MARICOPA AUDUBON SOCIETY

The Cactus Wren·dition

Volume LXX, No. 3 Fall - 2015

Northern Pintail Pair

Photo by Denny Green

Programs

programs

Meetings are held at: Papago Buttes Church of the Brethren, 2450 N 64th Street, Scottsdale, AZ (northwest corner of 64th Street and Oak Street, which is between Thomas Road and McDowell). Come and join us, and bring a friend!

September 1, 2015

Paul Holdeman
Plants, Puddles, and Ponds for Birds

A migratory bird soars high over the Valley, looking for respite. A native bird seeks food, water, shelter, and a nesting site. Do you want to see orioles, cardinals, warblers, and Cactus Wrens outside your window? Whether you're a wildlife-watcher, photographer, or just enjoy living in harmony with nature, this program will show you how to create your very own urban wildlife habitat.

Paul Holdeman, co-owner of the award-winning company, The Pond Gnome, is a third-generation Arizona native with a BS from ASU. An avid hiker, backpacker, camper, and wildlife enthusiast, Paul uses his intimate understanding of the Sonoran Southwest's microclimates and passion for organic water features and native habitats to specialize in replenishing the desert's natural oases. He creates backyard urban wildlife habitats and riparian landscape systems.

October 6, 2015

Matt VanWallene
From Birder to Amateur Ornithologist: Tales from a Home-Based Sanctuary

Learn about the first recorded Allen's Hummingbird in Maricopa County and how it was identified, how to distinguish

Work by The Pond Gnome

our hummers by age and gender, how to get Ross's, Snow, and Greater White-fronted geese on your yardbird list, and more from our own MAS Treasurer and photographer extraordinaire, Matt VanWallene.

Matt VanWallene, CPA, Rotterdam native, has a BS in Quantitative Systems and an MBA. He has resided in Arizona since 1971. An avid outdoorsman, he has hiked more than 500 miles in Arizona including rim-to-rim-to-rim in the Grand Canyon. He has been birding since 2008 and is most proud of his growing list of photographed yardbirds. See his photography at hollandwest.com

Juvenile Common Black Hawk. Photo by Matt VanWallene

November 3, 2015

Matthew K Chew
Invasive Species are Neither, and Why it Matters

By now almost everyone interested in conservation knows native species are good and introduced aliens are bad, and invasive species threaten biodiversity. But those statements and many ideas underlying them generate intense controversy among ecologists. This has begun to fracture the traditional consensus among environmentalists that the only good "alien" is a dead one. A leading critic of invasion biology and ecological nativism will challenge your understanding and beliefs about the role of humans in nature, and about which organisms belong where.

Matt Chew enjoys describing himself as "a birder gone horribly wrong." He left his position as Natural Resources Planner and Natural Areas Program Coordinator at Arizona State Parks to earn the first PhD awarded by ASU's Biology and Society program. He has published in the leading international scientific journals *Nature* and *Science*. He teaches the history of biology at ASU and recently completed a research fellowship at Oxford University. He and his wife, ASU plant ecologist Julie Stromberg, own a historic, irrigated farmstead in south Phoenix that has attracted at least 146 species of birds since 1998.

December 1, 2015

Jim Walters
Arizona's Native Fish: Fight for Survival

Arizona's native fish range from big river fish in the Colorado River to small fish in isolated springs. Most are threatened, endangered, or extinct. Jim Walters will provide an overview of Arizona's fish and the major threats to them. He will focus on the endangered humpback chub in the Little Colorado and Colorado Rivers. US Fish and Wildlife Service has been part of a long-term project monitoring populations in the Little Colorado River. Jim will highlight population trends, how populations are estimated, and some of the work with translocation of fish to other areas and tributaries within the Grand Canyon drainage. He will also touch on the restoration of Fossil Creek to a native fish stream and Apache trout restoration in the White Mountains.

Jim Walters, US Fish and Wildlife Service Fisheries Biologist since 2007, works primarily in the Little Colorado River with humpback chubs. He has also worked with other native fish throughout the state.

Humpback chub with hoop net

January 5, 2016

Tice Suplee
Shift Happens

Join Tice Supplee for a presentation of Audubon's seven-year study on how climate change is becoming the number one threat to North American birds and how it could affect the ranges of 588 species. Learn where potential habitat strongholds for birds are in our state and how you can make a difference for the future of our birds and for us.

Tice Supplee, Acting Executive Director, is Director for Bird Conservation for Audubon Arizona. She administers the Arizona Important Bird Areas program and provides technical support for Audubon Arizona policy and conservation work. Before joining Audubon, Tice served as the Game Branch Chief for the Arizona Game and Fish Department. She holds a BS in Wildlife Ecology from Cornell University and an MS in Wildlife Management from the University of Arizona. The Arizona Chapter of The Wildlife Society, the Arizona Game and Fish Commission, and the Arizona Wildlife Federation have recognized Tice for her contributions to conservation.

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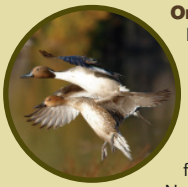
"Walk as if you are kissing the Earth with your feet."
Thich Nhat Hanh, Peace is Every Step

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.



On the Cover: Northern Pintail Pair
Focal length: 400 mm, 1/2500 sec, Sigma 150 x 500mm lens, F8, ISO 1600 Canon 7D Mark 2. Gilbert Riparian Preserve, February 25, 2015 by Denny Green.

Denny says: After two hours of waiting for a flying pair shot, I was ready to leave when I turned to get this image. You just never know with wildlife photography. In Maricopa County, you can see Northern Pintails from November until February. The best place to find these elegant ducks is Gilbert Riparian Reserve. The 2014 State of the Birds listed Northern Pintail as a "Common Bird in Steep Decline." This classification refers to birds that have lost more than half of their global population over the past four decades.

President's Message

by Mark Larson

Mark W. Larson

It is almost July so that means that it must be time to write my fall column to you, the members of Maricopa Audubon Society. By the time you read this, our temperatures will still be reaching 100 or so degrees each afternoon, but I hope not the 110 or 115 degrees we have been experiencing lately. This might be our most stressful season in the Sonoran Desert, but as they say, you don't have to shovel it!

In just a few days I will be attending the National Audubon Society's Biannual Convention. This year it is being held in Leesburg, Virginia close to where I spent many years growing up. My mission is to be your ambassador, letting as many people as possible know what we do and why we do it. I suppose I will meet many people who imagine Arizona to be a wasteland of barren desert and searing temperatures, unbearable to all but the most deranged and brain-addled. I will try to convince them that they would be wrong on both counts (except for the searing heat). On the contrary, our deserts and mountains have an astonishing diversity of life which we are so privileged to enjoy.

Another thing I hope to talk about at the NAS Convention is the new field trip leader training program which kicked off this spring. A continuing part of this program is the mentoring phase in which interested people take the course and then are mentored by experienced field trip leaders. There will be another training course next year in late winter/early spring, so I hope that any of you who are interested in leading field trips in the future will take advantage of the opportunity.

Later in this issue you will find some notes from our Conservation Chair, Mark Horlings, about issues of concern to us. Let me stress that we now have a Conservation Committee who already have their hands full of letters to write and proposed projects on which to comment. We always need more MAS members to step up to assist in our conservation efforts, so if you are willing to contribute some time please contact Mark.

This fall, Field Trip Chair Larry Langstaff has organized an array of intriguing field trips and Programs Chair Laurie Nessel has some fascinating programs lined up for our monthly meetings. Come out to participate, peruse the MAS bookstore, enjoy a cookie and a refreshing drink, and make some new friends.

Gillian Rice

Letter from the Editor

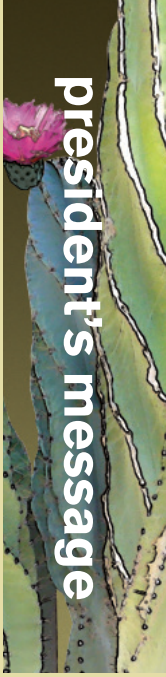
by Gillian Rice

"Nature holds out a hand. There are few who do not grasp it. There are secrets. There are few who do not want to penetrate some of them." – Freeman Tilden

What creatures first kindled your interest in nature? As children, my brother and I loved to search for newts and frogspawn in a nearby stream. On family camping holidays, we sat silent for long times in hides waiting for deer in England's New Forest. Enormous anthills awed us. At age 10 or 11, my parents gave me my first pair of binoculars and a bird book. Although I've never been one for keeping lists, I remember occasions on which I saw "life birds." One winter a distinctive rare Waxwing visited our garden. Years later, I delighted in watching a flock of its American cousins, Cedar Waxwings, in my Phoenix backyard.

