheeter.com.

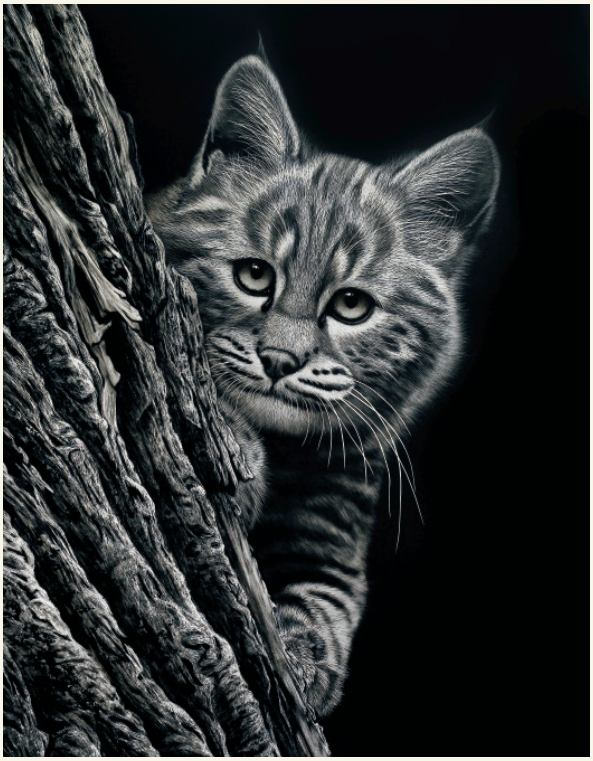
Caw Of the Wild
12"x12" Scratchboard
Common Raven
It can be a challenge to find a unique and interesting composition when dealing with close-ups of animals. I felt this one was a bit different!



Ground Patrol
10"x8" Clayboard and Ink
Burrowing Owl
My first venture into trying scratchboard in sepia tones. I took my reference photos at Zanjero Park in Gilbert, AZ.

Feeling Inclined
18”x24” Scratchboard and Ink
Bighorn Sheep
I enjoyed creating the sense of backlighting in this scene. Creating the many layers of light coming through the grasses was the most time consuming aspect of this piece.

Night Patrol
24”x24” Scratchboard
Great Horned Owl
Owls are some of my favorites subjects. Not only do I love the birds themselves, but they look right at home in the darkness of night emulated by black scratchboards.



Peek-A-Boo
24”x18” Scratchboard Art
Bobcat Kitten
I am jealous of all the amazing sightings that people in Arizona get to have of bobcats. They are quite uncommon in most of Colorado, and I have only seen a few, and all of my views have been quick “peek-a-boos” before the cat disappears back into the environment.

Prickly Perspective
11”x14” Clayboard and Ink
Cactus Wren
I am honored to have this work in the Arizona-Sonora Desert Museum permanent collection. In 2015, this work was also selected for the annual internationally renowned exhibition, *Birds in Art*. **Prickly Perspective** remains a personal favorite.

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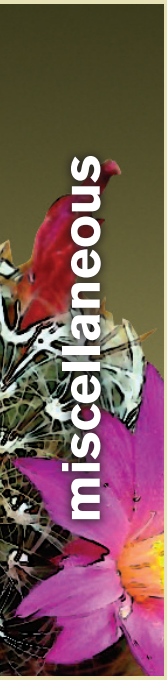

Monthly Meeting

First Tuesday of the month, unless otherwise announced, September through April, 7:30 p.m. Our meeting place is Papago Buttes Church of the Brethren, 2450 N 64th Street, Scottsdale, AZ (northwest of 64th Street and Oak Street, which is between Thomas Road and McDowell).

Please contact a board member if you have any questions, or check out our web site at www.maricopaaudubon.org. Pre-meeting dinners (September through April) are held at Rolling Hills 19th Tee Restaurant, 1405 N. Mill Avenue, starting at 6:00 p.m.

Membership Information

There are two ways to become a Maricopa Audubon member and to receive *The Cactus Wren•dition* by mail:

1. By joining the National Audubon Society. If you live in the Phoenix metro area generally east of 43rd Avenue, or in the East Valley other than in Gilbert, Chandler or most of Mesa, when National Audubon Society receives your check made payable to National Audubon Society and your membership application, you will be assigned to Maricopa Audubon Society, or you can send your check payable to National Audubon Society and your National Audubon Society membership application to Scott Burge, membership chair, and he will send it on in to National Audubon for you, or
2. By becoming a "Friend of Maricopa Audubon". In this case you will become a member of Maricopa Audubon Society only, and you will not receive the Audubon magazine or any of the other "benefits" of National Audubon membership, but you will receive a one-year subscription to *The Cactus Wren•dition*. "Friends" contribution categories are: Anna's Hummingbird-$20; Verdin-$35-$99; LeConte's Thrasher-$100-$249; Cactus Wren-$250-$999; Harris's Hawk-$1,000-$9,999 and California Condor-$10,000+. Mail your Friends membership application and your check made payable to Maricopa Audubon to Scott Burge, membership chair. All "Friends" members receive certain designated discounts. (If you reside outside the above-indicated geographical area, the only way to receive a subscription to *The Cactus Wren•dition* is to become a "Friend".)For National Audubon membership address changes or other questions call (800) 274-4201 or email chadd@audubon.org. For all other membership questions call or email Scott Burge.

Submissions

Copy for *The Cactus Wren•dition* must be received by the editor by e-mail, by January 15, April 1, July 1, and October 1. Articles not received by the deadlines may not appear in the upcoming issue. Email to: *The Cactus Wren•dition* Editor, Gillian Rice: editor.wrendition@yahoo.com

Opinions

The opinions expressed by authors in this newsletter do not necessarily reflect the policy of the National Audubon Society or the Maricopa Audubon Society.

Reprinting of material

Unless stated explicitly in the article, material in *The Cactus Wren•dition* may be reprinted on other newsletters as long as the material is credited to the original author and to *The Cactus Wren•dition*.

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