



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

Tucson Audubon offers a library, nature centers, and nature shops to its members and the public, any proceeds of which benefit its programs.

#### **Tucson Audubon Society**

300 E. University Blvd. #120, Tucson, AZ 85705 520-629-0510 (voice) or 520-623-3476 (fax) TUCSONAUDUBON.ORG

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## **Tucson Audubon Nature Shops**

300 E University Blvd #120 ext 7015

Hours: 10 AM-4 PM, Mon-Sat

520-760-7881 Agua Caliente Park, 12325 E Roger Rd

Hours: June-September, Thursdays only, 9-1:30

Please call to confirm hours.

Nature Shop space generously provided by Pima County Natural Resources, Parks & Recreation.

#### **Tucson Audubon Nature Centers**

#### Mason Center

3835 W Hardy Rd, Tucson, AZ 85742

Open most weekdays 9 AM-5 PM or when chain is down.

## **Paton Center for Hummingbirds**

477 Pennsylvania Ave, Patagonia, AZ 85624; 520-415-6447

Vermilion Flycatcher is published quarterly. For address changes or subscription issues call 520-629-0510. Submissions are due the 1st of the month, two months before issue date. Send submissions as Microsoft Word, RTF, or plain text files to Matt Griffiths at mgriffiths@ tucsonaudubon.org.

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FRONT COVER: Magnificent Hummingbird by Martin Molina. I would like to thank Tucson Audubon for picking my photo for the cover, that's a great honor for me. I have lived in Tucson my whole life, 55 years now, and started birding in 2015. I really enjoy this bird photography bug I have, it's a lot of fun, and I have met some really great birders as well.

To have your photograph considered for use in the Vermilion Flycatcher, please contact Matt Griffiths at mgriffths@tucsonaudubon.org.

# **New Birding Southeast Arizona App Out Soon!**

# Just in time for our Southeast Arizona Birding Festival

A great interactive companion to our Finding Birds in Southeast Arizona book, Tucson Audubon's Birding Southeast Arizona app will help you see birds at over 130 sites in Tucson and beyond. Research areas you want to visit in the book and find your way confidently once you're in the field. The only thing this app can't do is find the birds for you!



- · Search all sites for a "target bird," and find the nearest location
- · Automatically find birding "sites near me" and get map directions
- · View details and a list of commonly seen species at each site
- · Plan your next trip by searching for sites near a city or ZIP code
- · Access Audubon's online bird guide for quick reference in the field
- · Tag your favorite spots and share bird-finding maps with your friends
- · Track and log your sightings and share custom sighting maps with your friends

Just download Birding Southeast Arizona from iTunes on your iOS device for \$9.99, grab your binoculars and car keys, and go!

Karen Fogas, Executive Director



I want to share some changes occurring at Tucson Audubon Society with you regarding both our organizational and volunteer structures. In the last two years staff and volunteers have devoted a great deal of time to re-energizing Tucson Audubon around activities like Year of the of the Hummingbird, Habitat at Home and Tucson Meet Your Birds—activities intended reach out to involve new audiences. Our belief is that as we share our mission to engage people in recreation, education and conservation we can build greater advocacy for birds and their habitat.

The election last November underscored the need to create broad networks in support of landmark legislation, environmental protections, public lands, science and climate change, among others. By revealing our country's crisis of communication, the election has emphasized the need for organizations such as ours to prioritize dialogue with new and diverse audiences.

Our Conservation Committee can reach more people by promoting and organizing activities that demonstrate to decision-makers that not only does Tucson Audubon utilize and promote the best science, it also engages the voting public on issues about which we care.

Our Conservation Committee becomes our Conservation Action Committee (CAC). You may have received an invitation recently from Kathy Jacobs, will chair the Conservation Action Committee, to attend a meeting at which we discussed how best to network with the many conservation activities our community partners are conducting.

Kathy is a faculty member at the University of Arizona in the Department of Soils, Water and Environmental Science and is the Director of the Center for Climate Adaptation Science and Solutions (CCASS) within the Institute of the Environment. Kathy served as an Asst Director in the Office of Science and Technology Policy (OSTP) in the Executive Office of the President, where she was the Director of the National Climate Assessment (NCA), leading a team of 300 authors and more than a thousand contributors who wrote the Third NCA report. She also was the lead advisor on water science and policy, and climate adaptation, within OSTP. She was the Executive Director of the Arizona Water Institute and she has more than twenty years of experience as a water manager for the State of Arizona Department of Water Resources.

We will continue to rely heavily upon Christina McVie, former Board Member and Conservation Committee Chair, for her long and extensive experience with Tucson Audubon, its history and the history of conservation in Southeast Arizona. Chris has agreed to continue to act as our Conservation Consultant for the Tucson Audubon Board of Directors, its staff and now its Conservation Action Committee. Chris will continue to speak for Tucson Audubon as its representative in community coalitions and for us at community partnerships.

It is our hope that by restructuring in this way we can better respond to the challenges that affect birds and wildlife in our region and beyond.



# TUCSON AUDUBON EVENTS AND CLASSES

# FIELD TRIPS Luke Safford, Field Trip Coordinator

What do these pictures tell you about our field trips? They tell you that our leaders and our participants enjoy themselves and see plenty of birds. If you've never been on one of our free field trips consider attending one soon—we are sure you'll see some great birds, and possibly make a new friend or two as well!



Photo by Jerry Browne) John Higgins is scouring the horizon for raptors in Avra Valley. Can you believe that John has been leading field trips for Tucson Audubon over 20 years?



Photo by Bob Bowers) A sparkling crew prepares to go out to bird Oracle State Park with Bob and Prudy Bowers in



Photo by Cory Michael Kennedy) Looks like there is something interesting up ahead! The weekly Sweetwater Wetlands field trip is immensely popular and we appreciate Andrew Larson and John Sartin who bring their spotting scopes to help out.



Photo by Mary Zalokar) Lindy Birkl and a field trip participant search the Sibley Guide to help make a correct bird identification. Our leaders have as much fun learning as our participants during field trips!

#### **UPCOMING FIELD TRIPS:**

(To register, for more info, and to see more field trips, visit tucsonaudubon.org/fieldtrips.)

Every Wednesday, 6 a.m., Sweetwater Wetlands—Come join us as we explore the wilds of Sweetwater Wetlands on a weekly basis. Even during the summer great birds show up, like a Purple Gallinule did on the Fourth of July last year!

Sunday, July 23, Scotia Canyon—This is a great time to explore this under-birded canyon on the west side of the Huachuca Mountains for Elegant Trogons, warblers and an occasional rarity with Clifford Cathers.

Tuesday, July 25, Boyce Thompson Arboretum—One of the jewels of the Arizona State Parks system, the birding usually presents a rainbow of summer residents, including some orioles, tanagers and grosbeaks along with an occasional surprise on Ayer Lake.

Saturday, August 5, Santa Catalinas—Lets find the high mountain warbler flocks on a glorious monsoon Saturday. It's the time of year for roaming flocks of warblers and we hope to find all of them on an adventure up the home range.

Thursday, August 17, Honey Bee Canyon Park—Fall migrants will begin coming through and we will be looking for usual desert inhabitants as well in this delightful and under-birded Oro Valley park. We will also check out a large rock with Indian petroglyphs.

Saturday, September 2, Chiricahua Mountains—A check at Cochise Lakes in Willcox for migrants and then head into the upper reaches of the Chiricahuas for warblers and especially Mexican Chickadees. Plan for an all day trip!

## EVENTS CALENDAR

August 10-13: Southeast Arizona Birding Festival Festival info on pages 4–5. Some highlights include:

· August 11-13: Nature Expo

· August 11: Sergio Avila keynote

· August 12: Sweetwater Youth Birder Outing

· August 12: Paul Bannick keynote

August 12: Hummingbird Blitz

September 7 & 9: Flycatchers Specialty Workshop

October 5 & 7: Flight and Feathers Workshop

October 14: Gardening to Attract Hummingbirds Workshop

October 19 & 21: Bird ID Workshop

October 20: Annual Gala

October 26 & 28: Bird Photography Workshop

Support Tucson Audubon while you shop! Amazon will donate 0.5% of the price of your purchases to Tucson Audubon Society. Start shopping at AmazonSmile by going to bit.ly/tassmile



# **Living with Nature Lecture Series Wraps Up Another Season**

Thank you for participating in our Living with Nature series this past season. And please join me in thanking our presenters for the 2016/2017 season: Richard Shelton, Alison Hawthorne Deming, Ken Lamberton, Robert Houston, Rich Hoyer, John Yerger, Karen Krebbs, Troy Corman, Deb Vath, Rosie Bennett, Laura Cotter, Jenise Porter, Laura McHugh, Kristine Uhlman, Steven Vaughan, Susan Wethington, Sheri Williamson, Robert Mesta, Larry Weigel, Kathie Schroeder, Starlight Noel-Armenta accompanied by Sueno the Hawk, Janine Spencer, and Renee Duckworth.

Over 1,400 people attended presentations in Tucson, Oro Valley, Green Valley and Marana. This coming fall and winter, Pima Community College's downtown campus will be under construction, so we will move the Tucson series elsewhere temporarily. Stay tuned for next season's dates and announcements!