My journey into nature continues. Dragonflies, butterflies, bees, spiders, lizards, and snakes fascinate me. Getting a pair of close-focus binoculars (Pentax PTX62216 8.5 X 21 mm Papilio) opened up a new world of insect life. I read about a diminutive crab spider that perches, well camouflaged, on creosote flowers lying in wait to capture insect pollinators. I have searched and searched on creosote for it, but in vain. One day, however, success, of a sort! I discovered a crab spider on a basil leaf in my vegetable garden.

Where is your nature journey taking you? What secrets might you discover with close-focus binoculars? What might you see inside a cactus flower?



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David Chorlton reflects on a poetry afternoon at Boyce Thompson Arboretum with friends. The few friends were almost outnumbered by the cardinals in attendance.

Reading to Cardinals

We're reading poetry to the cardinals
at the arboretum.
Between the lines, they sing
and hop

from branch to branch.
While our words rise
through the foliage
it's possible
they aren't concentrating

as intently as they could, especially
when one of us laments
an impending loss
to their habitat, but they are living
in a moment

filled with sunlight
in a season breaking
into blossom
and nothing around them looks as though
it could ever not be there;

they know only here
and experience now
what language describes
after it's gone.

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

Third Sundays, May-October (August 16, September 20, October 18)

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 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 May-September, 7:30 am October at 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

Thursday-Saturday, August 27-29

White Mountains

Leave early on Thursday morning, bird on the way to the White Mountains, check out multiple areas highlighted in Arizona Game and Fish Department's Wildlife Viewing Guide, and back by dinner on Saturday. Key sites: Tonto Creek Hatchery, Christopher Creek, Woodland Lake, Luna Lake, Nelson Reservoir, Greer area and Sipe White Mountain Wildlife Area. Expect warblers, tanagers, nuthatches, woodpeckers, and jays and waterfowl at the lakes. Difficulty: 2-3. This trip does not include strenuous hikes, but the elevations can top 9,000 feet. The estimated cost of about $270 will include lodging, meals, gas, and entry fees. Limit 8.
Leader: Kathe Anderson
kathe.coot@cox.net

Friday, September 11

Page Springs

Leave the Scottsdale area about 5:00 am to arrive at Page Springs about 7:00 am. Explore the fish hatchery area along Oak Creek and the woods at nearby Bubbling Ponds. This should still be a colorful time of year with summer residents such as Summer Tanager, grosbeaks, vireos, and kingbirds, and the hoped-for Common Black Hawk. Early lunch at nearby restaurant. Return to Scottsdale about 2:30 pm. Difficulty: 1. Easy, with plenty of walking. Limit 8.
Leader: Kathe Anderson
kathe.coot@cox.net

Saturday, October 10

South Mountain Park, Pima Canyon Wash

A local excursion to an often overlooked spot. A great place for beginners and even for seasoned birders. Expect three species of wrens: Cactus, Rock, and Canyon. Also thrashers, gnatcatchers, Anna's and Costa's hummingbirds, Loggerhead Shrike, sparrows, doves and several other species. Migrating warblers possible. An early start at 5:30 am might allow us to hear Common Poorwill and owls. We will take time to listen and identify birds by calls as well as get visuals when possible. Difficulty: 2. Easy, but note that the round trip hike will be four miles with some walking through the sandy wash and a few small rock ledges to step up. Finish mid to late morning. Sturdy hiking boots, plenty of water, snacks, binoculars, sunscreen, and hat highly recommended. Limit 8.
Leader: Gordon Karre, karhop1@msn.com

Friday, October 23

Jewel of the Creek (North of Cave Creek)

Start about 6:15 am in Scottsdale, and explore this exquisite migrant trap for about two to three hours, and wrap up near the coffee shop at El Pedregal. See common desert species, possible Great Horned Owl, warblers and flycatchers that might be straggling behind that day, and early winter residents that might have arrived on a nearby golf course pond. Finish by about 11:00 am. Difficulty: 2-3. Limit 8.
Leader: Kathe Anderson
kathe.coot@cox.net

Thursday-Friday, November 12-13

Rio Rico (near Nogales)

Two full days of birding in areas around Rio Rico, with a night at Esplendor Resort in Rio Rico, an unpretentious and comfortable spot with its own nature trail. Target destinations include the De Anza Trail around Tubac and Peña Blanca Lake in the Atascosa Mountains, with likely stops at Sweetwater Wetlands, the Coachline Gravel Pit, and along Ruby Road. Expect wintering waterfowl, sparrows, Red-naped Sapsucker, Bushtit, jays, nuthatches, and possible Montezuma Quail if we are extremely lucky. The estimated cost of about $150 will include lodging, meals, gas, and entry fees. Difficulty: 2-3. Limit 8.
Leader: Kathe Anderson
kathe.coot@cox.net

Friday, December 14

Fountain Hills Lake and Rio Verde Ranch

This trip should include a wide variety of winter waterfowl at the lake (usually including Eared Grebe, but when we're really lucky, perhaps Goldeneye, Hooded Merganser, and Western Grebe) before heading over to Rio Verde for an entirely different habitat which usually promises Ladder-backed Woodpecker, Bewick's Wren, and other desert and riparian species. Cedar Waxwings and American Robins are unusual there, but sparrows and Vermilion Flycatchers are not! Start at Fountain Hills about 7:00 am and end there about 11:00 am. Difficulty: 2. Limit 8.
Leader: Kathe Anderson
kathe.coot@cox.net

Visit the MAS website for field trip updates and possible additional trips. Also watch for updates in the e-newsletter.

Greater Roadrunner parent brings lizard to young. Photo by Michael Searcy

Sandy Bahr. Photo by Mark Coryell

Sandy Bahr Receives Award

At the MAS Annual Banquet on May 5, Sandy Bahr, Chapter Director for the Grand Canyon (Arizona) Chapter of the Sierra Club, received The Sixth Annual Herbert Spencer Fibel Memorial Award for Distinguished Service. A tireless advocate for conservation, Sandy has worked on environmental protection in Arizona for 27 years, both as volunteer and staff for various organizations. Her recent campaigns include helping to stop future uranium mining in the greater Grand Canyon region, helping to promote a strong energy efficiency standard and its implementation at the Arizona Corporation Commission, and seeking to strengthen the proposed Clean Power Plan to reduce carbon emissions from Arizona's power plants.

Court Ruling is Victory for Fossil Creek and Endangered Species

A federal court ruled on June 26, 2015 that cattle grazing in central Arizona's Fossil Creek watershed harms critical habitat of threatened frogs, in violation of the Endangered Species Act. The ruling resulted from a lawsuit filed by the Center for Biological Diversity in 2010.

"Fossil Creek is one of the Southwest's most biologically precious river reaches," said Jay Lininger, a senior scientist with the Center. "The ruling is a victory for this beautiful creek, native wildlife, and public investments made to recover them."

Grazing in stream corridors harms critical habitat of threatened Chiricahua leopard frogs by impeding their movement among breeding sites. Livestock "spend a disproportionate amount of their time in riparian zones," and grazing can eliminate vegetation cover as well as spread disease, according to the court ruling.

"This will help protect the last known population of Chiricahua leopard frogs on the Red Rock Ranger District," said Todd Tucci, a senior attorney at Advocates for the West who argued the case on behalf of the Center.

Chiricahua Leopard Frog. Photo © Shaula Hedwall

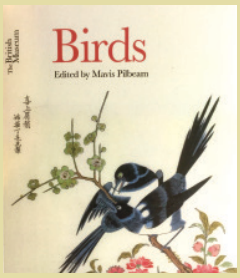
Listed as a "threatened" species in 2002 under the federal Endangered Species Act, the Chiricahua leopard frog needs a permanent source of water to reproduce. Fossil Creek, one of Arizona's rare perennial streams, and its 149 miles of tributary streams in surrounding uplands are ideal frog habitat. The frogs were once found in more than 400 sites in the Southwest, but livestock grazing, water diversions, and dams have destroyed more than 80 percent of their known habitat throughout their range, which reaches to Mexico.

Big Sit! Resurrected!

On October 11, 2015, after a year's hiatus, MAS friends will gather to count bird species seen from a 17' diameter circle at Granite Reef Recreation Area. Proceeds from the 19th Annual Katheryn F. Anderson Herbert S. Fibel Granite Reef Asterisks Big Sit! will benefit Apache Stronghold (www.apache-stronghold.com) and its efforts to save Oak Flat. To make a donation, mail a check payable to Maricopa Audubon Society (write Big Sit! in the memo line) to MAS treasurer Matt VanWallene (see back page). You can choose to donate any amount or you can pledge per species seen. For information, contact laurienessel@gmail.com.

Mary Rose Update

Technical difficulties and a rapidly closing safe weather window prevented Mary Rose's attempt to row across the Pacific this year. Undaunted, our intrepid MAS Secretary is already planning her 2016 effort to undertake the expedition to raise funds for bird conservation.



Poet's Success

A poem entitled "Turkey Vulture" by our very own MAS Poet Laureate, David Chorlton, features in *Birds*, a collection of poems and artwork edited by Mavis Pilbeam and published by The British Museum. It's exciting to see David's work alongside famous writers such as Robert Browning, John Clare, Thom Gunn, Thomas Hardy, and William Shakespeare. The book appeared in paperback this year and is available for purchase at Amazon.com. Walking in nature can have meditative effects. When that's not possible, sitting in a favorite armchair reading the poems in *Birds* and absorbing the details of the bird art can have similar calming effects.

Are you a Friend?

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

Great Horned Owls Nest by Freeway

By Jasper Robinson

Several months ago on a MAS field trip, Laurie Nessel pointed out an abandoned Red-tailed Hawk nest. After one of the hatchlings fell out onto the freeway, the parents abandoned the nest, which is located on top of a freeway exit sign on the US 60. As we drove by on the way to the field trip, we noticed a Great Horned Owl sitting in the nest.

Two months later, I was driving past the same part of the freeway and I looked for the nest, hoping to see another owl sitting in it. Much to my surprise, I spotted four Great Horned Owlets inside the nest. I pulled over excitedly, camera in hand, and began snapping pictures through the car window (as I was afraid of getting out of the car while on the freeway). It was amazing to see four of them, playful with each other, so charming as they seemed to pose for the camera. I had never seen such an adorable sight, and I was grateful to see that the owlets were healthy and successful, given the dangerous location of the nest.

Great Horned Owls. Photo by Jasper Robinson

Summer Patio Thoughts

By Melinda Louise

Close-up of tiny, waxy creosote leaves. Photo by Gillian Rice

It's 110 degrees on the patio today–in the shade. Summer in the Sonoran Desert. It's a unique experience. What a joy it is to watch the birds, observing how they make it through their day dealing with the heat: how they use the shady side of the bird feeder; how they open their mouths to cool themselves; and how they take advantage of water when it's available. I'm happy we can give them shade, shelter, and water to help them make it through their summer here in our garden.

Technically, as I write, we're in our "first"–or dry–summer, but we'll be making our way–starting this week with the consistently hotter weather (it's supposed to be 115 tomorrow) into our "wet summer." The "Monsoon Season." It's always what I love about our summers here–the weather is dramatic at times and the clouds are splendid. Once the rains of our "second"–or wet–summer come, it always amazes me how quickly the plants respond to the rains and more moist air.

They've evolved ingenious ways to hold on to that water too. Small leaves. Shallow roots. They even have these wonderful additional ways of holding onto that so-important water by having a coating on that small leaf, like the creosote bush–one of my favorites. They even have "rain roots" that can come out within a matter of hours after a good rain. They're ever so ready to soak up that rain–whenever they can get it, and put it to good use.

And did you know desert plants can "hold their breath" during the hot days of summer? The process is CAM, an acronym for long words describing how some plants do their photosynthesis (make food) and transpiration (breathe) at night when temperatures fall and less water loss occurs. How cool is that?

Okay, so we turn into these little moles in the summer. And start our days at 4:00 am and end by noon. I still love living in this incredible Sonoran Desert. Even if it is 110 in the shade today. When it cools down again, all the little moles come out to play and everyone exclaims: "Now 'THIS!!' is why we live here!" I love this place!

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.

TRES RIOS in Spring

By Mary Martin

If you enjoy birds, but just hate to crawl out of bed at an early hour so you can reach a birding site at dawn, I would like to share a wonderful birding experience to see whether it will inspire you to set that alarm and get out the door. It is an account of a four-hour trip offered by Kathe Anderson to Tres Rios on April 18th.

Tres Rios was beautiful and colorful with the palo verde bloom and verdant new leaves, backed up by the purple majesty of the Estrella Mountains, moving, swirling water and magical serene ponds, and a sky absolutely musical with hundreds of Red-winged Blackbirds displaying their radiant red, red, glowing red wing patches (a territorial thing.)

Don't even get me started (oops, too late) on the Black-bellied Whistling-Duck; or the formation of Great Egrets performing majestic flight movements over our heads in the golden morning sun; or the White-faced Ibis flocks of 25-30 birds circling; or the blackbird murmurations swirling in the dawning sky; or the Yellow-headed Blackbirds; or the White Pelicans gliding one behind the other on unseen air currents; or the Common Gallinules, some of which were showing us their old-fashioned tube socks with the orange band at the top; or the Sora I saw fly across a small pond, land, and glance back then disappear into the reeds, following the pattern set by a Least Bittern, just moments earlier at a different pond; or the Cooper's Hawk fly-over that brought instantaneous silence from all, even the eight of us!

The finishing touch came when we were contemplating why, at this nesting time of year, the Great Blue Heron rookery (a huge cottonwood, containing eight nests which normally are reused) was totally empty ----then we spotted a Great Horned Owl sitting in one of the nests with at least one baby. She could have had more, but one little fuzzy head was easy to see from our angle.

I checked off 46 different species of birds, plus a healthy looking coyote (who almost ran into us, so focused was he on obtaining breakfast) and three muskrats swimming quietly, each in a separate reed-surrounded pond.

I could go on forever regarding this magical trip, but you will miss it if you don't get to bed early and head out early in the morning. Grab some friends and go, don't wait!

Our adventure was in April but the leader astounded us all by saying, "If you think this place is great today, you should see it in the winter." I will. See you there.

To get the required free permit by mail (allow 5-7 business days), maps, and more information for Tres Rios, go to: https://www.phoenix.gov/waterservices/tresrios

Desert Ecstasy

By Jacklyn Anderson

An essay inspired by Rumi's words: And don't think the garden loses its ecstasy in winter. It's quiet, but the roots are down there riotous.

And don't think the desert loses its ecstasy in summer. It's quiet, but the roots are down there waiting.

In the summer the desert appears to be asleep. But in the early morning the birds are awake. With the first rays of sun the Cactus Wren starts his engine and the thrasher toots his horn. The flycatcher's shrill whistle signals that it's time to get up, because morning is the best time for desert dwellers. In just a few hours it will be noon and time for them to claim a shady spot for a long afternoon siesta.

Black-tailed Jackrabbit. Photo by Jacklyn Anderson

In the evening the birds and other creatures venture out again. Rabbits and squirrels timidly search for food in the underbrush. Flocks of nighthawks dart through the neighborhoods catching flying insects. Later that night owls will hoot back and forth to each other, telling each other about their latest mouse catch.

Meanwhile the waiting roots of desert plants patiently crouch, not quite asleep, not quite awake. They hold this position for days and weeks, and even months until the monsoon pounds the soil and shakes them awake.

Suddenly they grow; in hours they have grown longer searching for moisture. They must soak it up rapidly because quickly the storm will end, the water will be gone and the roots must rest again.

No, don't think the desert loses its ecstasy in the summer. It's quiet, but just below the ground the roots are waiting.

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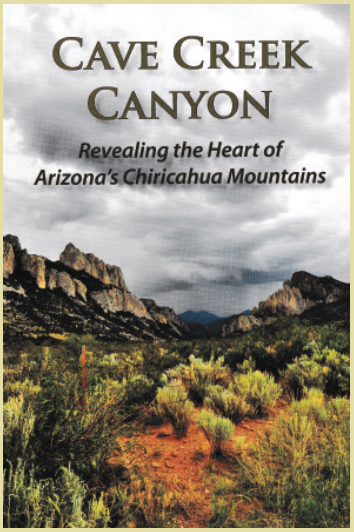
facebook.com/MaricopaAudubonSociety

Book Review

By David Chorlton



Cave Creek Canyon: Revealing the Heart of Arizona's Chiricahua Mountains. Edited by Wynne Brown & Reed Peters. ECO Wear and Publishing, 2014, 274 pp., $19.95 paperback, $49.95 hard cover.