Thanks to all who attended our programs this season! Joanna Strohn

# TUCSON AUDUBON SOCIETY'S NINTH ANNUAL GALA



An Evening Celebration of Arizona's Birds and the Arts

SAVE THE DATE! Friday, October 20, 2017

We are excited to announce the date for our ninth annual Gala Event-FLY! An Evening Celebration of Arizona's Birds and the Arts. Join us for this spectacular experience as we view how artists respond to our birds and environment. We are delighted that cartoonist and columnist for the Arizona Daily Star David Fitzsimmons has agreed to be our Master of Ceremonies.

The event will take place Friday, October 20, 2017 at the Kiva Ballroom in Loews Ventana Canyon Resort, 7000 North Resort Drive, Tucson, Arizona 85750.



# Southeast Arizona BIRDING FESTIVAL

AUGUST 10-13TH

The fun and excitement of a birding festival is an experience you won't soon forget! Join the fiesta this August for the seventh annual Southeast Arizona Birding Festival which includes something for everyone!

### **FEATURED SPEAKERS & BANQUETS**

#### A Year in the Lives of North American Owls

Paul Bannick, Renowned Writer and Nature Photographer

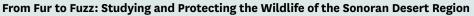
When: Saturday, August 12, 6:00-8:30pm

Cost: \$85 includes dinner



Paul Bannick is an award-winning wildlife photographer specializing in the natural history of North America with a focus on birds and habitat. Coupling his love of the outdoors with his skill as a photographer, he creates images that foster the intimacy between viewer and subject, inspiring education and conservation. Paul is

both the author and photographer of two books, *Owl: A Year in the Lives of North American Owls* and *The Owl and The Woodpecker, Encounters with North America's Most Iconic Birds*.



Sergio Avila-Villegas, M.S. Conservation Scientist, Arizona-Sonora Desert Museum

When: Friday, August 11, 6:00-8:30pm

Cost: \$75 includes dinner



In the last decade, Sergio developed and led Conservation in Mexico, an international program with the mission to create a network of conservation lands to allow wildlife movements and to monitor and protect the biodiversity of the Sky Island Region. His field experience includes working with jaguars, pumas, ocelots,

Cactus-ferruginous Pygmy Owls, Santa Catalina rattlesnakes, California sea lions and now Monarch butterflies. Sergio is also experienced in habitat and stream restoration, wildlife tracking, and is a recurring speaker at regional events, festivals, conferences and media.







### **PHOTOGRAPHY WORKSHOPS**

## Photography Field and Classroom Workshops with Paul Bannick

Field Workshop Date: Saturday, August 12, 7-11:30am; Cost: \$75/person

Classroom Workshop Dates: Saturday, August 12, 3-5pm & Sunday, August 13, 10am-12pm; Cost: \$20/person

Join our keynote speaker, Paul Bannick, in the field and/or the classroom as he shares his expert photography skills. Paul will help bring each student's photography to the next level!

# WOW Arizona: Click, Edit, AMAZE — Bird Photography and Editing from Start to Finish with Christopher Vincent

Workshop and Field Trip Date: Friday, August 11, 6:30am-2:30pm Cost: \$175/person includes gourmet lunch at WOW Arizona

This workshop/field trip is perfect for bird photography enthusiasts who want to take their skills to the next level in a beautiful and wildlife-filled environment. Limited to 12 participants!



#### YOUTH FIELD TRIP SPONSORED BY ZEISS OPTICS

This is a great opportunity to get your kids outside and into nature at our local Sweetwater Wetlands. For ages 6-17 and it is FREE! Zeiss optics will have binoculars ready for children to use and see birds like they never have before.



## **EXCITING FIELD TRIPS**

Festival trips offer over 35 adventures led by professional birding trip leaders. Visit the exclusive and beautiful Montosa Canyon with Jake Mohlmann or walk the wilds of the Patagonia mountains on the Naturalist Saunter with Vincent Pinto. Hurry! Trips are filling fast.

#### **VISITING THE NATURE EXPO**

(NO PRE-REGISTRATION REQUIRED)

You won't want to miss the Nature Expo! Optic companies Zeiss, Leica, Swarovski, and Opticron will have the latest binoculars and spotting scopes for you to try ouy and the Tucson Audubon Nature Shop will offer a 10% discount on optics to all people attending the Expo. Free talks and workshops offered Friday-Sunday with featured presenters such as Sergio Avila from the Arizona Sonora Desert Museum and Zeiss Sports Optics. Your kids will love the "Big Minute," coloring contest and nestbox building!

### **Nature Expo Hours:**

Friday: 12-5pm Saturday 10am-5pm Sunday 10am-2pm





Register for banquets, workshops, and field trips online and check out our full festival schedule at tucsonaudubon.org/festival

All activities at the Arizona Riverpark Inn unless otherwise noted.

### **OUR NATURE SHOP HAS WHAT YOU WANT!**

Stop by the Shop before the Festival or visit our booth during the festivities. The Tucson Audubon Nature Shop has everything you need to have the best possible birding experience while you're here. We carry field guides, vests, hats and sun protective shirts, as well as optics by Zeiss, Swarovski, Leica, Opticron, Vortex, Nikon, and Celestron.

If you already know what you want, you can give us a call to preorder your items at special festival attendee pricing (10% off MSRP plus no tax), then stop by the Shop to pick it up when you get to Tucson.

Find details at tucsonaudubon.org/nature-shop

**Gray Hawk level** 



**Elegant Trogon level** 



Cactus Wren level



Clockwise from bottom left: Uplands along lower San Pedro, Matt Griffiths; Birding Sweetwater Wetlands, Cory Michael Kennedy.; Youth birding trip at water Wetlands, Chrissy Kondrat-Smith; Broad-billed Hummingbird, Lois Manowitz; Nature Expo, Festival Live Birds, Sara Pike; Nature Expo, Mary Walker; Burrowing Owls, Paul Bannick

# BIRDING CLASSES: BECOME A BIRDER OR IMPROVE YOUR BIRDING SKILLS THIS FALL

Our courses are designed to improve your knowledge and practice your new skills in some of the most beautiful locations in the region.

# FLYCATCHERS SPECIALTY WORKSHOP with Homer Hansen September 7 and 9

Ready to leap into the identification of *Empidonax* and *Myiarchus* flycatchers? This workshop and field trip will introduce you to the diverse family Tyrannidae and highlights the ways to separate the kingbirds, pewees, empids and flycatchers of southeastern Arizona. Homer will guide students through identification tips and provides tools to build up your birding abilities. Cost \$110. Limited to 10 participants.





Great Horned Owl, Lois Manowitz

Ash-throated Flycatcher, Laura Stafford

# ADVANCED TOPICS: FLIGHT AND FEATHERS with Homer Hansen October 5 and 7

Take an in depth look into the amazing physiological feat of bird flight, and how to use observation of flight patterns as an identification aid. We will delve into the complexities of migration, skeletal structure, and anatomy, as well as flight behaviors. A one day field trip will connect field observations with the topics discussed. Cost \$110. Limited to 10 participants.

# GARDENING TO ATTRACT HUMMINGBIRDS with Lynn Hassler October 14

Hummingbirds are, in a word, mesmerizing. With wings buzzing and a-blur, these diminutive creatures seem to defy the laws of physics and flight. Learn a bit about this unique species and how to create a beautiful, natural garden with plants that are sure to attract their attention. Cost \$25. Limited to 15 participants.



Lynn Hassler is the author of Birds of the American Southwest; Hummingbirds of the American West; Roadrunners; Gambel's Quail; The Raven: Soaring Through History, Legend, and Lore; and co-author of Hot Pots: Container Gardening in the Arid Southwest. A birder for over 40 years, Lynn's travels to observe nature have taken her to all seven continents.



Homer has a passion for sharing bird watching with others and instructs numerous workshops about birds, birdwatching, and bird ecology. He is a native of Willcox, Arizona and served as chairman of the Wings Over Willcox Birding & Nature Festival for 17 years. He is also co-founder of the Sulphur Springs Valley Young Birders Club and the annual Arizona Young Birders Camp.

# INTRODUCTORY TOPICS: BIRD IDENTIFICATION — SHARPENING YOUR OBSERVATION SKILLS with Homer Hansen October 19 and 21

What do you observe when you are looking at a bird? The art of identification has many challenges (quick looks, fly-bys, bad lighting). Observing birds, their behaviors, and their overall size, shape and structure is a learned skill, and this workshop delves into seeing ALL of the bird and its surroundings. This workshop and field trip are intended for birders of any skill level who wish to expand on their observation skills. Cost \$110. Limited to 10 participants.

## BIRD PHOTOGRAPHY with Stephen Vaughan October 26 and 28

Stephen will teach you how to take better pictures of your favorite birds by learning basic photography techniques, fill flash skills, and what equipment you need. Steve will teach you the skills you need to take beautiful portraits of birds, how to capture the poetry of birds in flight as well as up close in their nests. In addition, the class covers the ethics of bird photography. Cost \$110. Limited to 10 participants.

## BEGINNING BIRDING with Jim Logan Two classroom sessions: November 8 and 15, and two field trips: November 11 and 18

Explore the basics of bird watching with classroom instruction and field trips. Learn what birding is all about, how to select binoculars, which birding guides to use, and the techniques of identifying and enjoying birds found in the Sonoran desert. Cost \$110 OR join Tucson Audubon for \$45 individual membership prior to first class. Current Tucson Audubon members may attend for free. Limited to 25 participants.

## See tucsonaudubon.org/education for details and to register



Jim Logan is a retired middle school science teacher, the former Director of the Alaska Bird Observatory, and a former president of the Northern Arizona Audubon Society. Jim has enjoyed the connection of birds to the natural world for 40 years.



Stephen Vaughan is a professional photographer and ornithologist. Stephen moved to Tucson a year and a half ago from Colorado Springs, Colorado, where he was the president of the Aiken Audubon Society.

# TUCSON AUDUBON NEWS ROUNDUP



### Tucson Audubon Celebrates the 30th Anniversary of its most established and largest FUNraiser of the year: BIRDATHON!

Tucson Audubon's 30th annual Birdathon FUNdraiser generated over \$25,000 to support all aspects of the organization's work on behalf of birds in southeast Arizona. Forty-four birders, divided into 17 teams, combed habitats from Tucson's urban parks to the peak of Mt. Lemmon and from the Willcox Ponds to Patagonia Lake. Each team's goal was to spot as many species as possible in a 24-hour period—and to have a good time! 296 individual donations supported the teams' efforts.

The 2017 Birdathon wrapped up with a celebration party at La Cocina's Dusty Monk Pub with about 50 people in attendance. The following teams earned major prizes and awards:

- Grand Prize: Scott's Orioles (Dick Carlson, Malcolm Chesworth, Jeanne Myhre, Scott Olmstead, Will Russell, Ton Schat, and Laura Stenzler) spotted an impressive 112 species and raised \$1,769
- Most Species Seen: The Wrenegades (Matt Griffiths, Tim Helentjaris, Jennie MacFarland, Corey Perez, Sara Pike, and Chris Rohrer) set a new personal team record with 182 species
- Most Funds Raised: Maia Stark's team (Lydia Breunig, David Bygott, Jeannette Hanby, Helen Kalevas, and Maia Stark) raised \$5,546.50 with the support of 46 donors
- · Youngest Birdathoner: Celine Schlappy of the Sonoita Peep-Squeaks won at just two and a half years old Please join us in 2018 for an even bigger Birdathon!





















Birdathon info and swag at party, Diana Rosenblum; Northern Saw Whet Owl, Chris Rohrer; Scott's Orioles at Agua Caliente; Red Faced Warbler, Scott Olmstead; Red-tailed Hawk with snake, Chris Rohrer; Wrenegades in the party van; Scaled Quail, Chris Rohrer; Maia Stark's team; Virginia's Warbler, Chris Rohrer; Youngest birder Celine Schlappy at the Paton Center

# **VOLUNTEER** SPOTLIGHT

# Tully Elementary First Grade Field Trip to Sweetwater Wetlands

On April 4th, an ambitious group of Tucson Audubon volunteers hosted 74 first graders from Tully Elementary irst graders, teachers and chaparones at Sweetwater Wetlands for a youth education field trip. Everyone, including the volunteers, had so much fun! We wanted to share some hand-drawn pictures from our new first grade friends and some thoughts from our volunteers. Thank you to all of our volunteers who helped!

Look for volunteer opportunities like this during the next school year. You never know what kind of impact you can make and the legacy of enjoying and conserving nature that you could foster in a child!

## Why would you volunteer to help lead a field trip of 74 1st graders?

Sandy Fabritius: Because I wanted to get involved with the Tucson Audubon Society and because I worked in an elementary school for 21 years.

Ken Kingsley: I really enjoy working with groups of children of that age; their enthusiasm and energy are wonderful to experience. It is fun to see the kids light up when they make a discovery.



Stephen Vaughan: I volunteered as a way to give back to the community. I especially enjoy working with kids as they are the next generation that will be tasked with protecting birds and the environment.

John Sartin: Fostering children's interest, passion and love of nature is the best investment we can make in a sustainable planet. I learned things from the kids too!

Dorothy Johnson: Participation in the field trip was an opportunity to pass along some moments of exposure to nature that were a rich part of my childhood, and I enjoy kids.

Kathy LaTourrette: As a retired teacher, I couldn't pass this up! Their enthusiasm was contagious and Joe and I enjoyed sharing nature and the outdoors with them.

Henry Johnson: It is not unusual to meet an adult whose life direction has been positively guided by an adult mentor they had as a child, or a school experience. I wanted to participate at this level in the hope that I could help guide a young life to see the world around them in a new light.

## When you were a kid, did you have any adults teach you about nature?

Stephen Vaughan: I didn't have anyone at that age as a mentor, but I did have a high school teacher who introduced me to birds and birding and it has stuck with me ever since. He took us on a number

of outstanding field trips that I still remember to this day. Also, I still keep in touch with that teacher after all these years.

John Sartin: As a child I attended a summer camp that focused on the desert and our place in the web of life. It was a transformative experience.

Sandy Fabritius: When I was in elementary school in Ohio we were given seeds and instructions and encouraged to plant a garden during the summer. It was fun and awesome and as close to nature as I remember getting.



Joe and Kathy LaTourrette: My love of the outdoors comes from family camping trips and nature hikes with campground rangers, especially at Tuolumne Meadows in Yosemite National Park. I remember the ranger showing us a little ground-nesting bird that made a warning chirp if we got too close to the nest. Joe cherishes his childhood camping trips in a teardrop trailer with his

paternal grandmother; as an avid outdoors woman, she taught him how to build a campfire and bait a hook for trout fishing. These childhood experiences sparked our interests in wildlife, plants, geology and astronomy.

Henry Johnson: I was fortunate to be in an elementary school with very rich science programs, and with adults who liked to be out of doors. I remember school projects that involved collecting pond water, and others where we studied animal groups.

Ken Kingsley: In second grade, my teacher, Mrs. Leher, was a naturalist who insisted on taking us out for a nature walk every day. One day a kid brought in a cocoon for show and tell. Mrs. Leher told us it was a Cecropia Moth, and if we were lucky, the moth might come out and we could see it. That was a Friday. On Monday we returned to school and found that the moth had emerged, laid eggs all over the classroom, and expired, landing on my desk. Totally inspiring. Mrs. Leher has been a source of inspiration all my life, and I am forever grateful that I had her as my second grade teacher.

# **COLLECTIVE OBSERVATION AND** DEMOCRATIZATION OF SCIENCE

Jennie MacFarland, Conservation Biologist

Many factors have contributed to science becoming more accessible than ever to the general public. Documentaries that delve into explaining complex theories and principles have become very popular and of course the internet has made information more available than ever. And it isn't only our access to scientific information that has grown, but our participation in scientific studies themselves. Large scale studies that rely on regular people to contribute data are now commonplace and phrases like "big data" are now frequently used. This increase of general inclusion in the scientific process will hopefully create a larger subset of the public that is personally invested in science and conservation while also creating meaningful data.

Few fields are as well positioned to utilize citizen science as studies centering on birds. The growing popularity of birding as a hobby and the reality that many birders take the pursuit very seriously and have developed advanced bird identification skills has created an amazing resource of potential dedicated and proficient citizen scientists.

One of the most popular hubs for birders to submit their observations is through eBird (ebird.org). This free website is an ever growing and improving project of Cornell University's Lab of Ornithology. If you are a birder and are not using eBird you really should give it a try. It is easy to use, the website is fascinating to explore and their free apps (for both Apple and Android) have made it easier than ever to use. The Conservation department at Tucson Audubon frequently makes use of the abundant data on eBird to create species lists, determine where our efforts can best be spent searching for a specific species, monitor our Important Bird Areas and many other purposes. This data has also been used by other groups for large scale studies that are only possible because of the vast quantity of observations collected by eBird. When you are out birding for fun and share what you found with eBird you are leveraging your recreation into real data that could help conservation efforts into the future.

Tucson Audubon has a long history of engaging in citizen science in several of our programs. A good example is the Tucson Bird Count, which relies on birders participating in an organized urban count to track how the



Surveyor in the Rincon Mountains, Olya Phillips

increased density and footprint of urban Tucson is altering bird species distributions. For over 10 years the Arizona Important Bird Areas program has also relied on volunteer birders donating their time and skill to help us find and document bird species all over the state. These citizen science efforts have made it possible for us to identify and designate the nearly 50 Important Bird Areas in Arizona. Without our dedicated and passionate volunteer force these conservation programs would not be possible—thank you!

There are also opportunities for newbie and less experienced birders to participate in Tucson Audubon's citizen science through hummingbird centered projects. There are two Hummingbird Blitz events planned for this year on August 12 and November 28 when any hummingbird spotted can be added to our online map to create a snapshot of where these birds are located on those days. You can also help by participating in our 5 Minute Hotspot Watch on any day you like where there is hummingbird habitat consisting of either a feeder or a few nectar producing plants. It's easy—just stay in one location and watch for exactly 5 minutes and then report the hummingbirds you observe on eBird and share your list with username TucsonYOH. There is more information on these citizen science opportunities at tucsonaudubon.org/hummingbirds as well as more detailed instructions and a hummingbird identification chart. Whether you are new to birding or have been participating in this pastime for years you can help contribute to our increased understanding of the birds we all love.









# PATON CENTER FOR HUMMINGBIRDS

# A Magical Reunion Weekend

Karen Fogas, Executive Director

Having people from all over the country gather in the backyard of the Paton Center for Hummingbirds is nothing new, but this gathering was special—a reunion of people without whom the Paton legacy of intimately viewing birds in the private backyard would likely have become a distant memory. On this last weekend in April, the people strolling through the Richard Grand Memorial Meadow, checking out the view from the newly landscaped pavilion and pausing at the serene streamside viewing point, traveled back to the Paton Center to share pleasure over the progress Tucson Audubon has made at the site over the last two and a half years. Each traveler had more than a passing interest in the Center, having donated to secure the property's purchase and then again to provide numerous site improvements. Delight was readily apparent as people compared before and after pictures of the meadow, backyard and streamside before moving into the large tent canopy to enjoy lunch, reconnect with friends and hear about plans to move the Paton Center for Hummingbirds forward.