Who better to write about a place than the people who live there, especially when they share such affection for it and are so qualified scientifically. The Friends of Cave Creek Canyon have compiled an ideal introduction to the Chiricahua Mountains, comprising chapters on subjects from geology through bats, birds, and frogs, to the history of early peoples.

Many local residents moved to the area after a scientific career, including Mel Moe, a retired wildlife geologist (Mammals), while Helen (Raptors) and Noel (Extirpations and Introductions) Snyder moved there in 1986, years after a National Geographic grant gave them the opportunity to study Cooper's Hawks. Looking at the region's history, the Paradise Reminiscences chapter is by Winston Lewis, with deep family roots in the Chiricahuas. To anyone who has stopped at the George Walker House to watch birds, those pages describe what Paradise used to be when bordellos lined Turkey Creek and today's quiet street was a busy row of stores and hotels.

Janet Tyburec writes about the twenty-some species of bats found in the mountains, Diana Hadley (of the Northern Jaguar Project) and Peter Warshall evoke memories of the jaguar in the Chiricahuas, and Richard Cachor Taylor, author of a book on the trogon, writes about the Elegant Trogon that draws so many to Cave Creek Canyon.

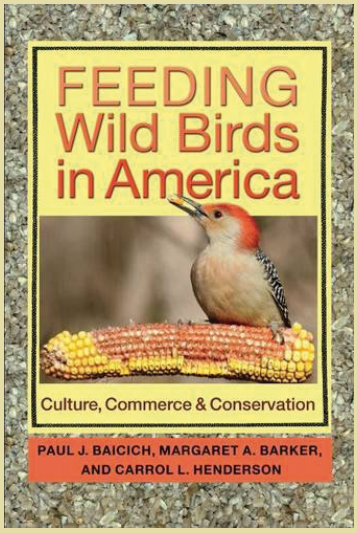
The forty-five chapters give anyone preparing to visit a great preview of what they will find and why it is there. For those of us who have visited the Chiricahuas many times, the book allows us to look back at much of what we have missed, all the way to the ants that are so industrious.

For more information: www.friendsofcavecreekcanyon.org

All profits from sale of the books go to Friends of Cave Creek Canyon. Purchase from Cave Creek Ranch, the Chiricahua Gallery, the Chiricahua Desert Museum, or Amazon.com.

Book Review

By Mark W. Larson



Feeding Wild Birds in America: Culture, Commerce & Conservation. By Paul J. Baicich, Margaret A. Barker, & Carrol L. Henderson. Texas A & M University Press, 2015, 306 pp., $27.95 paperback.

Rarely does a book come across my desk that contains numerous references to the work of a close associate of mine. This new book, however, takes me back to my college days when I worked for one of the most influential researchers in the bird feeding industry, Aelred D. Geis.

About to finish my sophomore year, I had a summer job in the Virginia Governor's Office. Then, suddenly, I didn't. I was beginning to feel the despair of upset plans coming over me when I received a call asking whether I would like to spend the summer counting birds!

The caller was Al Geis, a wildlife biologist for the US Fish and Wildlife Service at Patuxent, Maryland. He was engaged in a multi-year study of the effects of development on birds. His study area, the new town of Columbia, MD, was being built from scratch on 14,000 acres of former farmland and recovering forest in Howard County, halfway between Washington and Baltimore.

Al Geis had developed a modified bird survey method to suit urban and suburban situations and he needed someone proficient in bird identification–especially by ear– to run surveys in Columbia that summer. My ornithology professor at Virginia Tech had recommended me.

Geis must have thought that I did a good job because he asked me to assist on other projects in subsequent years. One project evaluated the efficacy of various bird foods. Volunteers across the country recorded data on forms supplied by Geis about which species of birds used which seed types over a period of months.

Geis analyzed the volumes of data received from his volunteers and determined that birds especially preferred one seed: black oil sunflower seed. At the time, only gray stripe sunflower seed was readily available, but small birds

found that larger, harder seed difficult to open and use. Black oil sunflower seed, however, was smaller with a thin, easy to open shell and its high oil content provided the calories birds needed, particularly in winter. He also noted the tremendous utility of Nyjer seed, another less well-known preferred food for bird feeding.

The bird feeding industry responded to these findings. Now, black oil sunflower and Nyjer seed are available in almost any grocery store's pet food isle.

Feeding Wild Birds in America is not a guide to feeding wild birds. Instead, it is a history of bird feeding, beginning more or less with Henry David Thoreau in the mid-1800s and leading to the present. The authors describe, for example, the experiments of Aldo Leopold and one of his graduate students, Art Hawkins, on the food preferences of game birds, research that influenced later studies, including those of Geis, on songbird seed preferences.

Evening with an Author

Join us on Tuesday November 10, 7:00 pm, at our meeting place, Papago Buttes Church of the Brethren, for a special evening with *Feeding Wild Birds* co-author, Paul Baicich. Enjoy refreshments followed by a presentation and discussion about the history of bird feeding in America. Follow the MAS Facebook page and check out the website and e-newsletter for further details.

The book is well illustrated with black-and-white and color photographs, old advertisements for feeders, and just a few tables. This is not a dry treatise on the history of bird feeding. Rather, the well written and entertaining text delves into the personalities behind some of the breakthroughs in bird feeding, noting, for example, that "Al Geis was both highly inquisitive and firmly convinced of his own correctness. He could be thoughtful when interacting with colleagues, yet have a 'take no prisoners' attitude at public meetings." I can attest to the veracity of this statement.

Baicich, Barker, and Henderson use the history of bird feeding as an analog to trace the rise of environmental awareness in the country. This alone is a valuable contribution to the literature of birds and birding in America. I heartily recommend this volume to all those who enjoy feeding birds and wish to know more about how it came to be one of the Nation's most widely enjoyed backyard activities.

Conservation Update

By Mark Horlings

Zone-tailed Hawk at Oak Flat.
Photo by Matt VanWallene

Resolution Copper Mine: At its Board meeting June 16, the Board granted $20,000 to support the Arizona Mining Reform Coalition (AMRC) for six months. Roger Featherstone, who heads AMRC, has coordinated environmental opposition to the land exchange for several years, working with the San Carlos Apaches and other tribes. As *Wren•dition* readers know, mine supporters, including Arizona's US senators, slipped a provision authorizing the land exchange into the 2014 Defense Authorization Act.

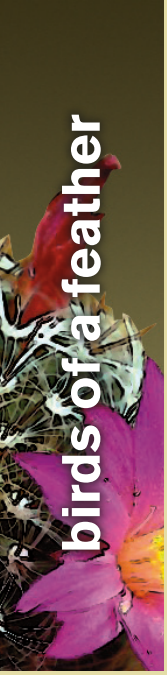
The grant will allow AMRC to review the proposed scope of work to be included in the environmental impact statement and to focus public attention on the damage the mine threatens to Oak Flat and the portion of the Tonto National Forest slated to be buried under its tailings pile.

Benson Housing Development: In 2006, the Corps of Engineers issued a Clean Water Act permit allowing construction of a major housing development near Benson. The housing crash and 2008 recession ended these plans.

Now, however, a new developer seeks to use the 2006 permit, expanding the project from 20,000 to 27,000 housing units. The project would grow from 8000 to 12,000 acres. Groundwater and the San Pedro River would be affected. Unfortunately, groundwater studies commissioned to determine the impact were canceled after the Arizona Department of Water Resources' budget was cut by fifty percent.

Tucson Audubon Society has petitioned the Corps of Engineers to reopen the matter based on changed circumstances, new evidence of environmental damage, and the need to complete groundwater modeling. A May meeting in Phoenix of the eight local chapters resulted in letters supporting TAS's petition from Audubon Arizona, MAS, and most other chapters.

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



Birds of a Feather

By Daniela Siroky

This summer the Gallery at the Tempe Center for the Arts (TCA) is celebrating Arizona birds, both local and migratory.

The initial idea for the exhibition, Birds of a Feather, was already in place when the TCA's Gallery curator Michelle Dock met Seattle art teacher and ceramic artist Hanna Salia at the 2014 National Art Education Association convention in San Diego. Hanna presented a field guide project developed for and with her students. Hanna and a science teacher talked about how students studied birds and plant species in the Seattle area. Based on the research they did for their field guide, Hanna's students made beautiful ceramic panels.

Michelle thought the field guide idea was perfect for the upcoming bird exhibition and discussed it with ASU faculty member, Mary Erickson, a nationally recognized art educator. Mary, the TCA's curriculum developer, contacted Pat Burdette, the Fine Arts Coordinator at Tempe Elementary District. They formed a partnership and brought together bird loving teachers and students from Arizona and Washington.

Lindsey Anderson's fourth grade class at Rover Elementary School in Tempe was planning to study plants and animals of this area during social study. A curriculum was developed and the children looked at works by local artist Jake Early. Jake's striking art fills a wall of the Gallery's exhibition.

Tempe students researched local ecology, wrote about plants and birds, and created drawings and ceramic tiles. During the project, students sent information about southwest birds to Hannah Salia's students at St. Thomas School in Medina, WA, who in exchange shared projects inspired by Washington artist Jack DeLap, about birds of the Pacific northwest. Both teachers felt the joint project was so successful that they will repeat the effort next school year.

"Birds of a Feather appeals to nature lovers, teachers, artists, parents, and children."

The Gallery at TCA provides teachers and parents with several easy-to-use lesson plans for enhancing the art experiences of elementary and secondary school students. Mary Erickson and local Arizona art teachers designed each of the units in conjunction with a Gallery at TCA exhibition. For details, see http://www.tempe.gov/city-hall/community-services/tempe-center-for-the-arts/gallery-at-tca/education

Pierre Deviche of ASU School of Life Sciences guided the creation of a special exhibition feature. This depicts six birds (Sandhill Crane, Gambel's Quail, Anna's Hummingbird, Great Blue Heron, Cactus Wren, and Northern Cardinal) with a panel of fun facts about them, including a map of where they live and what's unique about them. For example, the Great Blue Heron in the picture is shown next to a person to emphasize how big the bird actually is. By pressing a button you can hear each bird call. ASU's Ask a Biologist program also provided information. (Visit www.askabiologist.com).

ASU School of Life Sciences has loaned the Gallery an enchanting hummingbird display: a little tree upon which various stuffed hummingbird species perch. Faculty member Kevin McGraw helped develop an educational panel about hummingbird mating behavior related to feathers and coloration.

In addition to the exhibition, the Gallery has programs such as children's art workshops on Saturdays during the summer. They are called Art and Science workshops because of the science element in nature. Ann Peyton, a painter (her Great Blue Heron painting in the exhibition is stunning) and volunteer and birds of prey handler at Liberty Wildlife, will be holding adult workshops as well as children's programs. Curator Michelle Dock and her staff will lead art projects related to birds. Michelle will teach how to make milk carton bird-houses.

MAS is one of the exhibition supporters and, as part of the Lifelong Learning Speaker Series to accompany the exhibition, MAS President Mark Larson gave a presentation on the beauty and diversity of Maricopa County's birdlife.

Birds of a Feather appeals to nature lovers, teachers, artists, parents, and children. It includes something for everyone. The intimate, friendly exhibition presents different art forms such as painting, photography, ceramics, and sculpture. In addition to works by local and internationally renowned artists, the exhibition includes art by sixteen students from Washington state and the students of the fourth grade class at Tempe's Rover Elementary School.

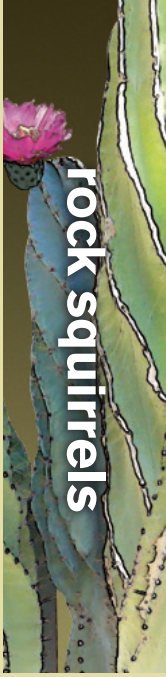
A chance meeting and much work both in the classroom and outside have produced a wonderful exhibit as well as an art and science curriculum. You still have time to enjoy Birds of a Feather. The exhibition runs through September 19. Admission is free. For more information, check the MAS Facebook page (https://www.facebook.com/MaricopaAudubonSociety) or go to http://www.tempe.gov/city-hall/community-services/tempe-center-for-the-arts/gallery-at-tca

Children's ceramic tiles. Photo by Daniela Siroky

Daniela Siroky is a software engineer, botanical illustrator, quilter, and birder wannabe.

Plant It And They Will Come: Rock Squirrels Move To Town

By Tom Gatz



Like birds and other animals, rodents, such as the rock squirrel (*Spermophilus variegatus*), also respond to changes in their environments and increase or decrease accordingly. Once unseen here, rock squirrel sightings in the Phoenix Metro area are common. What "drives" a species to move in to new neighborhoods?

Former director of horticulture at the Desert Botanical Garden (DBG), Cathy Babcock, for instance, saw none at the Garden back in 1989; former DBG horticulturist Kirti Mathura first spotted one burrowing under the Sansevierias near the Garden Cafe in 1994. Now these bushy-tailed and sometimes meddlesome Garden residents enthusiastically burrow under plants and exhibits.

My wife Barb and I first noticed them in our north Phoenix neighborhood about 15 years ago after living here for 26 years; now they are common breeders here. About 10 years ago I even began seeing them where I used to work at the US Fish and Wildlife Service office near I-17 and Northern Avenue, far from any native habitat. David Pearson at the School of Life Sciences at ASU saw the first one in his Tempe neighborhood in recent years after living there for 22 years. DBG volunteer Sidney Allen lived squirrel-free for over 40 years in her house just north of Papago Park before rock squirrels showed up about five years ago.

This rock squirrel is apparently adjusting well to city life as it appears to be practicing its driving skills on DBG Gardener Joan Boriqua's cart. Photo by Karleen Ashby.

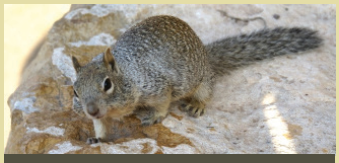
Just as rock squirrels abound, so do explanations for their ubiquitous appearances in Phoenix. Previously they were found mainly in rocky habitat, often near riparian areas. Scott Frische, the horticultural director for the Phoenix Zoo, speculates that perhaps the irrigation and landscaping associated with housing development in the formerly expansive dry zone between our few remaining flowing rivers or rocky habitats provides food and water. The suburban landscape creates corridors that allow these omnivorous rodents to make their way into town. Once they got here, Darren Julian, urban wildlife biologist with Arizona Game and Fish Department, suggests that bird feeders likely play a big part in keeping them around.

Rock squirrels are members of the ground squirrel family but this one apparently didn't get the memo and has climbed into a window at the DBG to get a drink. They also readily climb trees to feed on tender, new growth in the spring.

John Koprowski, known as "Mr. Squirrel," at the University of Arizona told me that rock squirrels are now common in Tucson, a city with lots of desert landscaping. He said rock squirrels prefer to feed on large seeds such as mesquite beans and oak acorns. (One researcher found 62 Gambel's Oak acorns in the cheek pouches of a single rock squirrel!) At two locations where I observed rock squirrels in Phoenix I noticed fairly recently established non-native oaks with acorns. Lots of oaks and other nut, fruit, and leguminous seed trees grow on the ASU Tempe campus where researcher Matt Chew has observed rock squirrels since at least 2001.

When they published *Landscape Plants for Dry Regions* 15 years ago, Warren Jones and Charles Sacamano noted that: "A few years ago oaks were a rare occurrence here but have become very popular as a street and avenue planting in the Southwest." Tucson nurseries sold Live Oak in the late 1980s. In the 1990s in the Phoenix area, nurseries sold it as as a substitute for fruiting mulberry and olive trees banned by municipalities' pollen abatement strategies. Oaks mean acorns mean squirrels (duh). I wonder if Acorn Woodpeckers might eventually establish themselves here. This year, eBird records show numerous sightings in the Phoenix Metro area, especially on the ASU Tempe campus.

As an interesting aside, experiments with tethered gopher snakes and rattlesnakes in New Mexico (imagine being that graduate student) have shown differences in behavior in rock squirrels that live in the wild versus those that live in town. Adult rock squirrels have some resistance to rattlesnake venom, but it still must hurt. Savvy country rock squirrels have learned to distinguish between venomous and non-venomous snakes and confront the venomous snakes more cautiously. The citified rock squirrels in Las Cruces, in contrast, rarely if ever encounter a rattlesnake, and have apparently quickly lost some of their street-smarts and treat all snakes the same. Once they chase the snake away, rock squirrels in both populations rub soil on their bodies from where the snakes were coiled. No one is sure why this is done. Perhaps the snake scent wards off snakes and other predators attempting to enter their dens or maybe it intimidates other squirrel rivals? Sounds like a great project for a future grad student.