After lunch, Bonnie Paton Moon shared pictures and excerpts from her new book, "Journey Home," which details the lives of Wally and Marion as they moved from the east coast to Patagonia, making the site a home from which they could raise their children and make a living. Those in attendance were charmed by her folksy stories and humorous anecdotes. Asked whether her parents would agree with all of the changes that Tucson Audubon has made, Bonnie gave an enthusiastic "yes!"

The evening produced cool Patagonia mountain temperatures, entertainment and discussion of the home's future (it's not looking good), as staff and donors shared a vision for replacement. All in all, the atmosphere was one of celebration, camaraderie and cheer, prompted by the satisfaction of having saved and preserved a world-class birding site that will be enjoyed by generations to come.

Capping the weekend's festivities were a Sunday morning presentation on Mexican Gardens by the Sonoran Desert Museum's Education Specialist, Jesus Garcia for the Reunion attendees and the community of Patagonia and a birding tour of the area led by guide Scott Olmstead.

Because the backyard is so integral to the Paton experience, the Tucson Audubon Society board of directors is committed to having a home on the site, with a caretaker interacting with visitors much as Wally did (and later, Larry Morgan). The Capital Campaign to replace the home is reaching a critical stage, with just over 60% of the \$450,000 goal either raised or pledged. In response to advertising the campaign, donations have arrived from all over the country.

If we are to replace the Paton House and continue Marion and Wally's vision for the property, we need your help. Please. If you already give to Tucson Audubon, don't stop! But if you would like to make an additional donation to the Paton Center for Hummingbirds' Capital Campaign, we would welcome you as part of the Paton legacy. Visit tucsonaudubon.org/patoncampaign to learn more and become part of the Paton legacy.



Attendees learning about the backyard's new water feature



Conservation Director, Jonathan Horst leads a tour of the property



Sheri Williamson, Karen Fogas, Matt Fraker, Keith Ashley, Marcia Grand, Jonathan Horst



Bonnie Paton Moon and Jackie Paton

## **WELCOME NEW MEMBERS**

Vernie Aikins, Bob Albrecht, Warren Allen, Wanda Anderson, Pat Bandics, Jan Wezelman & David Bartlett, Keith Bayha, Kat Belk, Alyssa Escalante & Brian Berndt, Barbara Bickel, Nancy Boardman, Belinda Brodie & William Boslego, Anita Tripp & C. L. Bradshaw, Elizabeth Brennan, Jerry Brown, Anne Burns, Blyth & Russ Carpenter, Jon Carter, Robert Chester, Terry & Chuck Chism, Linda & Don Clemans, Tereasa & Brian Corcoran, Melinda Correll, Chris Crandall, Alan Cuddy, Kat Cudney, Wenjun Cui, James Cyrus, Theresa & Jerry Daniel, Joan Hood & David Davis, Carol Lamoureux & Adam Dippel, Cindi Drake, Candyce Egan, Martha & Sam Erdem, Donna Strain & Peter Feldman, Jenny & Brad Fiero, Alanah Fitch, David Ford, Chuck Galloway, Judith Geddes, Rex Graham, Margy Green, Naomi Grobe, Gen Halliday & Gary Mannesto, Jenn & Bill Harman, Kitty Harris, Katherine Havas, Frances Hecker, Margaret Hendrickson & Roger Rushlow, Desha Hill, Louise & Bob Howard, Peter Husby, Marty Jakle, Michelle & Eugene Johnson, Alonzo Jones, Randy & Ceil Jones, Robert Knight, Theresa Kraus & John Henry King, Angela Ippolito & Cindy Land, Sheryl Holland & Kenneth Langton, Douglas Larson, Judith LeClair, Neil Leeman, Kate Lindsay, Randy Longacre, Kathy Lortie, Cynthia & Michael Luts, Jane Lutz, Cynthia Lynne, Linda Maasch & Bob Reese, Cindi & Rick MacDonald, Donna & Michael Mardis, Annie McGinnis, Peggy McGuire, Luisa McKaughan, Arlyn Melcher, Stuart Meredith, Jean Neely, Susan Nelson, Cornelia O'Connor, Susanne Olkkola, Joan Osgood, Annmarie Owen, Don Parce, Laurie & Rob Petrillo, Kaye Crandall & Carol Pierce, Donna Pierce, Erin Posthumus, Annette Proebsting, Kate & Chris Ray, Linda & Gary Reed, Janelle Richman, Dinah Hoyle & Earl Rosen, Andrew Ross, Jenny Sabol, Diana & Mike Sanderson, Cheri Sanford, Karen Sather & Bruce Maitre, Susan Schneider, Roxanne Smith, Bob Snyder, Virginia Sonett, David Soren, Carol Spamer, Barbara & Mark Stromberg, Alex Strong, Mark Swanson, Kim Ezenchik-Taylor & Wil Taylor, Mick Thompson, Clare & Jeffrey Turner, Robert Veranes, Ken Vollick, Jacklyne Volpe, Charlene Westgate, Marcus White, Jennifer Patton & Ben Wilder, Barbara Wills, Carlota & Richard Wilson, Lori Hiers & Ron Wilson, Robb Wilson, Michael Wolfson, Michele & Frank Worthington, Emily Yetman, Patricia Young

## **GIFTS IN HONOR/MEMORY**

In honor of Alexia Bivings from Doris & Larry Abrams

In memory of Noble Proctor from Phil Asprelli

In honor of Jean Barchman from Jean & Rich Barchman

In honor of Brock Safford from Bret Bellevue

In honor of Alexia Bivings from Elizabeth Bivings

In honor of Maia Stark from Karen Enyedy & Robert Breunig

In memory of Ed Caldwell from Mary Caldwell

In honor of Virginia Foley-Reynolds from Joan Czapalay

In honor of Martie and Art Boright from Phyllis DeFriese

To Jane Des Biens from Jacqueline Des Biens

In memory of Christine Kulis from Carol & Mike Dolan

In honor of Liz Harrison from Susan Flewelling

In memory of Pamela Bent from Debby Fort

In honor of Maia Stark from Elise & Frank Gohlke

In honor of Elizabeth Gricus from Elizabeth Gricus

In memory of Tom Howell from Yvonne Howell

In memory of David Kelly from Barbara Kelly

In memory of Sally Ann Stewart from Shannon Kennedy

In memory of Bill Adler from Sally Lockwood & Friends of Sonoita Creek

In honor of Matt Mansfield from Chad Mansfield

In memory of Ethel Marie Morrical from Scott Morrical

In honor of Julio Mulero from Julio Mulero

In honor of Hal Myers from Hal Myers

In honor of Carol Lamberger from Bonnie Paton Moon & Richard Moon

In honor of Amy & Norman Prestup from Amy & Norman Prestup

In memory of Juliana Gerami from Kelly Sanford

In honor of Maia Stark from Cassandra Scheffman

In honor of Maia Stark from Carol & Randy Schilling

In honor of Maia Stark from Sherry Stark

In memory of Julia Stenzler from Laura Stenzler & Ton Schat

In honor of Keith Ashley from Marilyn Johnson & Ralph Van Dusseldorp

In honor of Carole Wallace from Carole Wallace

In memory of Vernita DeRouen from Angela Westengard



# Frequent Flyer Program

Sandhill Cranes aren't the only frequent flyers bringing joy to southeast Arizona. Tucson Audubon's very own Frequent Flyers make our work possible in a special way by giving monthly. We hope they know how much we appreciate their monthly flights!

Susan Atkisson, Matt Bailey, Ardeth Barnhart, Melanie Builder, Shawn Burke, Carianne Campbell, Becca Carroll, Karen Chandler, Janet Cohn, Mich Coker, Christopher Cokinos, Christine Curtis, Sandy Elers, Kimberly Fitzpatrick, Peggy Ford, Marlesa Gray, Judith Heffner, Brandon Herman, John Kennedy, John Henry King, Bob King, Susan Kozacek, Suzanne Long, Marcia OBara, Erin Olmstead, Lorel Picciurro, Elizabeth Rowe, Jeff Schlegel, Deb Vath, Frances Ann Walker, Nancy Young Wright, Claire Zucker

## Will you join this growing flock?

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

Monthly giving through automatic credit card or bank withdrawals is convenient, secure, and simply one of the best ways you can support Tucson Audubon's programs. It's good for birds and the environment!

#### Here is how it works:

- · You determine the amount of your monthly gift and provide payment details.
- · Your credit card or bank account is charged automatically each month for your chosen amount. Our system sends you an autogenerated confirmation e-mail each month.
- · Each January, we will send you an annual giving statement by mail, for your tax purposes.
- · As a Frequent Flyer, your membership renews automatically each year, ensuring that you'll never miss an issue of Vermilion Flycatcher.

By joining our growing flock of Frequent Flyers, you help Tucson Audubon balance our resources throughout the year, reduce fundraising expenses, and consume fewer resources by eliminating the need to send paper renewal notices.

THANK YOU!