Rock squirrels are omnivores, meaning they eat both plants and animals. They are even known to hunt and kill small birds and other animals.

Thanks to researchers Andrew Salywon at the DBG for helping me track down this amazing information about rock squirrel behavior and Andrew Smith at ASU for alerting me to the presence of rock squirrels in the Tempe area.

Tom Gatz has been a MAS member since 1981.

(An earlier version of this article appeared in *Gatherings*, the newsletter for volunteers at the Desert Botanical Garden)

Reference

Clucas, B., Rowe, M.P., Owings, D.H. and Arrowoods, P.C. 2008. Snake scent application in ground squirrels, Spermophilus spp.: a novel form of antipredator behavior? *Animal Behavior*, 75, 299-307. Accessed online at http://www.shsu.edu/bio_www/documents/rowe/Clucas%20Rowe%20Owings%20Arrowood%20SSA%20%20'08%20AB.pdf

Monitoring the Endangered Humpback Chub *(Gila cypha)* in the Little Colorado River

By Tom Danielsen

Photo by George Andrejko, Arizona Game and Fish Department. Used with permission of US Geological Survey, Department of the Interior.

When Major John Wesley Powell made his first expedition through the Grand Canyon, the Colorado River was wild and unimpeded by dams. Colorado, Wyoming, Utah, and Arizona were territories when the Powell expedition navigated the mud-colored Colorado River in summer 1869. Abundant native species of large fish, including the humpback chub, were adapted to the summer's warm and muddy waters of the Colorado River. In 1963 the Glen Canyon Dam changed everything. Now the Colorado River flows clear and cold year-round.

The humpback chub requires a water temperature of at least 60.8 F to reproduce. The Glen Canyon Dam captures over 90 percent of the sediments that once flowed through the Grand Canyon and releases cold water at an average 47 F. These two changes to the Colorado River water favor introduced non-native fish like brown trout and rainbow trout to the detriment of native species such as the humpback chub. Trout and other non-native fish also prey upon the native Colorado River fish. Besides being predators of humpback chub, the non-natives compete for food.

Because of declining numbers, the US Fish and Wildlife Service listed the humpback chub as endangered in 1967 and gave it full protection under the Endangered Species Act of 1973. The largest known population of humpback chub is primarily at the confluence of the Colorado and Little Colorado Rivers. The US Geological Service, US Fish and Wildlife Service, US National Park Service and Arizona Game and Fish Department are involved in various aspects of monitoring the humpback chub in the Little Colorado River with the goal of averting extinction.

US Fish and Wildlife Service (USFWS) scientists have been studying this humpback chub population for over twenty years. The main spawning area for the Grand Canyon humpback chub population is the lower sections of the Little Colorado River near the confluence with the Colorado River. The warmer Little Colorado River allows the humpback chubs to spawn.

Little Colorado River Gorge. Jim Walters (L) and Dennis Stone (R) going upstream to attend hoop nets for monitoring the humpback chub catch. Chute Camp. Photo by Tom Danielsen.

As a volunteer last May, I joined USFWS fisheries biologists Jim Walters and Dennis Stone to monitor the humpback chub along a section of the Little Colorado River. We flew in through the spectacular Little Colorado River gorge by helicopter to Chute Camp, 9.7 miles from the confluence with the Colorado River. Three other monitoring teams, each with a section of the river to monitor, were downstream from the Chute section. These three sections were monitored in April and then in May. Scientists will monitor those sections again twice in the fall. The Chute section is monitored only once a year. This has been the pattern for a long time; the research involves dedicated fisheries biologists, logistical staff, and volunteers.

The monitoring protocol at the Chute section required the deploying of twenty or more baited hoop nets, which were set one day and retrieved the next. We scanned electronically each caught humpback chub to determine if it had a special subcutaneous tag called a passive integrated transponder tag or PIT-tag. We PIT-tagged any untagged fish. Every

Jim Walters (L) and Dennis Stone (R) gathering and recording data from a hoop net humpback chub catch. Chute Camp. Photo by Tom Danielsen.

tagged fish has a unique sequence of numbers and letters that distinguishes it from every other fish. I helped by reading each electronically tagged fish's number so that its data could be recorded: its length, sex, and if it was ready to spawn. The chub would then be released. Some humpback chub may live thirty years so future recapture is possible. After three days of monitoring, the operation moved to another area of the assigned section.

Dennis Stone and Jim Walters had to frequently cross the river to deploy and retrieve nets. The nets also captured speckled dace, which are a small native fish. We recorded their total number per net. When the river is turbid, the researchers cannot see rocks, deep holes, and other objects that could injure them as they traverse the river. Almost every net had to be set in deep holes that required chest or neck-high wading, and sometimes swimming. Dedicated to this important research, they worked long hours uncomplaining.

In recent years, researchers have implemented recovery efforts in the Grand Canyon to establish populations of humpback chub at Shinumo Creek, Havasu Creek, and at Chute Camp, which is also referred to as Translocation Camp. PIT-tagged fish have been translocated to all three places by helicopter. A little over a mile downriver from Chute Camp, the incredibly beautiful Chute Falls acts as a barrier for most fish swimming upstream. Interestingly, our monitoring above Chute Falls captured small untagged humpback chubs. Dennis Stone thinks that this may

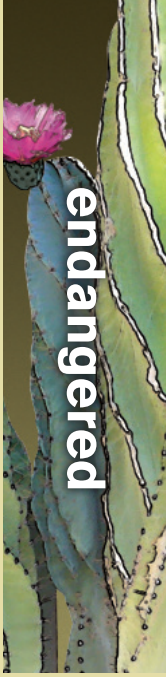
Jim Walters retrieving a hoop net for monitoring the humpback chub catch. Chute Camp. Photo by Tom Danielsen.

indicate spawning in this translocation area. If so, it gives a little more protection to this endangered species.

Downstream from us, other USFWS fisheries biologists captured hundreds of very small humpback chub to send to the Dexter National Fish Hatchery and Technology Center in New Mexico. The young fish will add to the genetic diversity of the humpback chub raised there and further protect this vulnerable species. The Dexter facility maintains a humpback chub population in case a disaster occurs to the remaining Colorado River populations.

The razorback sucker, bony-tailed chub, Colorado pikeminnow and the humpback chub lived and thrived in the Colorado River at the time of Major Powell's 1869 expedition down the river. Reports from that time show all four species abundant in the Colorado River Basin. Now all are listed as endangered.

Because our native fish are not easily seen, they are rarely thought of or simply dismissed as unimportant. The humpback chub continues the struggle to survive the



Chute Falls, and travertine dams, Little Colorado River Gorge. Photo by Tom Danielsen

extremely altered Colorado River and teeters on the edge of extinction. My experience as a volunteer for monitoring the humpback chub makes me more concerned about their future. The Grand Canyon of the Colorado River is part of our heritage and so is the humpback chub. Dennis Stone, Jim Walters and other members of the US Fish and Wildlife Service are committed to preventing the loss of this part of our heritage.

Tom Danielsen, a member of the MAS Conservation Committee, taught biology at Phoenix College for 34 years until he retired in 2001. He is a professional landscape photographer. His images have appeared in magazines, books and calendars.

Learn more about Arizona's Native Fish!
On December 1, Jim Walters US Fish and Wildlife Service Fisheries Biologist will give a presentation to the MAS Membership.
See page 2 for details.

You've Come A Long Way, Birder… Maricopa Audubon Members Participate In A Test Flight Of The Latest In Birding Technology

By Vicki Hire

As a young girl, I used to sit and turn page after page staring into my stepfather's bird reference book fascinated by all the beautiful detailed drawings of hundreds of birds. I wonder what he would have thought about how we bird today with "Here an app, there an app, everywhere an APP APP!"

In those days, birders carried binoculars and field guides, pencils, and note pads. If you were lucky enough to afford a 35mm camera, you just might have been able to get an ID shot only to have to wait until the film was developed days later to find out if you got the bird.

Jasper Robinson testing the iBird app at Higley Ponds

Today, with digital cameras, iPhones, iPads, and Androids, there's no waiting. It's instant rare bird alerts, instant identification, instant photos, instant sharing, instant record keeping!

With all the technology available to assist today's birder, it can be a bit overwhelming for both experienced and new birders to choose which application fits their needs. So when a representative from iBird offered to let four Maricopa Audubon members test their latest iBird Journal this past spring, we chirped at the opportunity!

Almost immediately four enthusiastic volunteers from MAS with varying degrees of birding experience, were eager to participate: Jasper Robinson, an ASU graduate student; Larry Langstaff, a retired science teacher and MAS Field Trip Chair; Cole Williams, a high school senior assisted by his sister Victoria; and myself, an accountant and MAS Publicity Chair.

iBird Journal App Icon reproduced with permission

Volunteers obtained a test version of iBird Journal to download to their iPhone or iPad. To complement the test version of the iBird Journal, each tester also received a free download of the latest iBird Ultimate for North America application, to keep, as well as to use for field identification while testing the companion iBird Journal.

For those birders not savvy about the latest birding technology available, the iBird Journal is the electronic version of a pencil and notepad that allows you to create checklists of bird sightings, while the iBird Ultimate is the electronic version of a field guide, only a lot lighter and containing even more information as well as digital bird photos.

Our MAS volunteers were diligent in their testing over a 30-day period, and were thorough in providing honest and valuable feedback to the developer. They also answered a series of questions for the *Wren•dition*, so that readers who have not yet taken their fledgling flight into the world of birding technology might get a glimpse of the usefulness and efficiency these apps can provide.

"We used the Birds Around Me (BAM) feature the most," said Victoria, who assisted her older brother Cole with testing the iBird Journal. If you're new to birding, this feature is definitely a plus. BAM uses the GPS on your phone or iPad to list the birds within a specified radius during a specified season. "I think it [BAM] would be valuable for visitors arriving in a new area with habitats and bird lists that were different from what they are used to," added Larry Langstaff.

Although electronic birding applications eliminate the need to carry around a field guide, pen and pencil, apps can sometimes be difficult to use in the field. Experienced birder Larry Langstaff was used to jotting down the four-letter American Birding Association (ABA) code on a 2x4 notepad to record his sightings. "I can't imagine carrying the app with me and stopping to enter sightings in the middle of a birdwalk, " he commented. However, for the new birder who has not memorized all the species of birds and their corresponding ABA codes, using the latest birding technology applications provides excellent resources right in the field to assist in developing identification skills.

"Using the iBird Journal to record bird sightings at home was fine, but in the field it would have been nice to have a page to quickly jot down details at the same time as logging the bird sighting," commented high school student Cole, but added "iBird Ultimate was extremely helpful and also fun to use."

"iBird Ultimate was helpful when I was in the field and needed to try to identify between species like the Rufous-crowned Sparrow

All photos by Vicki Hire

High school students Cole and Victoria Williams testing the iBird Journal on their iPad

and the juvenile White-crowned Sparrow. It was a quick reference and was helpful not to have to carry extra field guides with me," explained Jasper.

"Sometimes I recorded my observations at home, and other times I used the iBird Journal while in the field," she continued. "In the field it was great to not have to carry around a notebook and pencil to record the birds I saw. I liked how the app allowed you to both keep lists of birds you had seen that day, as well as had a GPS feature where you could track where you had seen the birds."

"I liked how the app allowed you to both keep lists of birds you had seen that day, as well as had a GPS feature where you could track where you had seen the birds."

One feature I found particularly useful was the ability to export my checklist and recorded data such as the weather and GPS location for each sighting. I was then able to save the information to my computer, email it to a friend, and even upload the data to the eBird website for record keeping. That there are no limits to the checklists you can create is also beneficial and has the potential for providing historical value to birders and scientists everywhere.

Other excellent features of this birding app include the rare bird alert, the ability to organize your lists and add a unique icon to identify each list, and the capability to attach your own photos to your lists.

Yes, with constantly improving technology, we've come a long way birders, in our quest to log and track our bird sightings, to share our observations, and to increase our understanding of the birds and their habits. I'm sure my stepfather would have approved and embraced the technological advances we've made in the birding world!

Read more of the testers' feedback regarding the iBird Journal and information on other birding applications on our Facebook page at:
www.Facebook/MaricopaAudubonSociety.com

Cole Williams testing the iBird Journal application at the San Tan Mountain area

Thank you to the Mitch Waite Group and Fraser Brooks for providing the free iBird applications and allowing us to test them in a quest to improve their product! A special thanks to the MAS birders who devoted their time and efforts to share their experience with iBird and our readers.

The iBird Journal was developed by the Mitch Waite Group and is designed to help you keep your bird lists, whether it's your yard list, life list, trip list, or a Christmas Bird Count (CBC) list. It features capabilities such as **BACKUP** –never worry about losing your data; **EXPORT** – 3 ways to export, through email, to a Dropbox account, or as an eBird compatible CSV file; **CHECKLISTS** – including bird outings, reporting, and bird counts like the CBC and Great Backyard Bird Count; **SHARING** – email, Facebook, Twitter; **REPORTING** – analyze where, when, and how often a species is sighted.

In addition to iBird Ultimate and its companion iBird Journal, there are many developers/publishers of birding applications for iPhones, iPads, and Androids such as:

- The Sibley eGuide to the Birds of North America - $19.99. Allows you to compare two species on the same screen.
- National Geographic Birds: Field Guide to North America - $9.99. Includes most number of species of any app.
- Peterson Birds – A Field Guide to Birds of North America - $14.99. Incorporates information from seven bird books in the Peterson field series.
- Birdseye – various apps available.
- Audubon Birds Pro by the National Audubon Society - $9.99. Contains great photos for IDs.
- iBird Pro Guide to Birds - $14.99. Considered best app for new birders.

Be sure to check out websites that provide the specifications and comparisons for apps. Here are just a few of the many sites: http://www.birderslibrary.com/features/iphone-bird-guide-comparison.htm
Provides a checklist of the good and bad of birding applications.
http://ibird.com/compare/
Compares iOS Birding Apps.
http://www.birdwatching-bliss.com/birding-apps-for-iphone.html
Overview of birding apps for the iPhone, iPad, and Android user.

Learning the Secrets of the Black Widow Spider

By Gillian Rice

Black Widow Spider. Photo © Margarethe Brummermann. Follow Margarethe's blog at http://arizonabeetlesbugsbirdsandmore.blogspot.com.

Female widow spiders of the genus *Latrodectus* have a fearsome reputation. The name, "widow," reflects aggressive behavior: they eat the males after mating. Or do they? Among western black widow spiders (*Latrodectus hesperus*), ASU researcher Chad Johnson, notes sexual cannibalism is very rare.

"Male western black widows are expert at avoiding being eaten," he explains. "Chemical signals are critical in spiders' lives. Males respond to silk-based chemical cues called kairomones. Well-fed females release particular chemicals. A male detects these and begins courting on a well-fed female's web. Different chemical cues are present on the web of a starved female. In this case, a male would escape into the corner of her web and not court."

Reminiscent of a Tai Chi master, a courting male black widow performs a vibratory display on the female's web, deliberately lifting and placing his front legs in turn. Watch at: http://youtu.be/RtgSzYOWGio

In Johnson's laboratory, virgin female spiders must be starved for three or four weeks before they will eat a male spider. In urban environments where water is plentiful and roaches and crickets abound, female black widows might never eat males. Black widow males are tiny, about two percent and seven percent of the body mass of well-fed and starved females respectively. They are also minute compared to the females' typical prey.

If female black widows are not dangerous to males, are they dangerous to humans? Spider bites are rare but pesticide companies tend to exploit people's fears. Johnson studies black widow behavior, ecology, and population genetics. This knowledge, he hopes, might contribute to the curtailing of pesticide use.

In urban settings, widow spiders are important predators of the decorated cricket, introduced from Asia about sixty years ago, which does incredibly well here. "Pesticide application results in spiders readjusting where they place their webs," comments Johnson. "The best way to reduce a cricket population and thus spider infestations is not pesticide use, but watering less. Crickets are not found in undisturbed Sonoran Desert habitat. This is a good reason to choose desert landscaping."

"I want to understand more about the relationship between cities and spider population growth," he says. "Why is urban wildlife the way it is? Why don't other spiders want to live with humans? I never discover a tarantula in my backyard for example, and I would like to find one there. Have black widows pushed other species out of urban environments? They are urban exploiters. They adapt well to the biased ecosystem of a city: it's hotter in the city; water is available; prey are abundant."

Johnson has discovered several differences between desert-dwelling and urban black widows. For example, while desert widows are solitary, urban widows will share the same bush as a refuge or web anchor with an adjacent female. Also, desert spiders are in significantly better condition, producing heavier egg sacs with more eggs. Johnson wonders whether, by the time an urban

widow infestation has occurred, population growth might have slowed because of local resource competition. "Dense infestations full of poor-condition females producing small egg sacs and low-condition eggs may soon experience a population decline," he suggests. "It's possible that urban black widow fecundity might be limited by the diversity of nutrients available in the urban spider's limited diet."