#### . . . . . . . . . . . . . . . . . . .

# HUMMINGBIRD

# SEMESTER OF SUCCESS Tucson Audubon's Educators Bring the Magic of Hummers into Tucson Classrooms Andy Bennett, K-12 Youth Engagement Coordinator

The hummingbirds of Tucson may be Mother Nature's palette perfected: from the flashing ruby-red-magenta Anna's, to the vividly iridescent blue-green Broad-billed with his raging red-orange bill, to the ostentatious violet lapels of the Costa's, we are truly blessed to share our Baja Arizona home with these magnificent manifestations of cosmic pigment. Their colors alone make hummers supreme messengers of the natural world, but it's the many amazing things that hummers do, wrapped up in all that glorious iridescence, that makes them truly wondrous. It is those stunning facts about hummers—the fastest, the longest, the most-per-bodyweight—that we've been sharing with youngsters this season (using hummers' hues to hook the kids first, of course!)

Tucson Audubon decided that its "Year of the Hummingbird" program should include ways to inspire young minds via the wonders of hummingbirds. With assistance from Audubon Arizona, Tucson Audubon developed an interactive classroom presentation and information kit for K-8 teachers and students. The presentation covers the spectrum of hummingbird information, from biology and identification to the significance hummingbirds have had in human societies over the ages. Our kit includes hummingbird guides, factsheets, and even a feeder and sugar for classrooms that are ready to take on the responsibility of feeding. The kit also offers a compilation of digital hummingbird resources and activities for classrooms to use.



Jean Rios using a hummer hand puppet to enhance her presentation, Rosie Bennett



Hummer teaching kit, Andy Bennett

Outreach efforts in five of Tucson's seven major school districts led to a torrent of requests for our lessons from area teachers, mainly kindergarten through fifth grade. We quickly assembled a volunteer team to personalize and present the lessons over the spring semester. Many volunteers were retired educators and school administrators who'd been active with Tucson Audubon's past youth programs.

As of May 25, 2017, more than thirty one-hour lessons have been presented to over 875 K-5 students, with classroom kits being left with more than twenty of these classes; one single lesson was presented by a brave educator to 240 fourth grade students! Several classrooms had already noticed hummingbirds visiting their schoolyards, and two had even found a nest outside their classrooms, making our lessons that much more meaningful for the classes. None of this work would've been possible without the dedication and hard work of our devoted team of volunteer educators.

"Great visuals. The kids loved seeing the video clips incorporated into the presentation. The presenter had a great way of asking questions to help scaffold the students' learning and ideas as she asked them questions."

-Bisma Aizaz, 4th Grade Teacher at Sahuarita Intermediate School



"'Hard Worker!' This from second grader who was very impressed with how hard the females work all by themselves to raise the young hummingbirds."

—Jean Rios, Tucson Audubon Volunteer Educator

Broad-billed Hummingbird on nest, Axel Elfner

At The Gregory School, Tucson Audubon Board of Directors' member Kimberlyn Drew helped kick off the program with a brief hummer presentation to students and family members followed by a group planting of native hummingbird-favored plants outside the classroom and erecting a feeder nearby to create the first schoolyard Hummingbird Hotspot of the program period. We are working with several other schools to build hummingbird gardens outside their classrooms. Schoolyard habitats can serve as long-lasting outdoor classrooms that strengthen core learning areas like math, English, and science, and can also serve to improve student health, behavior, and attitude.

Callie Jordan explaining hummingbird physiology, Sarah Stoner

Tucson Audubon's hummingbird education program is part of a bigger push to influence and inspire new generations of nature lovers through the magic of birds, and to make this a permanent part of what we do. The conservationist Baba Dioum once said, "In the end, we will conserve only what we love, we will love only what we understand, and we will understand only what we are taught." Through hummingbirds, we aim to begin this process of understanding and appreciation that cultivates informed decision makers willing to work towards protecting our environment. We'll be offering the Hummer Lessons through the end of 2017; if you know an educator or youth group who may be interested, please direct them our way!

"Not having children, I was looking forward to the opportunity for interaction with kids. But then I was astonished at what they are learning, how informed they are—and then to find kindergarteners doing grammar I don't think I did until 5th grade!!"

—Callie Jordan, Tucson Audubon Volunteer Educator

Hummingbird expert Sheri Williamson of the Southeastern Arizona Bird Observatory likes to say that hummingbirds may be the "gateway drug' to nature and conservation for many people." At the risk of sounding immoral, I'd like to say that I'm hoping hummers can play this role and, through our scholastic efforts, hook Tucson youth on birds and nature.



Copper View School students sent artwork as a thank you.

"The creation of the habitat will provide a living classroom to all students. Its location is in the center of campus, will offer an opportunity for all students to see the evolution of our habitat. We hung a feeder out that my advisory group will be responsible for maintaining. Also, this one project has prompted other ideas as well, such as creating a butterfly habitat."

-Mickey Jacobs, teacher at The Gregory School

# SOUTHEAST ARIZONA'S

Jennie MacFarland, Conservation Biologist



Summer brings many changes to southeast Arizona. Temperatures soar, humidity rises, and the human population dips to a low point for the year. This increased humidity leads to our iconic monsoon period, and it rains nearly every afternoon in July and August. This causes our Sky Island region to bloom with a "second spring" and creates a hummingbird paradise.

In Tucson and the surrounding region hummingbirds can be found all year but there are some species that can only be found during the summer and in very specific places. It is well worth the time and travel to seek out these splendid species. Here are some of our specialty hummers of summer and where you can find them:

#### **BLUE-THROATED HUMMINGBIRD**

The male of this large species has the subtle beauty of an iridescent blue patch on this throat. Both the male and female have a bold white eyebrow and wide tail with white tips that they spread frequently in flight. They both also have a very loud and distinctive seep call note. The most reliable place to find these birds is in the Chiricahua Mountains at the Southwestern Research Station near Portal, AZ.



The name of this bird certainly does say it all. Magnificent Hummingbirds (affectionately known as "Mag" or "Maggie" to many birders) have an overall dark appearance, but in the perfect light the male's head blazes with a rich purple crown and iridescent teal green throat. The female is more modestly dressed with the standard green back and gray front but her large size and white spot behind the eye are distinctive. These hummingbirds can be found in several of our mountain ranges in summer including the Santa Catalinas and at the feeders of the Santa Rita Lodge in Madera Canyon in the Santa Rita Mountains.

#### **LUCIFER HUMMINGBIRD**

With a brilliant purple throat, curved bill and long, forked tail it's no wonder this small hummingbird's name means "light bearer" in reference to its dazzling beauty. The female is also quite lovely with a thin white eyebrow, peach wash on her flanks and belly. Preferring dry canyons with thorn scrub vegetation, ocotillo and agave, one of the most reliable locations to find them during the summer is the Ash Canyon B & B at the base of the Huachuca Mountains near Sierra Vista. The feeders and garden at this establishment are open to the public with a requested donation.

#### WHITE-EARED HUMMINGBIRD

Over the last few years this species has been harder to find in southeast Arizona but there are usually a few to be found during our summer months. When they are found in the US these small hummingbirds favor lush canyons of our Sky Island Mountains. Both the male and female have a bold white stripe behind the eye and red bill with a black tip. The male also has an intense purple iridescence on his face and green on his lower throat. At first glance it is easy to confuse the female White-eared Hummingbird with a female Broad-billed, but the rarer hummingbird can be identified by her much broader and bolder white face stripe as well as her darker black stripe under her eye. Miller Canyon of the Huachuca Mountains has been the most likely location for these birds the last few years but there are past records for Madera Canyon and even Mount Lemmon. We will all have to wait and see if any come to southeast Arizona this summer.





ucifer Hummingbird, Jim Burns

# **HUMMERS OF SUMMER**



#### **PLAIN-CAPPED STARTHROAT**

As a relative newcomer to our hummingbird scene in southeast Arizona, this rare hummingbird in the US has been regularly seen in small numbers over the past few summers with most sightings coming from Santa Rita Lodge in Madera Canyon. This is another large hummingbird and both the male and female have pale under parts and bronzy olive colored backs. The male has a modest patch of carmine red iridescence that can only be seen in the perfect light. They can be easily confused with female Magnificent Hummingbirds but their distinctive blaze of white on their lower back sets them apart.

If you are in southeast Arizona during the summer monsoon season the payoff for braving the high temperatures are the abundant hummingbirds taking advantage of the monsoon nectar and insect boom. This is the time to see the most hummingbird species and when our rare hummers of summer make their appearances!



# **How's Your HummerGo! Passport Going?**

Make sure to see the hummers of summer before it's too late! Find the 10 species featured on our Year of the Hummingbird HummerGo! Passport and have a chance to win a pair of binoculars!

Come to our Nature Shop to pick up the passport or print one at the link below. Good luck!

tucsonaudubon.org/hummergo

# Blue Elf Aloe: All-Star Hummingbird Plant

Lynn Hassler, Garden Volunteer Captain; photo by Lynn Hassler

Botanical name: Aloe x 'Blue Elf'

Family: Aloeaceae (Aloe)

Native range: Aloes are native to Africa, Arabia, Madagascar, and the Mascarene Islands

Wildlife value: Nectar-filled flowers attract hummingbirds, verdins, and insects

The genus Aloe includes a number of dramatic forms that are useful as low-water accent plants in the wildlife garden. Although well-adapted to arid conditions in their natural habitatstheir succulent leaves enable them to survive prolonged periods of drought-most aloes lack the hardiness suitable for cold climates. Blue Elf, however, is an exception; it's hardy to 15 degrees, making it an excellent choice for Tucson gardens.