Johnson hopes to learn more about spider family behavior as this might provide clues to their ability to exploit urban environments. Just as human families display different behaviors (such as alcoholism or depression), so do spider families. This is because they share genetic variation. Johnson has found that urban spiders don't disperse; extended families concentrate locally. This means that some urban families live socially, unlike the solitary behavior of desert-dwellers. "Why don't some families of spiders disperse? Why are they less cannibalistic?" questions Johnson. "Studying genetic variation among families might reveal whether dispersion and cannibalism are correlated."

In the desert environment, black widows play less of a predatory role and are preyed upon by parasitic wasps. In the city, black widows have few enemies – only each other and humans – and plenty of food. Spiders can go months without eating, however. When a quick pulse of food appears, spiders take prey items at night, cache them, and digest them slowly. In the laboratory, Johnson and his student assistants feed the black widows one to three crickets per week.

The researchers keep spiders in isolation, each in labeled boxes or tubs. "This means we don't need to mark the spiders," explains Johnson. "But it's a challenge when we want to examine groups of spiders together, so we marked spiders with a fluorescent dye. A student discovered this changed the spiders' behavior; they became less aggressive and less cannibalistic. We hypothesized that dye might be blocking chemicals on a spider's body." Some researchers clip or tag the back legs."

Johnson and his students don't hold the spiders. Students learn how to "corral" the spiders using paintbrushes and cups. The goal is never to touch a spider as this is dangerous and also could harm the spider. Spiders are valuable data points.

Johnson places the nocturnal black widows in a reverse photoperiod: laboratory lights shine nightly when researchers are home. During the day, with the lights off, red bulbs enable the researchers to work. Arthropods don't see red and are undisturbed by red light.

Spiders have not always fascinated Johnson. "I didn't really notice the natural world until I began birding after graduating from college," he says. "An appreciation for nature took me back to school to study biology. My first research job dealt with Red-winged Blackbirds. For my master's degree, I researched crickets in the Grand Tetons. The female of the cricket species I studied drank the male's blood as they mated. I then learned more about sexual cannibalism and wanted to study this behavior in spiders for my doctorate. I am really turned on to arthropods, their colors, and the spectacular things they do!"

GLOSSARY

Kairomones: Chemical cues produced by one organism that are exploited by another organism. For example, they allow spiders to locate prey and avoid predators.

Arthropod: An invertebrate animal that has an exoskeleton, a segmented body, and jointed appendages. Arthropods include insects, spiders, centipedes, shrimp, and crayfish.

Fecundity: Reproductive rate of an organism or a population, measured by the number of eggs, for example.

Fiscal Year Ending May 31, 2015

By Matt VanWallene, Treasurer

Here is our fiscal year wrap-up report of income and expenditures for the fiscal year, which ended May 31, 2015. If you have any questions, please feel free to contact me.

Income

Audubon Membership	6,237.75
Bob Witzeman Fund	3,655.00
Donations	3,115.43
MAS Membership	3,010.00
Raffle	1,559.00
Banquet	1,311.00
Interest	1,028.92
Books	758.15
Robert C. Bradley Fund	575.00
Total Income	**21,250.25**

Expenditures

Conservation	23,150.81
The Cactus Wren•dition	15,713.42
Birds of Phoenix	9,299.24
Bob Witzeman Fund	3,000.00
Education	2,000.00
Administration	1,843.83
Insurance	1,500.00
Banquet	1,471.18
Rent	1,000.00
Honoraria	762.71
Raffle	516.64
Books	210.69
Total Expenses	**60,468.52**

Nature Through the Artist's Eye: Jack DeLap

Jack DeLap with trout, Green River below Flaming Gorge Dam in northeast Utah. Photo by Alpha DeLap.

Jack DeLap is a wildlife ecologist and illustrator currently working on his doctorate under the guidance of John Marzluff at the University of Washington's College of the Environment.

Jack's doctoral research focuses on discovering changes in bird communities following the loss of forest and the subsequent residential development in the Puget Lowlands of Western Washington. His master's degree research in Colorado examined the response of nesting songbirds and associated avian and mammalian nest predators to recreation sites in riparian forest patches. Jack has also worked on field projects involving Burrowing Owls and American Dippers in Montana, and Peregrine Falcons, Northern Goshawks, and Song Sparrows in Washington.

Jack began drawing as a small child and followed his father, Tony DeLap, an artist and professor emeritus of fine art and architecture, into the art world. Following study at Parsons School of Design in New York City, Jack obtained a BA in Fine Art/History from Pitzer College in California. His passion for wildlife, however, led him to move into scientific illustration and then wildlife biology. He is a member of the American Ornithologists Union and the Guild of Natural Science Illustrators.

Although Jack draws wildlife other than birds, birds are his first love. He works as a freelance illustrator for books and journal articles. The illustrations you see here are included in the book, *Welcome to Subirdia* by John Marzluff (Yale University Press, 2014, reviewed in *The Cactus Wren•dition*, Winter 2014). Jack drew all his illustrations for *Subirdia* freehand on a computer. He also uses traditional ink and pencil to sketch.

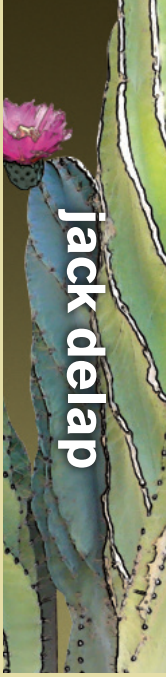
A genuine outdoorsman, Jack's other interests include fly fishing/tying, hiking, cooking, and woodworking.

His art is included in the exhibition, Birds of a Feather, at Tempe Center for the Arts, which runs until September 19, 2015.

Contact Jack at jdelap@uw.edu. Website: https://jackdelap.wordpress.com

Example "[Human] Avoider Species"; clockwise from upper left: Yellow-billed Cuckoo, Hairy Woodpecker, Black-throated Gray Warbler, Wryneck, Jackdaw, and Nightingale.

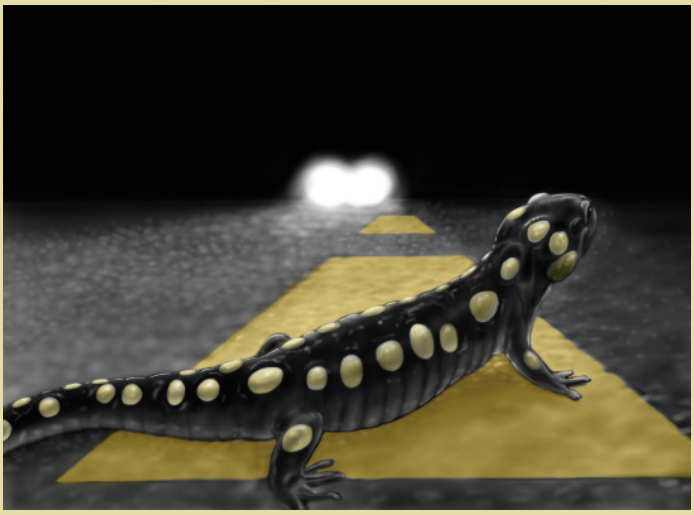
Spotted Towhee recaptured to confirm USGS leg band after losing a colored (plastic) band.



Bewick's Wren adult feeding young (mailbox and background photograph, with super imposed freehand drawn birds and nest).

Australian Noisy Miner singing near roadway in Sydney.

Inca Doves "pyramiding" for thermoregulation.



Spotted Salamander crossing road at night with oncoming traffic.

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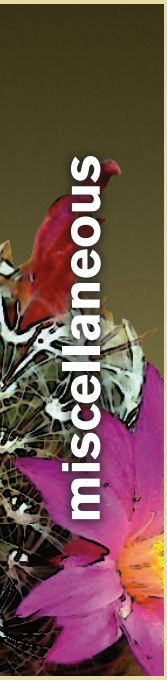

Monthly Meeting
First Tuesday of the month, unless otherwise announced, September through April, 7:30 p.m. Our meeting place is Papago Buttes Church of the Brethren, 2450 N 64th Street, Scottsdale, AZ (northwest corner of 64th Street and Oak Street, which is between Thomas Road and McDowell).

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.Wren•dition@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.

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