Unlike their American counterparts in shape

and form—the agaves—the Old World aloes do not die after blooming. Blue Elf is a hybrid, resulting from a cross between two parent aloes belonging to different varieties, cultivars, or species.

This petite plant grows at a slow to moderate rate to 18" high and 2' wide, producing rosettes of upright, tooth-edged, silvery blue leaves. Suckering aloes that form rosettes like this can be easily propagated by simply splitting the clumps into individual plants—perfect for sharing with friends or placing elsewhere in your own garden. The leaves contrast nicely with tubular, coral-colored flowers that appear on spikes in late winter and are a delight to hummers when little else is blooming.

Good for small spaces, rock gardens, and water-wise borders, Blue Elf also makes a stunning potted specimen, and in fact seems to prefer the confinement of a container; it likes to be crowded.

Plant in full sun or part shade. The only pruning required is the removal of spent flower spikes once per year. Water lightly during the heat of summer to avoid rotting the roots.



# Collaboration for Conservation— Tucson Audubon Staff Working in National Parks

When visiting Tucson Audubon's Nature Shop or attending any of our events it is likely that you have encountered a member of this organization's staff. What you likely don't know is that there are over 10 additional staff at Tucson Audubon working on National Park Lands. The amazing and interesting work these staff members do is made possible through a relationship between Tucson Audubon and the National Park Service and we are very pleased to be able to facilitate this important biological work on some of our country's most precious lands.

Here is a small sampling of some of the vital work being done by these Tucson Audubon staff working on National Park lands.

#### **BIRD MONITORING**

The Southwest Network Collaboration (SWNC) is a joint effort between the Sonoran Desert Network, Chihuahuan Desert Network and Southern Plains Network and currently implements the National Park Service Inventory and Monitoring Landbird Protocol at 29 National Park units across 6 states i.e. AZ, NM, TX, OK, KS and CO.

The primary goals of the longterm Landbird Monitoring are to estimate density, occupancy, species richness and community composition of breeding birds in a variety of habitat classes including desertscrub, grassland, riparian and woodland. Birds are excellent biological indicators, and changes in landbird populations may be attributed to changes in the biotic or abiotic components of the environment upon which they depend.

Field sampling occurs during the spring and summer breeding season between April and June when increased song rates and territorial behaviors by landbirds result in higher detection rates and greater sampling efficiency. Established 6 minute Point-Count Distance Sampling survey methods are used to estimate and monitor landbird population parameters.

—Moez Ali, SWNC Landbird Monitoring Field Lead and Tucson Audubon staff member



Chihuahuan desertscrub and Chisos Mountains, Big Bend NP, Moez Ali

#### **WILDLIFE CAMERA TRAPS**

Wildlife camera traps are designed to take photos whenever there is a sudden change in the ambient temperature around a camera, e.g., when an animal walks in front of it. This method of monitoring wildlife is passively done and is much less invasive than traditional methods, which often involve physically interacting with the mammal. The Sonoran Desert Network is currently implementing a species monitoring protocol using these camera traps to model the occupancy of medium to large mammals in our larger parks (Organ Pipe Cactus National Monument, Chiricahua NM, Saguaro National Park, etc.). Additionally, we are also testing the efficacy of using camera traps to monitor the herpetofauna of Tonto National Monument.

—Jessica McGarey, Wildlife Intern, Sonoran Desert Network and Tucson Audubon staff member



American black bear, Chiricahua National Monument



Setting up herpetofauna camera trap at Tonto NM. The low barrier funnels snakes and lizards through the openings where they are photographed and inventoried.

# In Praise of Hybrids

Chris Benesh







Rufous-capped Warbler X Common Yellowthroat hybrid



Townsend's X Hermit Warbler hybrid

Most birders I know like to keep things simple and orderly. We want the birds we see in life to closely resemble what we see in our field guides. Thankfully, this is most often the case. But every now and again, we come face to face with a bird that does not fit comfortably into a proverbial box. For many this is accompanied by a sense of dread and discomfort. The pieces don't fit together properly and some details are just off, leading to head-scratching and heightened anxiety. And perhaps worst of all, once we have sorted out that it is a hybrid, convention dictates that we are left with something uncertain and worse still, uncountable. For anyone who likes to keep track of new birds seen, who keeps a life list, it quickly becomes apparent that there is no place for hybrids. This is deeply disappointing to me. I see hybrids and intergrades (hybrids between subspecies, e.g., Yellow-rumped Warblers, Northern Flickers) as one of the more fascinating biological phenomena in an imperfect world where nature foils our efforts to make sense of it all.

Hybridization is not a rare event in nature. And with increasingly keen observers armed with better observational tools, the number of hybrid detections are on the rise. Some can be quite puzzling, while others have been very well documented for years and are common enough to be illustrated in field guides. Hybrid sapsuckers are frequent examples. Also common in the west are Townsend X Hermit Warbler hybrids. There are also some well known intergrades, flickers being a good example (intergrades between Yellow-shafted and Red-shafted), as are Yellow-rumped Warblers (Audubon's and Myrtle intergrades). In each of these instances, birds typically show some intermediate characteristics that tip us off as to their mixed parentage. However, this is not always the case as has been demonstrated with Townsend's X Hermit hybrids. Some birds can so closely resemble a parent type as to be undetectable without genetic analysis.

But some hybrids appear to be quite rare and new examples are being found every year. These often result from a pairing between a wandering, out of range individual that winds up paired with another, usually close related, species. In the past few years I have observed

a couple of hybrid pairings previously unrecorded in the literature. In the first example, a cross between a Rufous-capped Warbler and a Common Yellowthroat, this unlikely pairing took place in an area of Texas where yellowthroat was a rare breeder and Rufous-capped a vagrant. It had previously been reported as a Rufous-capped singing a yellowthroat song. While this struck me as improbable, one species of passerine learning the song of another does occur at times. Yet when we tracked the bird down I was amazed to be staring at a bird with the coloration of a Rufous-capped, yet with the structure and movements of a yellowthroat. Each of its vocalizations were also those of a yellowthroat. In the second example, an out-of-range Flame-colored Tanager found itself in Boot Canyon, Big Bend National Park. Unable to find a mate, it did pair up with an equally out of place Western Tanager. This hybrid combination has been documented numerous times in Arizona, but that same female Western Tanager apparently also had an extra pair copulation with a male Hepatic Tanager there, and it is this novel combination we encountered for two consecutive summers. Its appearance was a a blend of Western Tanager markings washed over with orange, and it sang a Western Tanager song. Importantly, it lacked several key features found with Western X Flame-colored hybrids. I found both of these experiences wonderfully exciting.

Whether we like it or not, hybridization is a natural and ongoing event in nature. Rather than despair when we encounter hybrids, we should marvel at the science of it and keep track of the various combinations we encounter. Careful scrutiny of birds can only serve to make us better observers as well.

Chris Benesh is a tour leader for Field Guides Incorporated (fieldguides.com) and a long time Tucson resident. An avid birder with a keen interest in bird taxonomy, identification, and education, Chris has served several terms on the Arizona Bird Committee and has taught numerous workshops focused on improving identification skills.

# REMEMBERING A YEAR OF ADV RATTLERS YOUTH HIKING AND

Andy Bennett, K-12 Youth Engagement Coordinator

The 2016–2017 schoolyear was another big year for the Trekking Rattlers Youth Hiking and Naturalist Group. From the top of Mt. Lemmon to the canyons of the Chiricahua Mountains, the 5<sup>th</sup>–8<sup>th</sup> graders explored some amazing areas in southeast Arizona and encountered wildlife along the way. The Rattlers program continued to benefit from its partnership with Saguaro National Park this year, and gained a wonderful new partnership with the Friends of Cave Creek Canyon in Portal, Arizona.



The kids find the Bathtub in Cave Creek Canyon

Based out of Lauffer Middle School in Tucson's Sunnyside School District and developed by Tucson Audubon Board Member and retired Lauffer teacher Deb Vath, the Trekking Rattlers program immerses youth from a variety of backgrounds to the outdoors and encourages them to challenge themselves in different ways while outside. Some students come from camping and hiking families, while others have rarely touched the dirt; many struggle with hiking. Most of the students have never used binoculars, learned the name of a bird or plant, or led a hiking group. Through the program's activities, Tucson

Audubon facilitates these encounters and helps kids overcome challenges—such as tough hikes—to realize their own personal strengths.

Our toughest hikes of the year had to be Romero Pools and Wasson Peak. Despite hot temps and tenacious doubts about their ability to finish, the kids persevered to be rewarded with the breathtaking views and an optional dip into frigid waters.

The Rattlers don't just hike, they also participate in service projects, birdwatch, and learn important lessons through interactive activities. On Martin Luther King Jr. Day this year, we joined the National Park Service at Saguaro NP East to restore a portion of eroding trail. The students harvested portions of prickly pear cacti, burrowbrush, and dead woody debris, planting it along the widened and eroded trail section. It's through experiences like these that we aim to build within participants a respect for their environment and each other, and an understanding of nature that can lead to positive, caring attitudes.

We kicked off the year with a school-based event of interactive activities designed to get the students excited about nature and give them the opportunity to practice a few skills. The students built several nest boxes for Ash-throated Flycatchers which were hung around the schoolyard. Another group practiced orienteering with a GPS and compass on a scavenger hunt, with a prize for finishing.

Each year's program is capped by an immersive overnight experience. This year we chose to visit beautiful Cave Creek Canyon near Portal, AZ in the Chiricahua Mountains. With the assistance of partners like the Friends of Cave Creek Canyon (FOCCC), Cave Creek Ranch (CCR), and local birding guide John Yerger with Borderland Tours, the experience turned out to be a fantastic time for everyone. Yerger helped



Transplanting burrobrush to make the eroded trail disappear

the kids learn how to use their binoculars to spot fabulous birds like Summer and Western Tanager and Scott's Oriole. FOCCC coordinated a night of astronomy at a local's home where he's built two professional telescope observatories; the planet Jupiter, star clusters, and distant galaxies were highlights. CCR hooked us up with expert local birder and hiker Laura Paulon, who showed us a Blue-throated Hummingbird nest and other wonderful birds including a nesting Elf Owl. One steadfast young birder even got to stalk and find his very first male Elegant Trogon along the South Fork (he awoke promptly at 4:45am on our last day to do so!). The CCR also opened its delightful patio to us on Saturday evening, providing us the opportunity to enjoy a smorgasbord of brilliant birds while lounging in the shade. Thanks to all of our partners and amazing natural areas, it was a great year to be a Trekking Rattler!

# 'ENTURES WITH THE TREKKING **NATURALIST GROUP**



On the way to Cave Creek Canyon





Students and parents heading to Saguaro National Park nighthike and BBQ







Trying to spot an Acorn Woodpecker while Cave Creek Ranch director Reed Peters directs

# **CONSERVATION NEWS**

Chris McVie, Conservation Consultant



The San Pedro River watershed is the most biologically diverse area in the five southwestern United States, Brandon Kelm

# Water is life. Can Southeast Arizona's living "Ribbon of Green" be saved? Updates on the San Pedro River watershed.

The San Pedro River is the last free-flowing, undammed river in the American Southwest, flowing ~140 miles northward from Mexico to its confluence with the Gila River. Audubon Arizona (az.audubon.org/conservation/san-pedro-river) notes that it is of major ecological importance, in part, as it hosts nearly 45 percent of the 900 total species of birds in North America at some point in their life cycle—and more birds use it now than ever before. In 1995, the American Bird Conservancy (ABC) recognized the San Pedro as its first "globally important bird area" in the United States, dubbing it the "largest and best example of riparian woodland remaining" in the Southwest. In addition, 200 species of butterflies and 20 species of bats utilize this critical hemispheric pollinator and wildlife movement corridor

as they migrate to and from South, Central and North America. The watershed is home to the federally threatened distinct population segment of the western Yellow-billed Cuckoo and the federally endangered Southwest Willow Flycatcher, not to mention the federally endangered jaguar and ocelot, and numerous other species of conservation concern. Boykin and Kepner, et al (bit.ly/2s3g2g9) determined

that the San Pedro watershed is the most biologically diverse area in the five southwestern United States, more so even than the middle Rio Grande River.

On November 18, 1988, Congress designated the nation's first Riparian National Conservation Area: 57,000 acres along ~40 miles of the Upper San Pedro River. The San Pedro Riparian National Conservation Area (SPRNCA) Global Important Bird Area (IBA) was first identified in July 2002 (aziba.org/?page\_id=539). In 2005, the then Arizona Audubon Council, comprised of representatives of all state Audubon chapters, recognized the San Pedro River watershed as the highest priority for conservation and restoration in Arizona. The 60 mile long Lower San Pedro River Global IBA (aziba.org/?page\_id=461) was first identified in January 2007.

#### **THREATS**

Effects of threats and adverse impacts to cultural and natural resources of the watershed can be direct, indirect, cumulative, and related. Issues include, but are not limited to:

 Arizona's Drought Emergency Declaration (PCA 99006, bit.ly/ 2rbcxTz) has been in effect since June 1999 and the Drought Declaration for the State of Arizona (Executive Order 2007-10, bit. ly/2suzLlt) has been in effect since May 2007. Arizona's Department

of Water Resources' Drought Interagency Coordinating Group unanimously recommended that both drought declarations be kept in place in their May 2017 letter to Governor Ducey (bit. ly/2rSNkjC). Effects of drought include decreased air quality due to increased traffic, smoke, airborne dust or construction activities; increased risk of Valley Fever; increased erosion, siltation and sedimentation; decreased water quality and quantity; damage to silty, clay or fragile limestone soils and ancient biologic crusts that cause a decreased ability of soils to retain moisture; and increased flooding and wildfire—all threats to public health and safety, private property, and state and federal public lands.

- 2. Long-term drought has resulted in unsustainable pumping of diminishing groundwater for existing ranching, agricultural, residential, municipal and military uses. Future proposed uses will strain the watershed's health and resilience even further. According to Audubon Arizona's Western Rivers Action Network factsheet (bit.ly/2sl9nAX), groundwater pumping in the San Pedro River watershed has decreased the river's base flows by 67% since the 1940s. The deficit between rainwater recharge and local water needs is expected to reach 4.2 billion gallons per year by 2020 in the Upper San Pedro Basin. In April of 2013, the Arizona Department of Water Resources approved additional groundwater pumping in the Upper San Pedro Watershed. According to the USGS (on.doi.gov/2sg1JH9), air temperatures along the Upper portion of the watershed increased by 1-4 °C from 1932 to 2012.
- 3. As yet unbuilt housing and commercial developments include:
  - a. Sierra Vista's "Tribute" development in Cochise County— 7,000 Dwelling Units (DUs)—is awaiting an appeal to a court decision that stated permitting the development would adversely impact federal reserved water rights for SPRNCA.
  - b. Benson's "Villages at Vigneto" in Cochise County (~28,000 DUs, in litigation). The 2006 development proposal grew from an 8000+ acre development to over 12,000 acres in size. Promotional materials currently include 5 golf courses, Italian Towers, non-native Italian cypress trees and other exotic plants. Water intensive ponds and vineyards will mimic "Tuscany" in the desert (vignetoaz.com). Tucson Audubon is opposed to the current configuration of this plan and its reliance on non-native vegetation. In 2015, the amount of water Vigneto would pump from the shallow aquifer adjacent to the northern boundary of the SPRNCA and the St. David Cienega, was estimated to be approximately 10,000 acrefeet per year. By comparison, in 2013 the City of Benson, population ~5000, pumped 833 acre-feet of water; and,



Desert development, Daniel-Lobo



The San Pedro River's extensive mesquite bosque is also in danger due to increased groundwater pumping,

c. Resolution Copper Company's minor partner, BHP Billiton's (BHP) as yet unnamed mixed use development on reclaimed mining lands near San Manuel was approved by Pinal County in 2005 (up to 35,000 DUs on 23,000 acres with ~20,000 acre-feet of water rights). These parcels are directly upstream of the 7 B Ranch, a 3,000 acre proposed mitigation exchange parcel for the Resolution Copper Mine at Oak Flat, outside Superior, Thanks to a rider to a National Defense Authorization Act, this extensive mesquite bosque would become a part of the SPRNCA but would also be dewatered and degraded by development of BHP's lands.

Other mitigation lands that could be threatened or adversely impacted by development along the San Pedro River include lands owned and/or managed for conservation, mitigation and restoration by Pima County, the Salt River Project, the Bureau of Reclamation, The Nature Conservancy, and the Arizona Game and Fish Department.

Development can exacerbate habitat loss and habitat fragmentation, significantly increase groundwater mining, disrupt hydrologic processes, impair clean water and clean air, introduce exotic/invasive species and increase risks of fire. Increased light, sound and noise pollution have been documented to cause disruption of the behaviors of resident and migrating birds and other wildlife.

- 4. Trespass or unpermitted hunting, shooting, camping and other recreational activities, including illegal and irresponsible off-road vehicle use. These activities can result in cut fences, gates left open and displacement or loss of livestock, habitat loss and fragmentation, littering and dumping of trash and other waste, the spread of invasive species, increased risk of fire, and increased erosion, siltation and sedimentation of water bodies adversely impacting water quality.
- 5. A seemingly resurrected "Interstate 10 bypass" effort by Pinal County to pave Redington Road from San Manuel south to Interstate 10. Pinal County has recently paved their jurisdictional portion of the

road, which parallels the San Pedro River. An agreement is pending for Cochise County to maintain Pima County's unpaved portion of the road.

- 6. SunZia's Southwest Transmission Line and Arizona's explicitly stated intention to co-locate future infrastructure adjacent to SunZia's path along the western slope of the lower San Pedro watershed, from north of I-10 to Oracle. The first of SunZia's two proposed 500 KV Transmission lines is now in the Plan of Development submittal and review phase. Each line generally requires a 200 foot wide Right of Way, where vegetation is restricted to protect the infrastructure, and an extensive, habitat fragmenting road network.
- 7. Border infrastructure and operations currently are waived from complying with dozens of primarily environmental, federal laws and often cause habitat fragmentation and degradation, hydrologic disruption, and can contribute to the spread of exotic invasive species. Barriers to the movement of wildlife fragment populations, prevent genetic exchange, and interfere with natural hydrologic processes.
- 8. The spread of current and/or introduction of new exotic invasive species, including: (Non-native, Invasive Plants of Arizona 2016, Peer Reviewed #AZ1482)
  - Aquatic species such as purple loosestrife, arundo, feathered mosquitofern, floating water primrose, elephant grass, giant salvinia, hydrilla, parrot feather, and American bullfrogs, etc.
  - b. Terrestrial species such as buffelgrass, Lehman lovegrass, Bermuda grass, fountaingrass, Sahara mustard, tamarisk species, African sumac, Malta starthistle and other thistle species, knapweed species, onionweed, Tree tobacco, Russian olive, Tree of Heaven, and Natal grass, etc.
  - c. Insect species, such as cactus moths and red fire ants, etc.



# THE COCHISE CONSERVATION AND RECHARGE NETWORK (CCRN)

In the 2016 National Defense Authorization Act, Congress recognized a new entity in the Upper San Pedro watershed—the Cochise Conservation and Recharge Network. The CCRN, composed of the

Cochise County Flood Control District, Cities of Sierra Vista and Bisbee, Hereford Natural Resources Conservation District, and The Nature Conservancy, began work in 2015.

The stated purpose of the CCRN is to work on "sound water resource management and conservation strategies," according to the Memorandum of Understanding that established the entity. CCRN's goals are to establish a string of constructed recharge basins on 8,700 acres along 25 miles of the Upper San Pedro River near Sierra Vista, recharging both storm water and treated wastewater. Managing constructed recharge basins and other restoration projects could contribute to surface flows along several stretches of the river and is preferable to a dry river bed.

#### **OTHER RESTORATION EFFORTS**

Unfortunately, as yet there is no integrated, watershed-based plan to deal with the largest threat to the river's future: the cone of depression in the regional aquifer that is the direct result of unsustainable groundwater mining (bit.ly/2rSSsEp).

There are other innovative solutions that can help restore ecosystem function. For example, per Wikipedia (en.wikipedia.org/wiki/San\_ Pedro\_River\_(Arizona), in 1826, early explorers called the lush San Pedro "Beaver River." By the early 1920s, beavers had been extirpated. From 1999 to 2002, 19 beavers were released into the SPRNCA by the Bureau of Land Management to retain water flows into the dry season and to support re-growth of historic riparian vegetation. By 2006 there were more than 30 dams. The beavers dispersed widely and rapidly, with one beaver migrating 100 river miles to Aravaipa Canyon, and another to the river's terminus at the Gila River. The program was successful, with measurable increases in bird diversity and formation of deep pools and lasting flows. In 2008, flooding destroyed all the beaver dams, followed by drought. As in historic times, the 2009 dam count was back above 30 with a population between 30 and 120 beavers. Though prolonged, ongoing drought poses severe challenges for beavers, some still persist within the San Pedro watershed.

#### THE GILA RIVER GENERAL STREAM ADJUDICATION

Another long-pending, unresolved issue threatening the river's resources is the Gila River General Stream Adjudication, a Maricopa County Superior Court civil case initiated in 1979 in order to resolve the status of all rights for the use of surface water in the Gila River watershed (clerkofcourt.maricopa.gov/watercase.asp). In 1981, the court ordered that the San Pedro, Salt and Verde River watershed adjudications be combined with the Gila. Hopefully, a settlement will be proposed in the not too distant future.

Sadly, Arizona state law still does not acknowledge the connection between surface water and groundwater. As has been true since the days of the wild and wooly old west, "Whiskey is for drinking; water is for fighting over."



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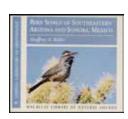
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# Inspiring in Word and Image A review by Rick Wright

Of the making of many raptor books there is no end.

The author's name on the cover alone would be enough for most us to make a little room on the already crowded shelves devoted to hawks, eagles, vultures, and falcons. In this new, handsomely produced volume from Houghton Mifflin, Pete Dunne's prose—with its trademark alternation of the witty, the whimsical, and the poetic—is accompanied by a spectacular selection of high-quality images, most never before published, by Kevin Karlson and two dozen more of North America's best bird photographers. The combination is irresistible, and Birds of Prey will please and inform both the veterans and the new birders among us.

Birds of Prey is not one of the Peterson Reference Guides, but readers familiar with that series will also be familiar with the structure of the

species accounts here. Following a discussion of the origin of the bird's English and scientific names and a prose profile, each account offers information under separate headings about the species' appearance and measurements, geographic variation, vocalizations, range, migratory behavior, habitats, breeding behavior, feeding behavior, and conservation status. For the most part, each rubric is self-contained, but in many cases Dunne subtly and skillfully takes up in the concluding section a question raised earlier in the species text; the accounts may not be through-composed, but they are thought through in a way that makes reading every word of every one ultimately rewarding.

Etymologies seem to be the latest thing in bird books. Few writers are equally at home in the world of words and in the world of birds,

though, and while it would be hard to call most of those offered in Birds of Prey "wrong" exactly, these brief passages (heavily reliant on the first edition of Choate's Dictionary) are less reliably informative than the rest of the book and more subject to odd garbles in logic, prose, and orthography. The naming of birds is an inexhaustible and inexhaustibly fascinating topic, and if for some reason it needs to be raised in books likes this, then it deserves less desultory, more critical treatment.

We are back on firmer ground in the first substantive section in each account, headed "Profile." Here, the author sometimes quotes especially apt or especially eloquent observations by earlier ornithologists (all identified in the back-of-the-book notes), but the best of these profiles are all Dunne. The Swainson's Hawk is "stiletto-winged," and the Zone-tailed Hawk's "signature characteristic may be confusion"; "ounce for ounce," the American Kestrel "packs more superlatives into such a small form" than any other raptor. In its behavior and relationships, the Crested Caracara is "a raptorial chimera...

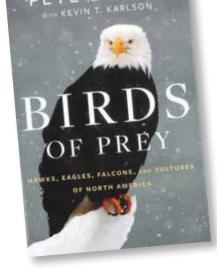
a one-bird poster child for inclusivity." Quirky but never implausible, imaginative without being far-fetched, the insights here, and the language they are couched in, will put some readers in mind of Dunne's wonderful Essential Field Guide Companion.

The straightforwardly factual material in Birds of Prey-making up most of the sections on physical appearance, measurements, vocalizations, systematics, range and habitat, and breeding habits—relies on familiar authorities including Brown and Amadon (1989), the Bent series (1937–1938), the Snyders' Birds of Prey (1991), and, of course, Birds of North America, but the author's own decades of field experience also shine through. There can be no doubt just whom we are reading in passages like this: "On days marked by good Merlin flights and high densities of dragonflies... the gossamer wings of insects fall like ticker tape in the late afternoon as [the] birds hunt."

> The final section in each account is dedicated to the species' conservation status. For those of us who grew up birding in the DDT years, there is much good news here in the recovery of North America's Peregrine Falcons (a matter tangled by the introduction of the bird to areas it probably never bred naturally), the apparent northward and eastward expansion of the Zone-tailed Hawk, and the heartening rebound of Cooper's Hawk populations in the east and midwest. At the same time, kestrel numbers are crashing over most of the continent, and lead fragments continue to poison California Condors; the White-tailed Hawk is gone from Sonora and Arizona and on the decline in Texas. In a three-page postscript, Dunne lists a dozen persistent threats to raptor populations, from pesticides to poorly designed and thought-

lessly placed wind turbines to disturbance by heedless hikers and climbers. Even those raptor species whose populations are currently stable are infinitely sensitive to environmental change, and it is up to us to avoid the loss, even the inadvertent loss, of these birds. Let this beautiful book serve as our inspiration to do just that.

Birds of Prey: Hawks, Eagles, Falcons, and Vultures of North America Pete Dunne, with Kevin T. Karlson Houghton Mifflin Harcout, 2017 305 pages, hardcover \$26.00 in our Nature Shop



Rick Wright leads birding tours and Birds and Art excursions for Victor Emanuel Nature Tours, and is the review editor at the American Birding Association's Birding magazine. The author of the ABA Field Guide to Birds of Arizona, he will be the keynote speaker at the Southwest Wings Festival this August.



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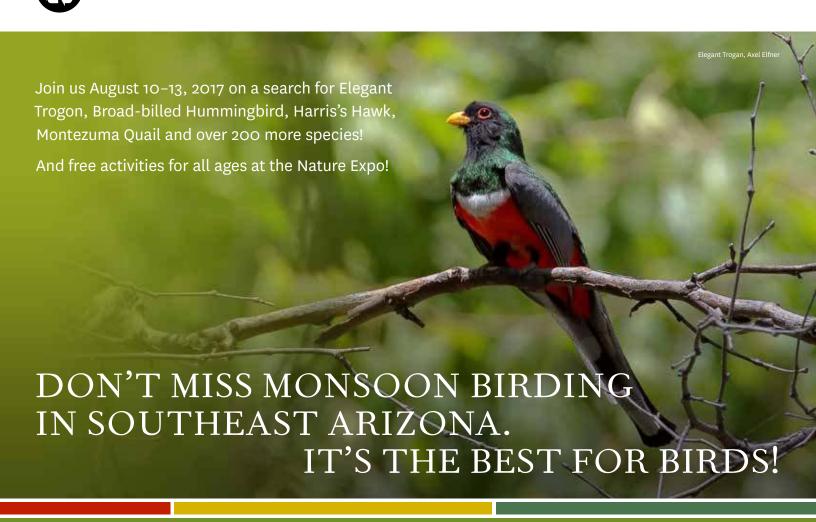
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